COMUNE DI BARLETTA
Provincia di BT

Progettista
Architetto Silvano Rizzi

SILVANO
RIZZI
29.11.2021
11:24:12
UTC

PROGETTO DEFINITIVO-ESECUTIVO
Risanamento e ristrutturazione funzionale degli spazi ricreativi della struttura sportiva "Lello Simeone"al servizio delle associazioni sportive giovanili e delle scuole

Data
SETTEMBRE
2021

Tavola
F-00

Elaborati
Relazione Calcoli
Strutture

Scala

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

RELAZIONE TECNICA GENERALE

(PLICO A1)

BARLETTA 23/11/2020

1. INDIVIDUAZIONE DEL MODELLO DI CALCOLO

1.1 DESCRIZIONE GENERALE DELL'OPERA

Oggetto della presente relazione è l'analisi delle sollecitazioni ed il calcolo delle strutture in cemento armato ordinario del nuovo corpo di fabbrica in erigendo destinato, in parte a spogliatoi e in parte a deposito, nell'ambito del progetto di risanamento e ristrutturazione degli spazi ricreativi della struttura sportiva "LELLO SIMEONE" al servizio delle associazioni sportive giovanili e delle scuole. L'intervento consiste nella realizzazione di un corpo di fabbrica costituito da un solo livello, a piano terra in corrispondenza dell'accesso alla stessa struttura sportiva, così come evidenziato nei grafici di progetto allegati alla presente pratica.

Il corpo in erigendo ha una forma rettangolare in pianta. Le dimensioni massime in pianta del fabbricato sono di circa mt 33,55x9,70 e la sua altezza massima, misurata dallo spiccato di fondazione, risulta di mt. 3,20 circa.

Il suolo su cui sorgerà il nuovo fabbricato risulta essere pianeggiante.

E' stato eseguito il calcolo secondo le NTC 2018 in località Barletta (long. 16.279 lat. 41.318000), su Categoria del suolo di fondazione = C, con i seguenti dati di progetto:

Coeff. di amplificazione stratigrafica Ss = 1.443;

Coeff. di amplificazione topografica ST = 1.000;

S = 1.443;

Vita nominale dell'opera VN = 50 anni;

Classe d'uso III --- Coefficiente d'uso CU = 1,5;

Periodo di riferimento VR = 75;

PVR : probabilità di superamento in VR = 10 %;

Tempo di ritorno = 711;

Coeff. di smorzamento viscoso = 5;

risultando

ag 1.699 [g/10]

Fo 2.522

TC* 0.396

Per la struttura in cem. armato :

Fattore di struttura q = 3.30

q = q0 * KR * KW dove :

q0 = 3.00 * 1.1 (A telaio di un piano) (Classe di duttilità "B" (bassa))

KR = 1 (Edifici regolari in altezza)

Rapporto spettro di esercizio / spettro di progetto = 1.208

La distanza prevista tra la nuova struttura e quello il fabbricato adiacente non è inferiore ad 1/100 della quota dei punti considerati misurata dal piano di fondazione, moltiplicata per $a_g \cdot S$ /0,5g, si veda di seguito il calcolo dei giunti sismici.

CALCOLO GIUNTO SISMICO

Il corpo a realizzarsi ha un'altezza di circa 3,20 mt., costituito dal solo piano terra. Pertanto per esso vale:

- spostamento massimo ottenuto dall'analisi lineare in direzione Y per il **nuovo corpo a realizzarsi** d_{Ee}=0,70 cm;
- spostamenti massimi sotto l'azione sismica per *SLV* per il **corpo a realizzarsi** $d_E=\mu_d \cdot d_{Ee}$ *= 4,946 x 0,70 = 3,48 cm;*

- spostamento massimo senza aver proceduto ad analisi lineare in direzione Y per il **corpo adiacente esistente;**
  essendo agxS/0.5g = 1,699x1,443/0.5x9.81=0.50
  lo spostamento massimo per il corpo esistente può essere valutato (alla stessa altezza

  h≈3.20) mediante:

  1/100 di H moltiplicato 0.50
  d_E= 0.50 x 320/100 = 1.60 cm

giunto sismico in sommità lungo Y ≥ (3,48+1,60) = 5,08 cm

Il giunto tra i fabbricati in oggetto è pari a 6 cm, valore questo superiore alla somma degli spostamenti massimi sotto l'azione sismica per SLV, determinati nel rispetto del punto 7.3.3 delle NTC 2018.

La struttura è composta dai seguenti elementi, previsti in calcestruzzo gettato in opera:

FONDAZIONI

Il sito oggetto dell'intervento presenta i seguenti caratteri morfologico-geotecnici generali: le caratteristiche del terreno di fondazione sono deducibili dalle relazioni geologica e geotecnica allegate alla presente pratica, che prevede un banco di

terreno vegetale, per proseguire con sabbia argillosa e passando per argilla sabbiosa. A tal proposito il piano di fondazione sarà collocato a circa 1,40 mt. dal piano campagna. La stratificazione descritta permette una fondazione di tipo superficiale costituita da travi rovesce alte circa 100cm. E' stato verificato che sotto l'azione di dette sollecitazioni il terreno di fondazione sia stabile e non presenti deformazioni permanenti incompatibili con i requisiti di funzionalità delle strutture. Le tensioni sul terreno sono inferiori a quella limite totale. Dette soluzioni strutturali si sono adottate in quanto sono state ritenute idonee a far si che eventuali cedimenti differenziali si riducessero al minimo, e che gli stessi non influenzassero le strutture di elevazione. Infatti le rigidezze delle fondazioni sono tali da trasmettere al terreno nel modo più uniforme le azioni localizzate ricevute dalle sovrastrutture. Inoltre, le rigidezze delle fondazioni nel loro piano sono in grado di assorbire gli effetti degli spostamenti orizzontali relativi tra gli elementi strutturali verticali.

PILASTRI – TRAVI

Per la struttura in c.a. i pilastri sono a sezione quadrata in c.a. gettati in opera. Le travi anch'esse in c.a. gettato in opera sono a sezione rettangolare, a spessore di solaio, il tutto secondo quanto riportato nelle tavole degli esecutivi grafici.

E' stato verificato che i singoli elementi strutturali e la struttura nel suo insieme possiedono una capacità in duttilità coerente con il fattore di comportamento q adottato e i relativi spostamenti, definiti in 7.3.3.3 del DM 2018. Infatti la verifica di duttilità è stata ritenuta soddisfatta, in quanto per tutti gli elementi strutturali, sia primari sia secondari, si sono rispettate le regole specifiche per i dettagli costruttivi per la specifica tipologia, precisate nel capitolo 7 del DM 2018.

Per le sole sezioni allo spiccato dalle fondazioni degli elementi strutturali verticali primari è stata condotta la verifica di duttilità, riportata nel plico A2 del fascicolo di calcolo delle strutture principali.

SOLAI

I solai costituenti l'unico impalcato saranno realizzati in latero-cemento con travetti prefabbricati in c.a.p. completati in opera ed avranno altezza 30 cm (25+5) e un interasse di cm. 50.

Si rimanda al fascicolo delle strutture secondarie per la relazione di calcolo e gli

schemi di montaggio del solaio.

1.2 NORMATIVE DI RIFERIMENTO

L'analisi della struttura in oggetto è stata fatta utilizzando i metodi usuali della Scienza delle Costruzioni ed in conformità alle normative e leggi vigenti:

- Legge 5/11/1971 n. 1086: Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso ed a struttura metallica.

- D.P.R. 6/6/2001 n. 380: Testo unico delle disposizione legislative e regolamentari in materia edilizia.

- D.M. 17/1/2018: Norme tecniche per le costruzioni e relativa Circolare Ministeriale.

1.3 CRITERI DI ANALISI DELLA SICUREZZA

La sicurezza e le prestazioni dell'opera sono state valutate in relazione

agli stati limite che si possono verificare durante la vita nominale.

In particolare:

- *sicurezza nei confronti di stati limite ultimi (SLU)*
con il "metodo dei coefficienti parziali" di sicurezza espresso dalla equazione formale:

$$R_d \geq E_d$$

dove
R_d è la resistenza di progetto ed E_d è il valore di progetto dell'effetto delle azioni valutati a partire dai valori ai valori nominali con l'ausilio dei coefficienti parziali di sicurezza, γ_{Mi} e γ_{Fj}.

- *sicurezza nei confronti di stati limite di esercizio (SLE)*
espressa controllando gli aspetti di funzionalità e stato tensionale.

1.4 SCHEMATIZZAZIONE DELLA STRUTTURA E DEI VINCOLI

Le strutture sono state schematizzate considerandole nella loro complessità tridimensionale.

Le travi di fondazione sono schematizzate come poggianti su vincoli elastici distribuiti (ipotesi di Winkler). Si è inoltre considerato come effettivo vincolo della struttura di elevazione il reale grado di incastro relativo alla elevata inerzia delle travi di fondazione ipotizzando la possibilità di ruotare, nei nodi, attorno ai tre assi di riferimento globale, e l'impossibilità di traslare liberamente nel piano

orizzontale.

1.5 MODELLAZIONE DELLA STRUTTURA E DEI VINCOLI

La struttura è modellata con il metodo degli elementi finiti, applicato a sistemi tridimensionali. Gli elementi utilizzati sono sia monodimensionali (pilastri e travi con eventuali sconnessioni interne), che bidimensionali (piastre e membrane triangolari e quadrangolari). I vincoli sono considerati puntuali ed inseriti tramite le sei costanti di rigidezza elastica, oppure come elementi asta poggianti su suolo elastico. Le sezioni oggetto di verifica nelle travi sono stampate a passo costante.

1.6 SCHEMATIZZAZIONE DELLE AZIONI

In accordo con le sopracitate normative, sono state considerate nei calcoli le seguenti azioni:

- pesi propri strutturali
- carichi permanenti portati dalla struttura
- carichi accidentali su solai, neve
- forze di piano simulanti il sisma, ricavate tramite analisi dinamica.

Le condizioni ed i casi di carico prese in conto nei calcoli sono specificate nella stampa dei dati di input.

1.7 MODELLAZIONE DELLE AZIONI

Sono stati adottati i seguenti carichi:

Impalcato unico (copertura piano terra):

- peso proprio solaio (25+5): 370 DaN/mq
- carico permanente: 150 DaN/mq
- carico accidentale: 200 DaN/mq
- carico neve: 80 DaN/mq

- AZIONE SISMICA (valutati attraverso analisi dinamica modale)

ag 1.699 [g/10]

Fo 2.522

TC* 0.396

Per entrambe le strutture in cem. armato :

Fattore di struttura q = 3.30

q = q0 * KR * KW dove :

q0 = 3.00 * 1.1 (A telaio di un piano) (Classe di duttilità "B" (bassa))

KR = 1 (Edifici regolari in altezza)

Rapporto spettro di esercizio / spettro di progetto = 1.208

Le azioni sono state modellate tramite opportuni carichi concentrati e distribuiti su nodi ed aste.

CONTROLLO RIGIDEZZE STRUTTURALI

Attraverso queste valutazioni si effettuano i controlli prescritti dalle NTC 2018 riguardo alla regolarità strutturale, in particolare al punto 7.3.1 (scelta della tipologia strutturale ed effetti delle non linearità geometriche). Il controllo delle rigidezze si basa sull'ipotesi che ogni piano della struttura sia connesso da un controventamento orizzontale. Nelle tabelle che seguono, per ogni corpo e per ogni piano si avranno, dall'alto verso il basso:

- Quota del piano: è quella di ciascun livello definito nell'Ambiente Grafico.
- Rigidezze flessionali Kx e Ky, calcolate come rapporto tra forza applicata e spostamento del baricentro di piano. Il valore è ridotto di tre ordini di grandezza per una maggiore leggibilità.
- Rigidezza torsionale Ktors, calcolata come rapporto tra momento torcente applicato e rotazione del piano. Il valore è ridotto di sei ordini di grandezza.
- Coordinate Xk e Yk del centro rigidezze: è il punto attorno al quale avviene la rotazione del piano, e corrisponde al centro dell'ellisse di rigidezza (o delle rigidezze).
- Coordinate Xg e Yg del baricentro: è il punto di applicazione della risultante delle azioni gravitazionali, e perciò anche delle forze sismiche; nella grafica viene disegnato un rettangolo centrato sul baricentro, con base e altezza pari al 5% delle dimensioni definite al punto seguente.
- Dimensione X ed Y del piano: Lx ed Ly corrispondono alla larghezza e all'altezza del rettangolo che circoscrive il piano.
- Raggi di rigidezza rx e ry: sono definiti come la radice quadrata del rapporto tra rigidezza torsionale e rigidezza flessionale e costituiscono i semiassi dell'ellisse delle rigidezze.
- Raggio giratorio (ls): $ls^2 = (Lx^2 + Ly^2)/12$. E' una lunghezza caratteristica del piano, di tipo puramente geometrico.
- MIN(rx , ry) / ls : nelle strutture a telaio/pareti il rapporto tra il più piccolo raggio di rigidezza ed il raggio giratorio deve essere maggiore di 1; se così non è la struttura va classificata come "deformabile torsionalmente" ai fini del fattore di struttura q_0 (NTC 7.4.3.1).
- (Xg - Xk)/rx e (Yg - Yk)/ry : distanze tra baricentro e centro delle rigidezze (separatamente per

direzione x e y) rapportate al rispettivo raggio di rigidezza. Misurano l'eccentricità della forza sismica, che idealmente dovrebbe essere nulla (baricentro delle masse coincidente col centro delle rigidezze): in effetti l'EC8 considera "regolare in pianta" una distribuzione di rigidezze in cui tali rapporti sono minori di 0.3.

- 2° ordine (theta X / theta Y) : va verificato ad ogni piano che gli effetti non linearità geometriche siano trascurabili, cioè che la quantità "peso x spostamento orizzontale relativo al piano inferiore" sia minore del 10% di "forza sismica x altezza di piano". Il parametro calcolato è appunto il valore di tale rapporto, nelle due direzioni.
- Percentuale dinamica X / Y: è una stima dell'importanza della massa di piano ai fini dell'azione sismica complessiva. In effetti il contributo di ogni piano non dipende solo dall'entità del suo carico, ma anche dalla distribuzione delle rigidezze lungo l'altezza della struttura.

CONTROLLO RIGIDEZZE STRUTTURALI

Quota del piano	320.0	[cm]
Rigidezza KX (/1000)	122.882	[daN/cm]
Rigidezza KY (/1000)	75.346	[daN/cm]
Rigidezza Ktors (/1e6)	145926	[daNcm]
Xk (centro rigidezze)	1753.5	[cm]
Yk (centro rigidezze)	392.4	[cm]
Xg (baricentro)	1634.3	[cm]
Yg (baricentro)	349.2	[cm]
dimensione X	3260	[cm]
dimensione Y	945	[cm]
raggio rigidezza (rx)	1392	[cm]
raggio rigidezza (ry)	1090	[cm]
raggio giratorio (ls)	980	[cm]
MIN(rx , ry) / ls	1.1122	ok (> 1)
(Xg - Xk) / rx	0.0857	ok (< 0.3)
(Yg - Yk) / ry	0.0396	ok (< 0.3)
2° ordine (theta X)	2.62	[%] ok (< 10%)
2° ordine (theta Y)	4.27	[%] ok (< 10%)
Percentuale dinamica X	100.00	[%]
Percentuale dinamica Y	100.00	[%]

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

FASCICOLO DEI CALCOLI STRUTTURE PRINCIPALI

(PLICO A2)

BARLETTA 23/11/2020

FASCICOLO DI CALCOLO DELLE STRUTTURE PRINCIPALI

DATI STRUTTURA:

*** DATI STRUTTURA

Unita` di misura :
LUNGHEZZE : cm
SUPERFICI : cm2
DATI SEZIONALI : cm
ANGOLI : gradi
FORZE : daN
MOMENTI : daNcm
CARICHI LINEARI : daN/cm
CARICHI SUPERFIC.: daN/cm2
TENSIONI : daN/cm2
PESI DI VOLUME : daN/cm3
COEFF. DI WINKLER: daN/cm3
RIGIDEZZE VINCOL.: daN/cm - daNcm/rad

NODI--|----------|----------|----------|----------|----------|num.= 46

Nome	Coord. X	Coord. Y	Coord. Z
1	15.000	15.000	0.000
2	405.000	15.000	0.000
3	835.000	15.000	0.000
4	1235.000	15.000	0.000
5	1655.000	15.000	0.000
6	2165.000	15.000	0.000
7	2525.000	15.000	0.000
8	2855.000	15.000	0.000
9	3275.000	15.000	0.000
10	15.000	365.000	0.000
11	405.000	365.000	0.000
12	2855.000	365.000	0.000
13	3275.000	365.000	0.000
14	15.000	785.000	0.000
15	405.000	785.000	0.000
16	835.000	785.000	0.000
17	1235.000	785.000	0.000
18	1655.000	785.000	0.000
19	2165.000	785.000	0.000
20	2525.000	785.000	0.000
21	2855.000	785.000	0.000
22	3275.000	785.000	0.000
23	405.000	-160.000	320.000
24	2855.000	-160.000	320.000
25	15.000	15.000	320.000
26	405.000	15.000	320.000
27	835.000	15.000	320.000
28	1235.000	15.000	320.000
29	1655.000	15.000	320.000
30	2165.000	15.000	320.000
31	2525.000	15.000	320.000
32	2855.000	15.000	320.000
33	3275.000	15.000	320.000
34	15.000	365.000	320.000
35	405.000	365.000	320.000
36	2855.000	365.000	320.000
37	3275.000	365.000	320.000
38	15.000	785.000	320.000
39	405.000	785.000	320.000
40	835.000	785.000	320.000
41	1235.000	785.000	320.000
42	1655.000	785.000	320.000
43	2165.000	785.000	320.000
44	2525.000	785.000	320.000
45	2855.000	785.000	320.000
46	3275.000	785.000	320.000

ASTE--|----------|----------|----------|----------|----------|num.= 81

Nome	Proprieta`	Nodo iniz.	Nodo fin.	Rilasci in.	Rilasci fin.	Orient.
1	3	1	2			0.0
2	3	2	3			0.0
3	3	3	4			0.0
4	3	4	5			0.0
5	3	5	6			0.0
6	3	6	7			0.0
7	3	7	8			0.0
8	3	8	9			0.0
9	3	1	10			0.0
10	3	2	11			0.0
11	3	8	12			0.0
12	3	9	13			0.0
13	3	10	11			0.0
14	3	12	13			0.0
15	4	3	16			0.0
16	4	4	17			0.0
17	4	5	18			0.0
18	4	6	19			0.0
19	4	7	20			0.0
20	3	10	14			0.0
21	3	11	15			0.0
22	3	12	21			0.0
23	3	13	22			0.0
24	3	14	15			0.0
25	3	15	16			0.0
26	3	16	17			0.0
27	3	17	18			0.0
28	3	18	19			0.0
29	3	19	20			0.0
30	3	20	21			0.0
31	3	21	22			0.0
32	2	1	25			0.0
33	1	2	26			0.0
34	1	3	27			0.0
35	1	4	28			0.0
36	1	5	29			0.0
37	1	6	30			0.0
38	1	7	31			0.0
39	1	8	32			0.0
40	1	9	33			0.0
41	2	10	34			0.0
42	1	11	35			0.0
43	1	12	36			0.0
44	1	13	37			0.0
45	2	14	38			0.0
46	1	15	39			0.0
47	1	16	40			0.0
48	1	17	41			0.0
49	1	18	42			0.0
50	1	19	43			0.0
51	1	20	44			0.0
52	1	21	45			0.0
53	1	22	46			0.0
54	5	23	26			0.0
55	5	24	32			0.0
56	5	25	26			0.0
57	5	26	27			0.0
58	5	27	28			0.0
59	5	28	29			0.0
60	5	29	30			0.0
61	5	30	31			0.0
62	5	31	32			0.0
63	5	32	33			0.0
64	5	25	34			0.0
65	5	26	35			0.0
66	5	32	36			0.0
67	5	33	37			0.0
68	5	34	35			0.0
69	5	36	37			0.0
70	5	34	38			0.0
71	5	35	39			0.0
72	5	36	45			0.0
73	5	37	46			0.0
74	6	38	39			0.0
75	6	39	40			0.0
76	6	40	41			0.0
77	6	41	42			0.0
78	6	42	43			0.0
79	6	43	44			0.0
80	6	44	45			0.0
81	6	45	46			0.0

GUSCI TRIANGOLARI--|----------|----------|----------|----------|num.= 9

Nome	Proprieta`	Nodo 1	Nodo 2	Nodo 3
1	1	25	23	26
2	1	23	27	26
3	1	31	24	32
4	1	26	27	35
5	1	31	32	36
8	1	35	27	40
9	1	31	36	44

16	1	35	40	39
17	1	44	36	45

GUSCI RETTANGOLARI|----------|----------|----------|----------|num.= 8

Nome	Proprieta`	Nodo 1	Nodo 2	Nodo 3	Nodo 4
6	1	25	26	35	34
7	1	32	33	37	36
10	1	27	28	41	40
11	1	28	29	42	41
12	1	29	30	43	42
13	1	30	31	44	43
14	1	34	35	39	38
15	1	36	37	46	45

PROPRIETA` ASTE---|----------|----------|----------|----------|num.= 6

Nome	Materiale	Base	Altezza	Area	Area tag. Y	Area tag. Z
		Kw vertic.	Kw orizz.	J tors.	J fless. Y	J fless. Z
1	1	30.00	30.00	9.00000E+02	7.50000E+02	7.50000E+02
		0.000000	0.000000	1.14073E+05	6.75000E+04	6.75000E+04
2	1	30.00	30.00	7.06858E+02	6.36173E+02	6.36173E+02
		0.000000	0.000000	7.95216E+04	3.97608E+04	3.97608E+04
3	1	100.00	100.00	1.00000E+04	8.33333E+03	8.33333E+03
		2.000000	2.000000	1.40831E+07	8.33333E+06	8.33333E+06
4	1	50.00	100.00	5.00000E+03	4.16667E+03	4.16667E+03
		2.000000	2.000000	2.86098E+06	1.04167E+06	4.16667E+06
5	1	60.00	30.00	1.80000E+03	1.50000E+03	1.50000E+03
		0.000000	0.000000	3.70783E+05	5.40000E+05	1.35000E+05
6	1	55.00	30.00	1.65000E+03	1.37500E+03	1.37500E+03
		0.000000	0.000000	3.26152E+05	4.15938E+05	1.23750E+05

PROPRIETA` GUSCI--|----------|----------|----------|----------|num.= 1

Nome	Materiale	Sp.membr.	Sp. piastra	Kw
1	1	5.00	0.00	0.000000

MATERIALI---------|----------|----------|----------|----------|num.= 1

Nome	Mod. elast.	Coeff. nu	Mod. tang.	Peso spec.	Dil. te.
1	3.00000E+05	1.50000E-01	1.30000E+05	2.50000E-03	1.00000E-05

VINCOLI----------|----------|----------|----------|----------|num.= 22

Nodo	Rigid. X	Rigid. Y	Rigid. Z	Rigid. RX	Rigid. RY	Rigid. RZ
1	bloccato	bloccato	libero	libero	libero	libero
2	bloccato	bloccato	libero	libero	libero	libero
3	bloccato	bloccato	libero	libero	libero	libero
4	bloccato	bloccato	libero	libero	libero	libero
5	bloccato	bloccato	libero	libero	libero	libero
6	bloccato	bloccato	libero	libero	libero	libero
7	bloccato	bloccato	libero	libero	libero	libero
8	bloccato	bloccato	libero	libero	libero	libero
9	bloccato	bloccato	libero	libero	libero	libero
10	bloccato	bloccato	libero	libero	libero	libero
11	bloccato	bloccato	libero	libero	libero	libero
12	bloccato	bloccato	libero	libero	libero	libero
13	bloccato	bloccato	libero	libero	libero	libero
14	bloccato	bloccato	libero	libero	libero	libero
15	bloccato	bloccato	libero	libero	libero	libero
16	bloccato	bloccato	libero	libero	libero	libero
17	bloccato	bloccato	libero	libero	libero	libero
18	bloccato	bloccato	libero	libero	libero	libero
19	bloccato	bloccato	libero	libero	libero	libero
20	bloccato	bloccato	libero	libero	libero	libero
21	bloccato	bloccato	libero	libero	libero	libero
22	bloccato	bloccato	libero	libero	libero	libero

CARICHI NODI------|----------|----------|----------|----------|num.= 191

Nome	Nodo	Direzione	Intensita`
1 - 95	: Forze Dinamiche (Autovettori)		
96 - 143	: Forze Sismiche (Analisi Semplificata)		
144 - 191	: Momenti Torcenti Addizionali		

CARICHI DI SOLAIO-|----------|----------|----------|----------|num.= 12

Nome	Cos X	Cos Y	Cos Z	Cond.	Rifer.	Intens.	Quota
1	1.0000	0.0000	0.0000	1	glob	-0.03650	320.00
2	0.0000	-1.0000	0.0000	1	glob	-0.03650	320.00
3	1.0000	0.0000	0.0000	1	glob	-0.03650	320.00
4	1.0000	0.0000	0.0000	2	glob	-0.01500	320.00
5	0.0000	-1.0000	0.0000	2	glob	-0.01500	320.00
6	1.0000	0.0000	0.0000	2	glob	-0.01500	320.00
7	1.0000	0.0000	0.0000	3	glob	-0.02000	320.00
8	0.0000	-1.0000	0.0000	3	glob	-0.02000	320.00
9	1.0000	0.0000	0.0000	3	glob	-0.02000	320.00
10	1.0000	0.0000	0.0000	4	glob	-0.00800	320.00
11	0.0000	-1.0000	0.0000	4	glob	-0.00800	320.00
12	1.0000	0.0000	0.0000	4	glob	-0.00800	320.00

CARICHI ASTE------|----------|----------|----------|----------|num.= 165

Nome	Asta	Dir	Tip	RIF	Parametro 1	Parametro 2	Parametro 3	Parametro 4
192 S002-p_proprioh_25+5	64	Z	FT	glo	-7.117	-7.117	0.000	0.000
193 S002-p_proprioh_25+5	65	Z	FT	glo	-7.117	-7.117	0.000	0.000
194 S002-p_proprioh_25+5	70	Z	FT	glo	-7.117	-7.117	0.000	0.000
195 S002-p_proprioh_25+5	71	Z	FT	glo	-7.117	-7.117	0.000	0.000
196 S001-p_proprioh_25+5	56	Z	FT	glo	0.000	-6.388	0.000	0.000
197 S001-p_proprioh_25+5	57	Z	FT	glo	-20.440	-20.440	0.000	0.000
198 S001-p_proprioh_25+5	58	Z	FT	glo	-20.440	-20.440	0.000	0.000
199 S001-p_proprioh_25+5	59	Z	FT	glo	-20.440	-20.440	0.000	0.000
200 S001-p_proprioh_25+5	60	Z	FT	glo	-20.440	-20.440	0.000	0.000
201 S001-p_proprioh_25+5	61	Z	FT	glo	-20.440	-20.440	0.000	0.000
202 S001-p_proprioh_25+5	62	Z	FT	glo	-20.440	-20.440	0.000	0.000
203 S001-p_proprioh_25+5	75	Z	FT	glo	-14.053	-14.053	0.000	0.000
204 S001-p_proprioh_25+5	76	Z	FT	glo	-14.053	-14.053	0.000	0.000
205 S001-p_proprioh_25+5	77	Z	FT	glo	-14.053	-14.053	0.000	0.000
206 S001-p_proprioh_25+5	78	Z	FT	glo	-14.053	-14.053	0.000	0.000
207 S001-p_proprioh_25+5	79	Z	FT	glo	-14.053	-14.053	0.000	0.000
208 S001-p_proprioh_25+5	80	Z	FT	glo	-14.053	-14.053	0.000	0.000
209 S003-p_proprioh_25+5	66	Z	FT	glo	-7.665	-7.665	0.000	0.000
210 S003-p_proprioh_25+5	67	Z	FT	glo	-7.665	-7.665	0.000	0.000
211 S003-p_proprioh_25+5	72	Z	FT	glo	-7.665	-7.665	0.000	0.000
212 S003-p_proprioh_25+5	73	Z	FT	glo	-7.665	-7.665	0.000	0.000
213 S002-SottofondoPav_+	64	Z	FT	glo	-2.925	-2.925	0.000	0.000
214 S002-SottofondoPav_+	65	Z	FT	glo	-2.925	-2.925	0.000	0.000
215 S002-SottofondoPav_+	70	Z	FT	glo	-2.925	-2.925	0.000	0.000
216 S002-SottofondoPav_+	71	Z	FT	glo	-2.925	-2.925	0.000	0.000
217 S001-SottofondoPav_+	56	Z	FT	glo	0.000	-2.625	0.000	0.000
218 S001-SottofondoPav_+	57	Z	FT	glo	-8.400	-8.400	0.000	0.000
219 S001-SottofondoPav_+	58	Z	FT	glo	-8.400	-8.400	0.000	0.000
220 S001-SottofondoPav_+	59	Z	FT	glo	-8.400	-8.400	0.000	0.000
221 S001-SottofondoPav_+	60	Z	FT	glo	-8.400	-8.400	0.000	0.000
222 S001-SottofondoPav_+	61	Z	FT	glo	-8.400	-8.400	0.000	0.000
223 S001-SottofondoPav_+	62	Z	FT	glo	-8.400	-8.400	0.000	0.000
224 S001-SottofondoPav_+	75	Z	FT	glo	-5.775	-5.775	0.000	0.000
225 S001-SottofondoPav_+	76	Z	FT	glo	-5.775	-5.775	0.000	0.000
226 S001-SottofondoPav_+	77	Z	FT	glo	-5.775	-5.775	0.000	0.000
227 S001-SottofondoPav_+	78	Z	FT	glo	-5.775	-5.775	0.000	0.000
228 S001-SottofondoPav_+	79	Z	FT	glo	-5.775	-5.775	0.000	0.000
229 S001-SottofondoPav_+	80	Z	FT	glo	-5.775	-5.775	0.000	0.000
230 S003-SottofondoPav_+	66	Z	FT	glo	-3.150	-3.150	0.000	0.000
231 S003-SottofondoPav_+	67	Z	FT	glo	-3.150	-3.150	0.000	0.000
232 S003-SottofondoPav_+	72	Z	FT	glo	-3.150	-3.150	0.000	0.000
233 S003-SottofondoPav_+	73	Z	FT	glo	-3.150	-3.150	0.000	0.000
234 S002-var_cop	64	Z	FT	glo	-3.900	-3.900	0.000	0.000
235 S002-var_cop	65	Z	FT	glo	-3.900	-3.900	0.000	0.000
236 S002-var_cop	70	Z	FT	glo	-3.900	-3.900	0.000	0.000
237 S002-var_cop	71	Z	FT	glo	-3.900	-3.900	0.000	0.000
238 S001-var_cop	56	Z	FT	glo	0.000	-3.500	0.000	0.000
239 S001-var_cop	57	Z	FT	glo	-11.200	-11.200	0.000	0.000
240 S001-var_cop	58	Z	FT	glo	-11.200	-11.200	0.000	0.000
241 S001-var_cop	59	Z	FT	glo	-11.200	-11.200	0.000	0.000
242 S001-var_cop	60	Z	FT	glo	-11.200	-11.200	0.000	0.000
243 S001-var_cop	61	Z	FT	glo	-11.200	-11.200	0.000	0.000
244 S001-var_cop	62	Z	FT	glo	-11.200	-11.200	0.000	0.000
245 S001-var_cop	75	Z	FT	glo	-7.700	-7.700	0.000	0.000
246 S001-var_cop	76	Z	FT	glo	-7.700	-7.700	0.000	0.000
247 S001-var_cop	77	Z	FT	glo	-7.700	-7.700	0.000	0.000
248 S001-var_cop	78	Z	FT	glo	-7.700	-7.700	0.000	0.000
249 S001-var_cop	79	Z	FT	glo	-7.700	-7.700	0.000	0.000
250 S001-var_cop	80	Z	FT	glo	-7.700	-7.700	0.000	0.000
251 S003-var_cop	66	Z	FT	glo	-4.200	-4.200	0.000	0.000
252 S003-var_cop	67	Z	FT	glo	-4.200	-4.200	0.000	0.000
253 S003-var_cop	72	Z	FT	glo	-4.200	-4.200	0.000	0.000
254 S003-var_cop	73	Z	FT	glo	-4.200	-4.200	0.000	0.000
255 S002-Neve	64	Z	FT	glo	-1.560	-1.560	0.000	0.000
256 S002-Neve	65	Z	FT	glo	-1.560	-1.560	0.000	0.000
257 S002-Neve	70	Z	FT	glo	-1.560	-1.560	0.000	0.000
258 S002-Neve	71	Z	FT	glo	-1.560	-1.560	0.000	0.000
259 S001-Neve	56	Z	FT	glo	0.000	-1.400	0.000	0.000
260 S001-Neve	57	Z	FT	glo	-4.480	-4.480	0.000	0.000
261 S001-Neve	58	Z	FT	glo	-4.480	-4.480	0.000	0.000
262 S001-Neve	59	Z	FT	glo	-4.480	-4.480	0.000	0.000
263 S001-Neve	60	Z	FT	glo	-4.480	-4.480	0.000	0.000
264 S001-Neve	61	Z	FT	glo	-4.480	-4.480	0.000	0.000
265 S001-Neve	62	Z	FT	glo	-4.480	-4.480	0.000	0.000
266 S001-Neve	75	Z	FT	glo	-3.080	-3.080	0.000	0.000
267 S001-Neve	76	Z	FT	glo	-3.080	-3.080	0.000	0.000
268 S001-Neve	77	Z	FT	glo	-3.080	-3.080	0.000	0.000
269 S001-Neve	78	Z	FT	glo	-3.080	-3.080	0.000	0.000
270 S001-Neve	79	Z	FT	glo	-3.080	-3.080	0.000	0.000
271 S001-Neve	80	Z	FT	glo	-3.080	-3.080	0.000	0.000

```
   272 S003-Neve                66  Z   FT glo      -1.680     -1.680      0.000      0.000
   273 S003-Neve                67  Z   FT glo      -1.680     -1.680      0.000      0.000
   274 S003-Neve                72  Z   FT glo      -1.680     -1.680      0.000      0.000
   275 S003-Neve                73  Z   FT glo      -1.680     -1.680      0.000      0.000

PESI PROPRI ASTE--|-----------|-----------|-----------|-----------|-----------|
  Cond.  Nome Carichi          Aste
     1   276-356               1-81

CARICHI DI LINEA   |-----------|-----------|-----------|-----------|num.=      0
          numero coordinata                      Intensità
  Nome     inizio       fine   Cond. Direz.   inizio        fine  Descrizione

CONDIZIONI DI CARICO----------|-----------|-----------|-----------|num.=     12
  Nome
     1  Peso_proprio_______   N. carichi:  102
        Lista carichi: 192-212, 276-356

     2  Permanente_________   N. carichi:   21
        Lista carichi: 213-233

     3       Var_copertura   N. carichi:   21
        Lista carichi: 234-254

     4  Neve_(<1000m_slm)__   N. carichi:   21
        Lista carichi: 255-275

     5    Autovett_001_(X)   N. carichi:   23
        Lista carichi: 1-23

     6    Autovett_001_(Y)   N. carichi:   24
        Lista carichi: 24-47

     7    Autovett_002_(X)   N. carichi:   24
        Lista carichi: 48-71

     8    Autovett_002_(Y)   N. carichi:   24
        Lista carichi: 72-95

     9             Sisma_X   N. carichi:   24
        Lista carichi: 96-119

    10             Sisma_Y   N. carichi:   24
        Lista carichi: 120-143

    11     Torcente_add._X   N. carichi:   24
        Lista carichi: 144-167

    12     Torcente_add._Y   N. carichi:   24
        Lista carichi: 168-191

  RISULTANTI DEI CARICHI (punto di applicazione nell'origine degli assi):
  cond.          FX            FY            FZ            MX            MY            MZ
     1  0.000000E+00  0.000000E+00 -4.794662E+05 -1.831354E+08  7.899529E+08  0.000000E+00
     2  0.000000E+00  0.000000E+00 -4.459613E+04 -1.516535E+07  7.256289E+07  0.000000E+00
     3  0.000000E+00  0.000000E+00 -5.946150E+04 -2.022046E+07  9.675052E+07  0.000000E+00
     4  0.000000E+00  0.000000E+00 -2.378460E+04 -8.088185E+06  3.870021E+07  0.000000E+00
     5  1.228000E+01  0.000000E+00  0.000000E+00  0.000000E+00  3.929600E+03  9.446400E+03
     6  0.000000E+00  3.784004E+04  0.000000E+00 -1.210881E+07  0.000000E+00  5.581272E+07
     7  3.405083E+04  0.000000E+00  0.000000E+00  0.000000E+00  1.089627E+07 -1.037708E+07
     8  0.000000E+00  2.224100E+02  0.000000E+00 -7.117120E+04  0.000000E+00  1.323855E+06
     9  3.896617E+04  0.000000E+00  0.000000E+00  0.000000E+00  1.246918E+07 -1.360672E+07
    10  0.000000E+00  3.896617E+04  0.000000E+00 -1.246918E+07  0.000000E+00  6.368367E+07
    11  0.000000E+00  0.000000E+00  0.000000E+00  0.000000E+00  0.000000E+00 -1.841152E+06
    12  0.000000E+00  0.000000E+00  0.000000E+00  0.000000E+00  0.000000E+00  6.351486E+06
```

DATI ANALISI SISMICA:

ANALISI DINAMICA lavoro :\STAD__

PARAMETRI DI CALCOLO:

Modello generale
Assi di vibrazione: X Y
Combinazione quadratica completa (CQC)

DATI PROGETTO

Edificio sito in località BARLETTA (long. 16.279 lat. 41.318000)

Categoria del suolo di fondazione = C

Coeff. di amplificazione stratigrafica Ss = 1.443

Coeff. di amplificazione topografica ST = 1.000

S = 1.443

Vita nominale dell'opera VN = 50 anni

Coefficiente d'uso CU = 1.5

Periodo di riferimento VR = 75.0

PVR : probabilità di superamento in VR = 10 %

Tempo di ritorno = 711

Coeff. di smorzamento viscoso = 5.0

Valori risultanti per :
ag 1.699 [g/10]
Fo 2.522
TC* 0.396

Edificio con struttura in cem. armato :
Fattore di comportamento q = 3.300

q = q0 * KR * KW dove :
q0 = 3.00 * 1.1 (A telaio di un piano) (Classe di duttilità "B" (bassa))
KR = 1.0 (Edifici regolari in altezza)
KW = 1.00

Rapporto spettro di esercizio / spettro di progetto = 1.208

CONDIZIONI DI RIFERIMENTO	COEFFICIENTE	PESO RISULTANTE [daN]
1.	1.000	479466.2
2.	1.000	44596.1

*** TABELLA AUTOVETTORI ***

n	PERIODO [sec]	MASSA ATTIVATA %X	%Y	%Z	COEFFICIENTI DI CORRELAZIONE n+1	n+2	n+3	n+4	n+5	n+6	n+7
1	0.329281	0.032	97.110	0.000	0.162						
2	0.262682	87.386	0.571	0.000							
	MASSA TOTALE	87.418	97.681	0.000							

N.B. Ai soli fini della valutazione delle azioni torcenti addizionali lungo X e lungo Y si procede all'analisi statica lineare

---
Analisi sismica - Statica lineare - (NTC 2008)

Coeff. lambda = 1.0000
Sd = 0.187 per T1 = 0.329

Numero condizioni generanti carichi sismici : 2

Cond. 001 : Peso_proprio_____ con coeff. 1.000
Cond. 002 : Permanente_____ con coeff. 1.000

Condizioni di carico sismico generate:

Cond. 009 : Sisma X
Cond. 010 : Sisma Y
Cond. 011 : Torcente add. X
Cond. 012 : Torcente add. Y

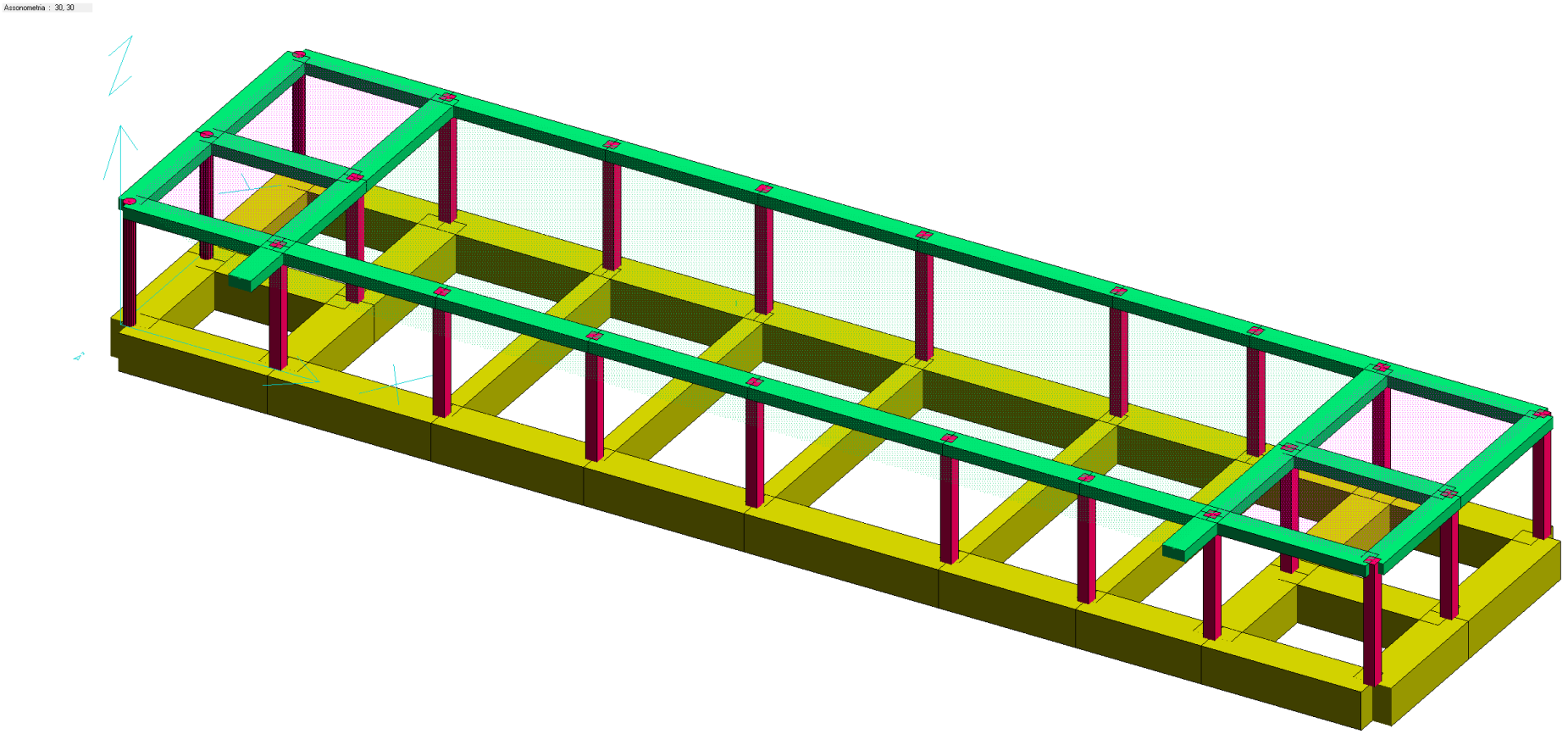
Carichi sismici :

Piani cm	Pesi daN	C. distr.	Forze piano daN	Torc. piano X daNcm	Torc. piano Y daNcm	Bar. X cm	Bar. Y cm
320.0	207999	0.1873	38966	1841152	6351486	1634.3	349.2

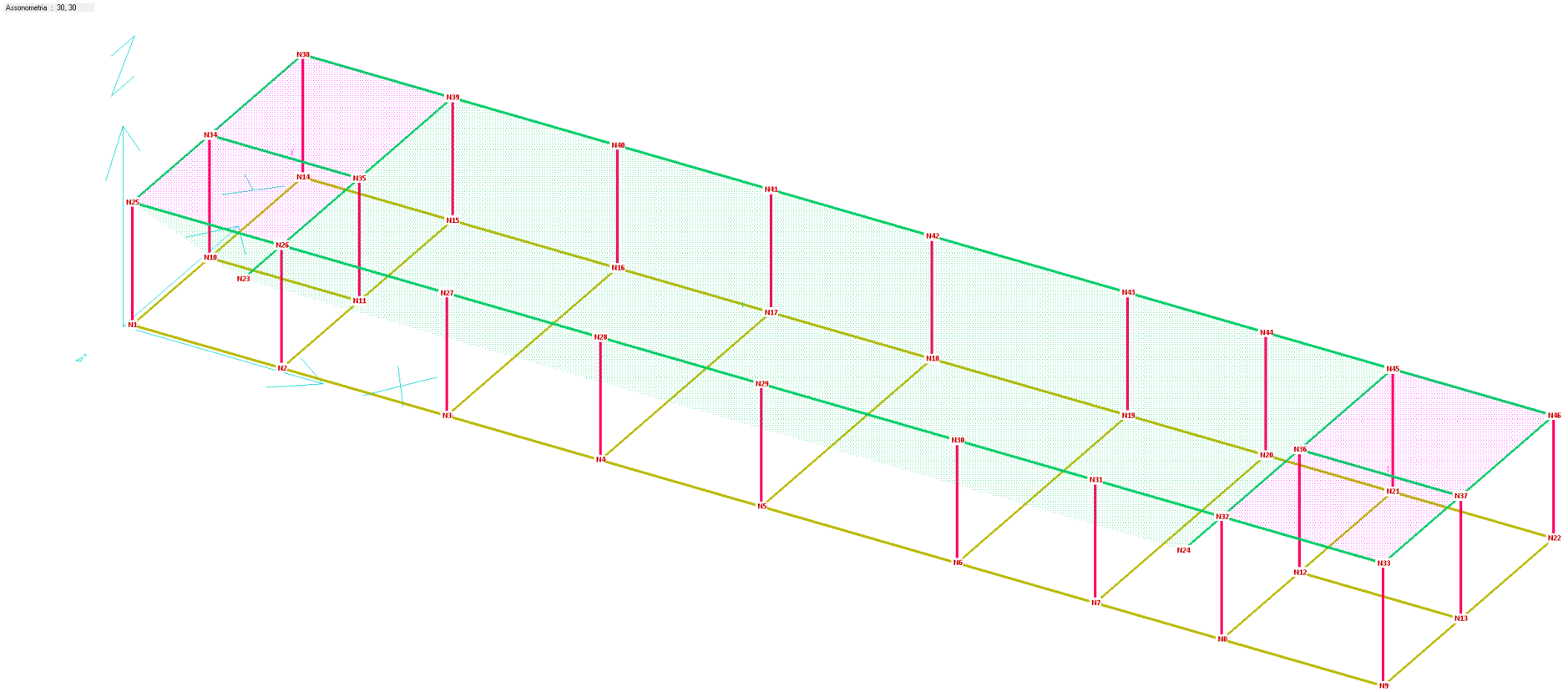
DESCRIZIONE CASI DI CARICO:

NOME	DESCRIZIONE	VERIFICA	TIPO	CONDIZ. INSERITE			CASI INSERITI	
				Num.	Coeff.	Segno	Num.	Coeff.
1	SLU SENZA SISMA	S.L.U.	somma	1	1.300	+		
				2	1.500	+		
				3	1.500	+		
				4	1.500	+		
2	SISMAX SLU	nessuna	somma	5	1.000	quadr.		
				7	1.000	quadr.		
				11	1.000	±		
3	SISMAY SLU	nessuna	somma	6	1.000	quadr.		
				8	1.000	quadr.		
				12	1.000	±		
4	SLU con SISMAX PRINC	S.L.U.	somma	1	1.000	+	2	1.000
				2	1.000	+	3	0.300
5	SLU con SISMAY PRINC	S.L.U.	somma	1	1.000	+	3	1.000
				2	1.000	+	2	0.300
6	SLD con SISMAX PRINC	S.L.Danno	somma	1	1.000	+	2	1.208
				2	1.000	+	3	0.362
7	SLD con SISMAY PRINC	S.L.Danno	somma	1	1.000	+	3	1.208
				2	1.000	+	2	0.362
8	SLU FON con SISMAX P	SLU_FON	somma	1	1.000	+	2	1.100
				2	1.000	+	3	0.330
9	SLU FON con SISMAY P	SLU_FON	somma	1	1.000	+	3	1.100
				2	1.000	+	2	0.330
10	SLUGeo	SLU_GEO	somma	1	1.000	+		
				2	1.300	+		
				3	1.300	+		
				4	1.300	+		
11	Rara	Rara	somma	1	1.000	+		
				2	1.000	+		
				3	1.000	+		
				4	1.000	+		
12	Frequente	Freq.	somma	1	1.000	+		
				2	1.000	+		
				4	0.200	+		
13	Quasi Perm	QuasiPerm.	somma	1	1.000	+		
				2	1.000	+		

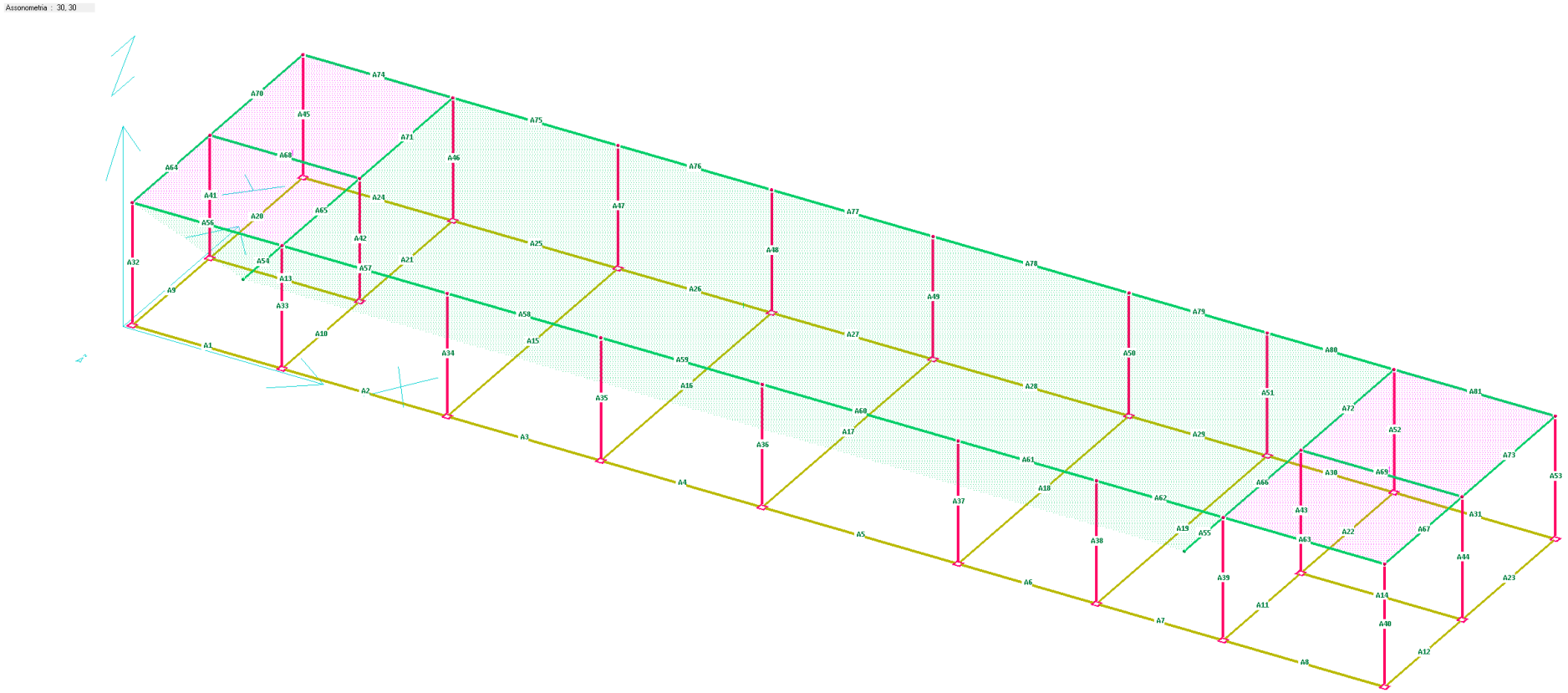
ASSONOMETRIA STRUTTURA:



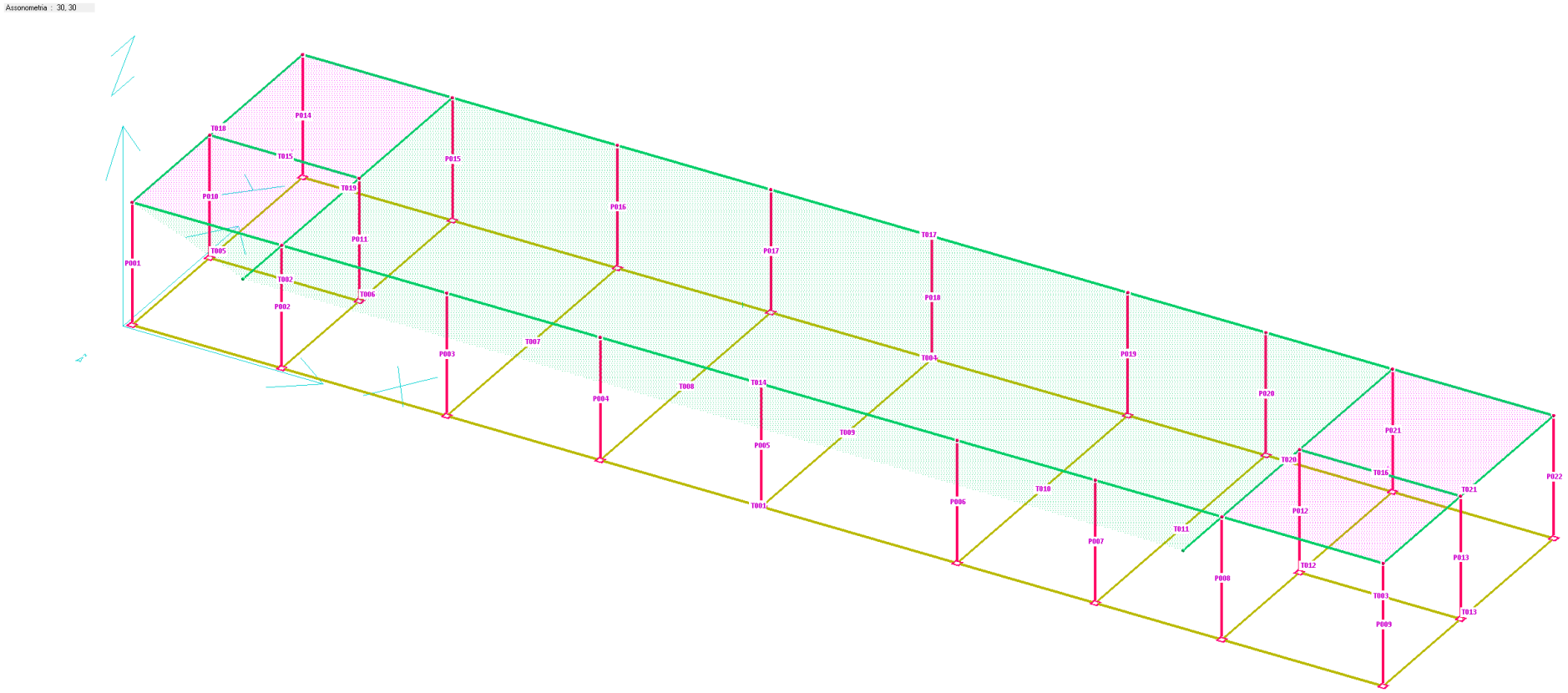
NODI STRUTTURA:



ASTE STRUTTURA:



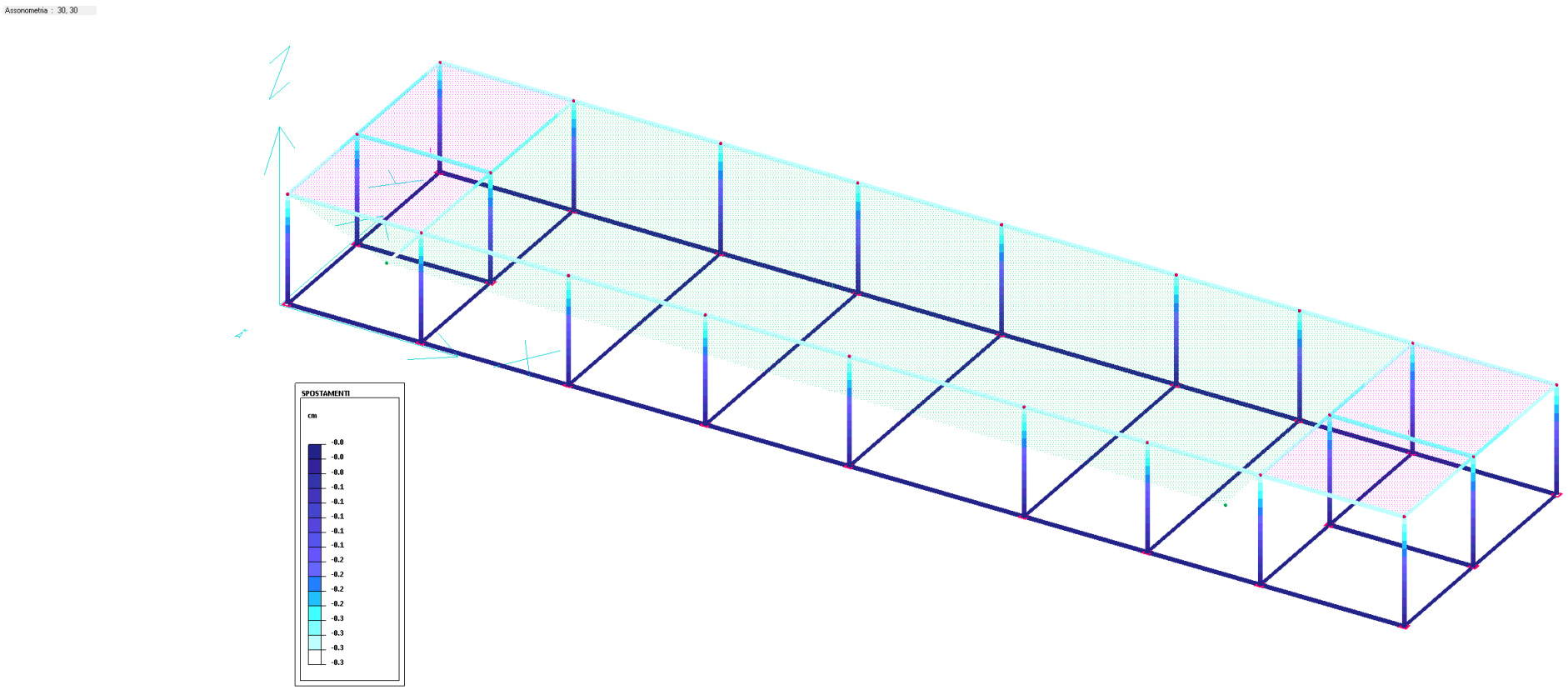
NUMERAZIONE ELEMENTI CARPENTERIA:



SPOSTAMENTI NODALI: S.L.U. CON SISMA PRINCIPALE LUNGO X (CASO 4)

(NTC 7.3.3.3) Gli spostamenti d_E della struttura si ottengono moltiplicando per il fattore μ_d i valori d_{Ee} ottenuti dall'analisi lineare

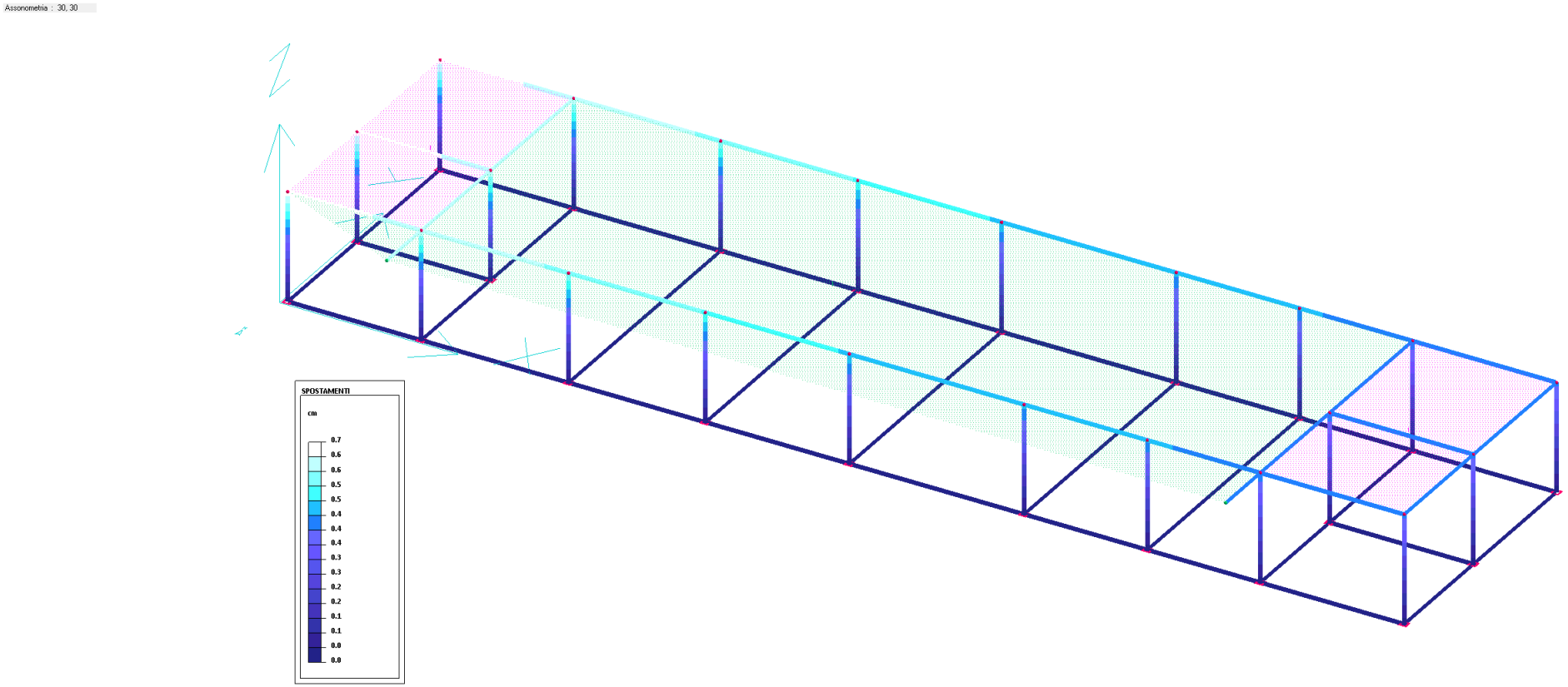
$d_E = \pm \mu_d d_{Ee} = \pm 4.946 d_{Ee}$



SPOSTAMENTI NODALI: S.L.U. CON SISMA PRINCIPALE LUNGO Y (CASO 5)

(NTC 7.3.3.3) Gli spostamenti d_E della struttura si ottengono moltiplicando per il fattore μ_d i valori d_{Ee} ottenuti dall'analisi lineare

$d_E = \pm \mu_d d_{Ee} = \pm 4.946 d_{Ee}$



VERIFICA ALLO STATO LIMITE DI DANNO (S.L.D.):

VERIFICA SPOSTAMENTI SISMICI DI ESERCIZIO (NTC 7.3.6.1)

spostamento limite interpiano = 0.333% dell'altezza

CASO n. 6 - SLD con SISMAX PRINC:

Zinf [cm]	Zsup [cm]	h [cm]	spost.max [cm]	%h	nodo	sest.	ver.
0.00	320.00	320.00	0.492094	0.154	25	7	SI

CASO n. 7 - SLD con SISMAY PRINC:

Zinf [cm]	Zsup [cm]	h [cm]	spost.max [cm]	%h	nodo	sest.	ver.
0.00	320.00	320.00	0.855883	0.267	25	10	SI

VERIFICA SPOSTAMENTI SISMICI DI S.L.V. (NTC 7.3.3.3)

Fattore Mud = 4.946

Quota [cm]	DX max [cm]	nodo	DY max [cm]	nodo
320.00	1.573275	24	3.473017	34

Grafico spostamenti (CASO n. 6 - SLD con SISMAX PRINC)

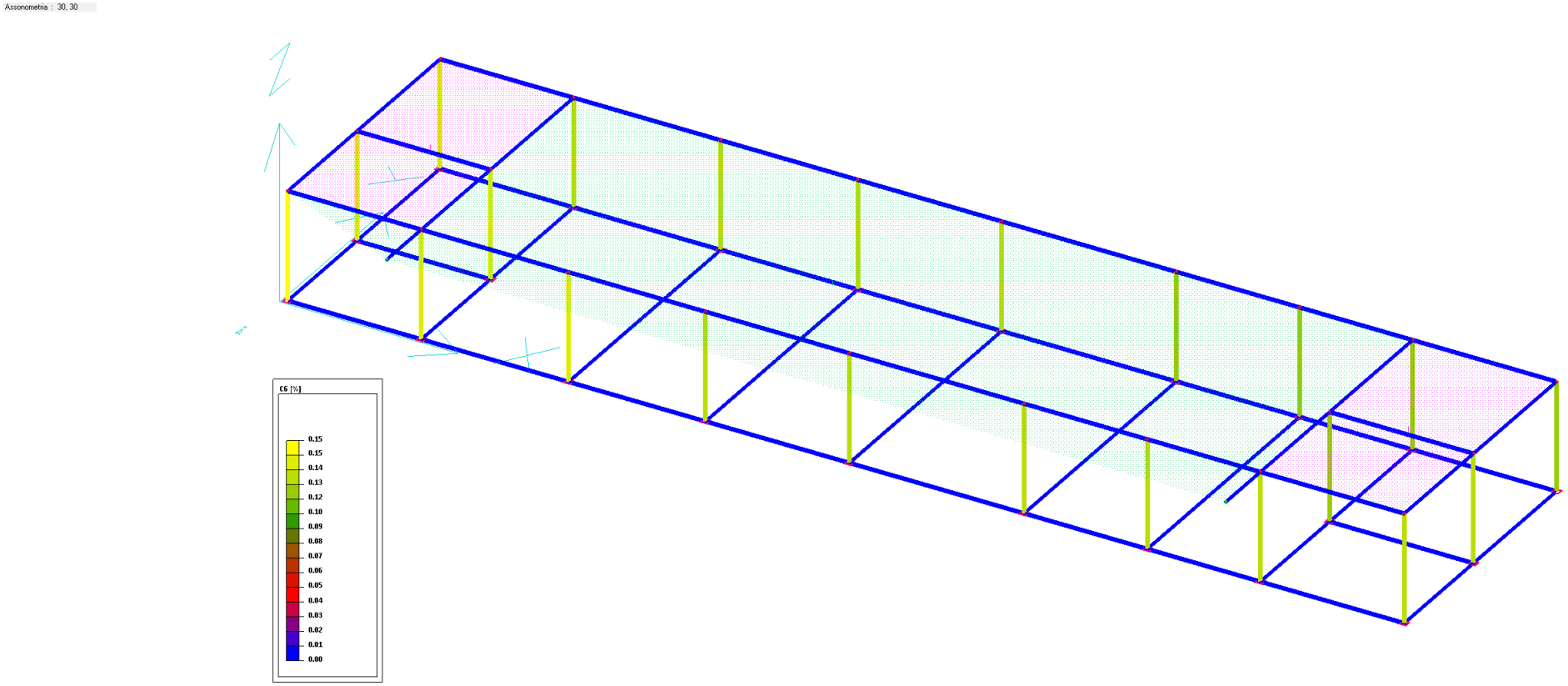
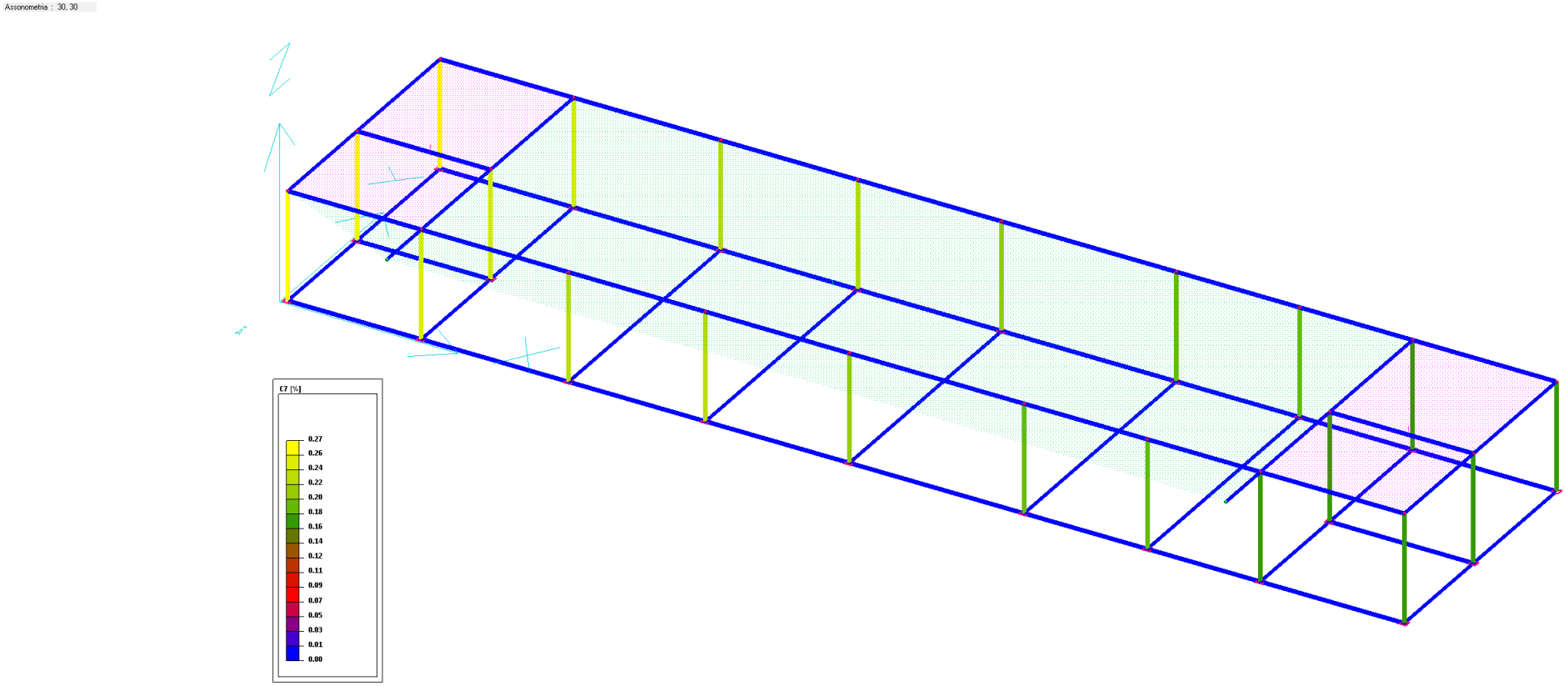


Grafico spostamenti (CASO n. 7 - SLD con SISMAY PRINC)



REAZIONI VINCOLARI:

REAZIONI VINCOLARI

CASO DI CARICO : 1 SLU SENZA SISMA
COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.30
2 Permanente_____ + 1.50
3 Var_copertura_____ + 1.50
4 Neve_(<1000m_slm)__ + 1.50

1) +1.30*c001 +1.50*c002 +1.50*c003 +1.50*c004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	442.4	605.5	0.0	0.0	0.0	0.0
2	2394.1	346.4	0.0	0.0	0.0	0.0
3	-323.4	-112.8	0.0	0.0	0.0	0.0
4	168.5	-243.3	0.0	0.0	0.0	0.0
5	1484.7	-272.0	0.0	0.0	0.0	0.0
6	-2206.3	-219.2	0.0	0.0	0.0	0.0
7	-160.1	-52.4	0.0	0.0	0.0	0.0
8	-1690.3	420.6	0.0	0.0	0.0	0.0
9	-491.4	983.1	0.0	0.0	0.0	0.0
10	341.0	468.6	0.0	0.0	0.0	0.0
11	681.2	586.0	0.0	0.0	0.0	0.0
12	-360.8	610.3	0.0	0.0	0.0	0.0
13	-513.6	718.4	0.0	0.0	0.0	0.0
14	180.3	-871.5	0.0	0.0	0.0	0.0
15	2065.6	-1044.2	0.0	0.0	0.0	0.0
16	-286.4	-13.1	0.0	0.0	0.0	0.0
17	155.5	220.2	0.0	0.0	0.0	0.0
18	1149.1	259.1	0.0	0.0	0.0	0.0
19	-1568.7	181.3	0.0	0.0	0.0	0.0
20	8.6	-106.2	0.0	0.0	0.0	0.0
21	-1101.6	-1114.4	0.0	0.0	0.0	0.0
22	-368.4	-1350.4	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 4 SLU con SISMAX PRINC
COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
2 SISMAX SLU 1.00
3 SISMAY SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.001
2) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.002
3) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.003
4) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.004
5) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.001
6) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.002
7) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.003
8) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.004
9) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.001
10) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.002
11) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.003
12) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.004
13) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.001
14) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.002
15) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.003
16) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	-1663.3	-574.3	0.0	0.0	0.0	0.0
	-1585.1	-882.0	0.0	0.0	0.0	0.0
	-1777.4	1726.5	0.0	0.0	0.0	0.0
	-1699.2	1418.8	0.0	0.0	0.0	0.0
	-1746.8	-276.0	0.0	0.0	0.0	0.0
	-1668.6	-583.8	0.0	0.0	0.0	0.0

	-1860.9	2024.8	0.0	0.0	0.0	0.0
	-1782.7	1717.0	0.0	0.0	0.0	0.0
	2307.1	-1090.1	0.0	0.0	0.0	0.0
	2385.4	-1397.9	0.0	0.0	0.0	0.0
	2193.0	1210.7	0.0	0.0	0.0	0.0
	2271.3	902.9	0.0	0.0	0.0	0.0
	2223.6	-791.9	0.0	0.0	0.0	0.0
	2301.9	-1099.6	0.0	0.0	0.0	0.0
	2109.5	1508.9	0.0	0.0	0.0	0.0
	2187.7	1201.2	0.0	0.0	0.0	0.0

Nodo 2	SX	SY	SZ	RX	RY	RZ
	-2269.3	-1204.2	0.0	0.0	0.0	0.0
	-2135.4	-1562.2	0.0	0.0	0.0	0.0
	-2484.0	2141.3	0.0	0.0	0.0	0.0
	-2350.1	1783.3	0.0	0.0	0.0	0.0
	-2411.6	-865.4	0.0	0.0	0.0	0.0
	-2277.6	-1223.4	0.0	0.0	0.0	0.0
	-2626.3	2480.1	0.0	0.0	0.0	0.0
	-2492.4	2122.1	0.0	0.0	0.0	0.0
	4633.2	-1842.6	0.0	0.0	0.0	0.0
	4767.1	-2200.6	0.0	0.0	0.0	0.0
	4418.5	1502.9	0.0	0.0	0.0	0.0
	4552.4	1144.9	0.0	0.0	0.0	0.0
	4490.9	-1503.7	0.0	0.0	0.0	0.0
	4624.9	-1861.7	0.0	0.0	0.0	0.0
	4276.2	1841.8	0.0	0.0	0.0	0.0
	4410.1	1483.8	0.0	0.0	0.0	0.0

Nodo 3	SX	SY	SZ	RX	RY	RZ
	-3638.9	-794.7	0.0	0.0	0.0	0.0
	-3510.4	-939.8	0.0	0.0	0.0	0.0
	-3861.6	918.9	0.0	0.0	0.0	0.0
	-3733.0	773.9	0.0	0.0	0.0	0.0
	-3774.0	-660.5	0.0	0.0	0.0	0.0
	-3645.4	-805.5	0.0	0.0	0.0	0.0
	-3996.6	1053.1	0.0	0.0	0.0	0.0
	-3868.1	908.1	0.0	0.0	0.0	0.0
	3525.3	-1027.8	0.0	0.0	0.0	0.0
	3653.8	-1172.8	0.0	0.0	0.0	0.0
	3302.6	685.9	0.0	0.0	0.0	0.0
	3431.2	540.8	0.0	0.0	0.0	0.0
	3390.2	-893.6	0.0	0.0	0.0	0.0
	3518.8	-1038.6	0.0	0.0	0.0	0.0
	3167.6	820.1	0.0	0.0	0.0	0.0
	3296.2	675.0	0.0	0.0	0.0	0.0

Nodo 4	SX	SY	SZ	RX	RY	RZ
	-3426.8	-715.6	0.0	0.0	0.0	0.0
	-3300.5	-778.4	0.0	0.0	0.0	0.0
	-3633.4	581.9	0.0	0.0	0.0	0.0
	-3507.0	519.1	0.0	0.0	0.0	0.0
	-3558.2	-658.4	0.0	0.0	0.0	0.0
	-3431.9	-721.1	0.0	0.0	0.0	0.0
	-3764.8	639.2	0.0	0.0	0.0	0.0
	-3638.5	576.4	0.0	0.0	0.0	0.0
	3785.1	-808.4	0.0	0.0	0.0	0.0
	3911.5	-871.2	0.0	0.0	0.0	0.0
	3578.6	489.1	0.0	0.0	0.0	0.0
	3704.9	426.3	0.0	0.0	0.0	0.0
	3653.7	-751.2	0.0	0.0	0.0	0.0
	3780.0	-814.0	0.0	0.0	0.0	0.0
	3447.1	546.3	0.0	0.0	0.0	0.0
	3573.4	483.6	0.0	0.0	0.0	0.0

Nodo 5	SX	SY	SZ	RX	RY	RZ
	-2705.3	-702.0	0.0	0.0	0.0	0.0
	-2582.6	-709.8	0.0	0.0	0.0	0.0
	-2911.9	456.1	0.0	0.0	0.0	0.0
	-2789.3	448.4	0.0	0.0	0.0	0.0
	-2832.3	-694.5	0.0	0.0	0.0	0.0
	-2709.6	-702.2	0.0	0.0	0.0	0.0
	-3038.9	463.6	0.0	0.0	0.0	0.0
	-2916.2	455.9	0.0	0.0	0.0	0.0
	4365.7	-712.6	0.0	0.0	0.0	0.0
	4488.3	-720.3	0.0	0.0	0.0	0.0
	4159.0	445.5	0.0	0.0	0.0	0.0
	4281.7	437.8	0.0	0.0	0.0	0.0
	4238.7	-705.0	0.0	0.0	0.0	0.0
	4361.4	-712.8	0.0	0.0	0.0	0.0
	4032.1	453.1	0.0	0.0	0.0	0.0
	4154.7	445.4	0.0	0.0	0.0	0.0

Nodo 6	SX	SY	SZ	RX	RY	RZ
	-4517.9	-712.4	0.0	0.0	0.0	0.0
	-4392.9	-661.1	0.0	0.0	0.0	0.0
	-4726.0	419.6	0.0	0.0	0.0	0.0
	-4601.1	470.9	0.0	0.0	0.0	0.0
	-4647.8	-758.0	0.0	0.0	0.0	0.0
	-4522.8	-706.7	0.0	0.0	0.0	0.0
	-4855.9	374.0	0.0	0.0	0.0	0.0
	-4731.0	425.3	0.0	0.0	0.0	0.0
	2626.7	-637.4	0.0	0.0	0.0	0.0
	2751.7	-586.1	0.0	0.0	0.0	0.0
	2418.6	494.6	0.0	0.0	0.0	0.0
	2543.5	545.9	0.0	0.0	0.0	0.0
	2496.8	-683.0	0.0	0.0	0.0	0.0
	2621.8	-631.8	0.0	0.0	0.0	0.0
	2288.7	449.0	0.0	0.0	0.0	0.0
	2413.6	500.2	0.0	0.0	0.0	0.0

Nodo 7	SX	SY	SZ	RX	RY	RZ
	-3584.5	-800.4	0.0	0.0	0.0	0.0
	-3454.6	-675.1	0.0	0.0	0.0	0.0
	-3782.7	514.6	0.0	0.0	0.0	0.0
	-3652.8	639.8	0.0	0.0	0.0	0.0
	-3720.4	-915.5	0.0	0.0	0.0	0.0
	-3590.6	-790.3	0.0	0.0	0.0	0.0
	-3918.6	399.4	0.0	0.0	0.0	0.0
	-3788.7	524.6	0.0	0.0	0.0	0.0
	3682.5	-593.7	0.0	0.0	0.0	0.0
	3812.4	-468.5	0.0	0.0	0.0	0.0
	3484.3	721.2	0.0	0.0	0.0	0.0
	3614.2	846.4	0.0	0.0	0.0	0.0
	3546.6	-708.9	0.0	0.0	0.0	0.0
	3676.4	-583.7	0.0	0.0	0.0	0.0
	3348.4	606.1	0.0	0.0	0.0	0.0
	3478.3	731.3	0.0	0.0	0.0	0.0

Nodo 8	SX	SY	SZ	RX	RY	RZ
	-4114.6	-1195.8	0.0	0.0	0.0	0.0
	-3979.5	-915.4	0.0	0.0	0.0	0.0
	-4338.8	996.6	0.0	0.0	0.0	0.0
	-4203.7	1277.0	0.0	0.0	0.0	0.0
	-4257.1	-1459.5	0.0	0.0	0.0	0.0
	-4122.0	-1179.1	0.0	0.0	0.0	0.0
	-4481.3	732.9	0.0	0.0	0.0	0.0
	-4346.2	1013.3	0.0	0.0	0.0	0.0
	2937.7	-672.3	0.0	0.0	0.0	0.0
	3072.8	-391.9	0.0	0.0	0.0	0.0
	2713.5	1520.1	0.0	0.0	0.0	0.0
	2848.6	1800.5	0.0	0.0	0.0	0.0

	2795.2	-936.0	0.0	0.0	0.0	0.0
	2930.3	-655.6	0.0	0.0	0.0	0.0
	2571.0	1256.4	0.0	0.0	0.0	0.0
	2706.1	1536.8	0.0	0.0	0.0	0.0

Nodo 9	SX	SY	SZ	RX	RY	RZ
	-3062.7	-874.6	0.0	0.0	0.0	0.0
	-2946.4	-469.6	0.0	0.0	0.0	0.0
	-3271.6	1175.0	0.0	0.0	0.0	0.0
	-3155.3	1580.0	0.0	0.0	0.0	0.0
	-3185.9	-1267.4	0.0	0.0	0.0	0.0
	-3069.6	-862.4	0.0	0.0	0.0	0.0
	-3394.9	782.3	0.0	0.0	0.0	0.0
	-3278.6	1187.3	0.0	0.0	0.0	0.0
	2630.6	-184.7	0.0	0.0	0.0	0.0
	2746.9	220.3	0.0	0.0	0.0	0.0
	2421.6	1864.9	0.0	0.0	0.0	0.0
	2537.9	2269.9	0.0	0.0	0.0	0.0
	2507.3	-577.5	0.0	0.0	0.0	0.0
	2623.6	-172.5	0.0	0.0	0.0	0.0
	2298.4	1472.2	0.0	0.0	0.0	0.0
	2414.7	1877.2	0.0	0.0	0.0	0.0

Nodo 10	SX	SY	SZ	RX	RY	RZ
	-1727.0	-841.7	0.0	0.0	0.0	0.0
	-1722.4	-1202.4	0.0	0.0	0.0	0.0
	-1737.7	1930.9	0.0	0.0	0.0	0.0
	-1733.1	1570.3	0.0	0.0	0.0	0.0
	-1732.0	-492.6	0.0	0.0	0.0	0.0
	-1727.3	-853.2	0.0	0.0	0.0	0.0
	-1742.7	2280.1	0.0	0.0	0.0	0.0
	-1738.0	1919.5	0.0	0.0	0.0	0.0
	2179.8	-1415.9	0.0	0.0	0.0	0.0
	2184.5	-1776.5	0.0	0.0	0.0	0.0
	2169.1	1356.7	0.0	0.0	0.0	0.0
	2173.8	996.1	0.0	0.0	0.0	0.0
	2174.9	-1066.8	0.0	0.0	0.0	0.0
	2179.5	-1427.4	0.0	0.0	0.0	0.0
	2164.1	1705.9	0.0	0.0	0.0	0.0
	2168.8	1345.3	0.0	0.0	0.0	0.0

Nodo 11	SX	SY	SZ	RX	RY	RZ
	-2764.9	-1523.5	0.0	0.0	0.0	0.0
	-2757.6	-1974.0	0.0	0.0	0.0	0.0
	-2781.9	2915.3	0.0	0.0	0.0	0.0
	-2774.6	2464.7	0.0	0.0	0.0	0.0
	-2772.7	-1097.2	0.0	0.0	0.0	0.0
	-2765.4	-1547.7	0.0	0.0	0.0	0.0
	-2789.7	3341.6	0.0	0.0	0.0	0.0
	-2782.4	2891.1	0.0	0.0	0.0	0.0
	3215.3	-2225.3	0.0	0.0	0.0	0.0
	3222.6	-2675.8	0.0	0.0	0.0	0.0
	3198.4	2213.5	0.0	0.0	0.0	0.0
	3205.6	1763.0	0.0	0.0	0.0	0.0
	3207.6	-1798.9	0.0	0.0	0.0	0.0
	3214.9	-2249.5	0.0	0.0	0.0	0.0
	3190.6	2639.9	0.0	0.0	0.0	0.0
	3197.9	2189.3	0.0	0.0	0.0	0.0

Nodo 12	SX	SY	SZ	RX	RY	RZ
	-3086.9	-1488.1	0.0	0.0	0.0	0.0
	-3079.6	-1129.1	0.0	0.0	0.0	0.0
	-3094.6	1589.4	0.0	0.0	0.0	0.0
	-3087.3	1948.4	0.0	0.0	0.0	0.0
	-3094.2	-1825.7	0.0	0.0	0.0	0.0
	-3086.9	-1466.7	0.0	0.0	0.0	0.0
	-3101.9	1251.8	0.0	0.0	0.0	0.0
	-3094.6	1610.8	0.0	0.0	0.0	0.0
	3016.5	-930.0	0.0	0.0	0.0	0.0
	3023.8	-570.9	0.0	0.0	0.0	0.0
	3008.8	2147.6	0.0	0.0	0.0	0.0
	3016.1	2506.6	0.0	0.0	0.0	0.0
	3009.2	-1267.5	0.0	0.0	0.0	0.0
	3016.5	-908.5	0.0	0.0	0.0	0.0
	3001.5	1810.0	0.0	0.0	0.0	0.0
	3008.8	2169.0	0.0	0.0	0.0	0.0

Nodo 13	SX	SY	SZ	RX	RY	RZ
	-3142.7	-1326.5	0.0	0.0	0.0	0.0
	-3135.9	-833.7	0.0	0.0	0.0	0.0
	-3149.7	1292.3	0.0	0.0	0.0	0.0
	-3143.0	1785.2	0.0	0.0	0.0	0.0
	-3149.3	-1803.8	0.0	0.0	0.0	0.0
	-3142.6	-1310.9	0.0	0.0	0.0	0.0
	-3156.3	815.1	0.0	0.0	0.0	0.0
	-3149.6	1307.9	0.0	0.0	0.0	0.0
	2469.6	-545.5	0.0	0.0	0.0	0.0
	2476.3	-52.7	0.0	0.0	0.0	0.0
	2462.6	2073.3	0.0	0.0	0.0	0.0
	2469.3	2566.2	0.0	0.0	0.0	0.0
	2463.0	-1022.8	0.0	0.0	0.0	0.0
	2469.7	-529.9	0.0	0.0	0.0	0.0
	2456.0	1596.1	0.0	0.0	0.0	0.0
	2462.7	2088.9	0.0	0.0	0.0	0.0

Nodo 14	SX	SY	SZ	RX	RY	RZ
	-1754.4	-1351.2	0.0	0.0	0.0	0.0
	-1833.9	-1652.5	0.0	0.0	0.0	0.0
	-1641.3	899.3	0.0	0.0	0.0	0.0
	-1720.8	598.0	0.0	0.0	0.0	0.0
	-1669.5	-1059.0	0.0	0.0	0.0	0.0
	-1749.0	-1360.3	0.0	0.0	0.0	0.0
	-1556.3	1191.6	0.0	0.0	0.0	0.0
	-1635.9	890.3	0.0	0.0	0.0	0.0
	1910.9	-1799.1	0.0	0.0	0.0	0.0
	1831.4	-2100.3	0.0	0.0	0.0	0.0
	2024.0	451.5	0.0	0.0	0.0	0.0
	1944.5	150.2	0.0	0.0	0.0	0.0
	1995.9	-1506.8	0.0	0.0	0.0	0.0
	1916.3	-1808.1	0.0	0.0	0.0	0.0
	2109.0	743.8	0.0	0.0	0.0	0.0
	2029.4	442.5	0.0	0.0	0.0	0.0

Nodo 15	SX	SY	SZ	RX	RY	RZ
	-2381.5	-1939.4	0.0	0.0	0.0	0.0
	-2518.2	-2286.4	0.0	0.0	0.0	0.0
	-2168.3	1307.4	0.0	0.0	0.0	0.0
	-2305.1	960.5	0.0	0.0	0.0	0.0
	-2236.6	-1611.0	0.0	0.0	0.0	0.0
	-2373.3	-1958.0	0.0	0.0	0.0	0.0
	-2023.4	1635.8	0.0	0.0	0.0	0.0
	-2160.2	1288.9	0.0	0.0	0.0	0.0
	4007.8	-2388.5	0.0	0.0	0.0	0.0
	3871.0	-2735.5	0.0	0.0	0.0	0.0
	4220.9	858.3	0.0	0.0	0.0	0.0
	4084.2	511.4	0.0	0.0	0.0	0.0
	4152.6	-2060.1	0.0	0.0	0.0	0.0
	4015.9	-2407.1	0.0	0.0	0.0	0.0
	4365.8	1186.8	0.0	0.0	0.0	0.0
	4229.1	839.8	0.0	0.0	0.0	0.0

Nodo 16	SX	SY	SZ	RX	RY	RZ

	-3576.1	-730.5	0.0	0.0	0.0	0.0
	-3707.9	-868.6	0.0	0.0	0.0	0.0
	-3353.9	918.7	0.0	0.0	0.0	0.0
	-3485.7	780.6	0.0	0.0	0.0	0.0
	-3438.3	-602.5	0.0	0.0	0.0	0.0
	-3570.1	-740.5	0.0	0.0	0.0	0.0
	-3216.1	1046.7	0.0	0.0	0.0	0.0
	-3348.0	908.7	0.0	0.0	0.0	0.0
	3059.1	-921.1	0.0	0.0	0.0	0.0
	2927.2	-1059.1	0.0	0.0	0.0	0.0
	3281.3	728.1	0.0	0.0	0.0	0.0
	3149.4	590.1	0.0	0.0	0.0	0.0
	3196.9	-793.0	0.0	0.0	0.0	0.0
	3065.0	-931.0	0.0	0.0	0.0	0.0
	3419.0	856.2	0.0	0.0	0.0	0.0
	3287.2	718.1	0.0	0.0	0.0	0.0

Nodo 17	SX	SY	SZ	RX	RY	RZ
	-3385.2	-471.5	0.0	0.0	0.0	0.0
	-3515.4	-531.7	0.0	0.0	0.0	0.0
	-3175.1	795.7	0.0	0.0	0.0	0.0
	-3305.2	735.5	0.0	0.0	0.0	0.0
	-3250.7	-416.6	0.0	0.0	0.0	0.0
	-3380.8	-476.8	0.0	0.0	0.0	0.0
	-3040.5	850.6	0.0	0.0	0.0	0.0
	-3170.6	790.4	0.0	0.0	0.0	0.0
	3314.5	-557.3	0.0	0.0	0.0	0.0
	3184.4	-617.5	0.0	0.0	0.0	0.0
	3524.6	709.9	0.0	0.0	0.0	0.0
	3394.5	649.8	0.0	0.0	0.0	0.0
	3449.1	-502.4	0.0	0.0	0.0	0.0
	3319.0	-562.5	0.0	0.0	0.0	0.0
	3659.2	764.9	0.0	0.0	0.0	0.0
	3529.1	704.7	0.0	0.0	0.0	0.0

Nodo 18	SX	SY	SZ	RX	RY	RZ
	-2821.8	-427.5	0.0	0.0	0.0	0.0
	-2948.1	-435.1	0.0	0.0	0.0	0.0
	-2609.8	712.3	0.0	0.0	0.0	0.0
	-2736.1	704.7	0.0	0.0	0.0	0.0
	-2691.8	-420.1	0.0	0.0	0.0	0.0
	-2818.0	-427.7	0.0	0.0	0.0	0.0
	-2479.8	719.7	0.0	0.0	0.0	0.0
	-2606.0	712.1	0.0	0.0	0.0	0.0
	3745.5	-437.6	0.0	0.0	0.0	0.0
	3619.3	-445.3	0.0	0.0	0.0	0.0
	3957.5	702.2	0.0	0.0	0.0	0.0
	3831.3	694.5	0.0	0.0	0.0	0.0
	3875.5	-430.2	0.0	0.0	0.0	0.0
	3749.3	-437.8	0.0	0.0	0.0	0.0
	4087.5	709.6	0.0	0.0	0.0	0.0
	3961.3	702.0	0.0	0.0	0.0	0.0

Nodo 19	SX	SY	SZ	RX	RY	RZ
	-4191.0	-494.4	0.0	0.0	0.0	0.0
	-4319.5	-445.9	0.0	0.0	0.0	0.0
	-3974.8	611.7	0.0	0.0	0.0	0.0
	-4103.3	660.3	0.0	0.0	0.0	0.0
	-4057.6	-537.8	0.0	0.0	0.0	0.0
	-4186.2	-489.3	0.0	0.0	0.0	0.0
	-3841.4	568.4	0.0	0.0	0.0	0.0
	-3970.0	616.9	0.0	0.0	0.0	0.0
	2446.5	-422.9	0.0	0.0	0.0	0.0
	2318.0	-374.4	0.0	0.0	0.0	0.0
	2662.8	683.3	0.0	0.0	0.0	0.0
	2534.2	731.8	0.0	0.0	0.0	0.0
	2579.9	-466.2	0.0	0.0	0.0	0.0
	2451.4	-417.7	0.0	0.0	0.0	0.0
	2796.1	640.0	0.0	0.0	0.0	0.0
	2667.6	688.5	0.0	0.0	0.0	0.0

Nodo 20	SX	SY	SZ	RX	RY	RZ
	-3470.1	-770.3	0.0	0.0	0.0	0.0
	-3603.5	-651.4	0.0	0.0	0.0	0.0
	-3260.3	497.0	0.0	0.0	0.0	0.0
	-3393.7	615.9	0.0	0.0	0.0	0.0
	-3330.2	-880.0	0.0	0.0	0.0	0.0
	-3463.6	-761.0	0.0	0.0	0.0	0.0
	-3120.4	387.3	0.0	0.0	0.0	0.0
	-3253.8	506.3	0.0	0.0	0.0	0.0
	3284.6	-611.6	0.0	0.0	0.0	0.0
	3151.2	-492.6	0.0	0.0	0.0	0.0
	3494.4	655.7	0.0	0.0	0.0	0.0
	3361.0	774.7	0.0	0.0	0.0	0.0
	3424.4	-721.2	0.0	0.0	0.0	0.0
	3291.1	-602.3	0.0	0.0	0.0	0.0
	3634.2	546.1	0.0	0.0	0.0	0.0
	3500.9	665.0	0.0	0.0	0.0	0.0

Nodo 21	SX	SY	SZ	RX	RY	RZ
	-3836.6	-1813.1	0.0	0.0	0.0	0.0
	-3974.5	-1541.4	0.0	0.0	0.0	0.0
	-3601.5	317.3	0.0	0.0	0.0	0.0
	-3739.4	588.9	0.0	0.0	0.0	0.0
	-3690.2	-2068.6	0.0	0.0	0.0	0.0
	-3828.1	-1797.0	0.0	0.0	0.0	0.0
	-3455.1	61.7	0.0	0.0	0.0	0.0
	-3593.0	333.3	0.0	0.0	0.0	0.0
	2717.8	-1491.1	0.0	0.0	0.0	0.0
	2579.9	-1219.5	0.0	0.0	0.0	0.0
	2952.9	639.2	0.0	0.0	0.0	0.0
	2815.0	910.9	0.0	0.0	0.0	0.0
	2864.2	-1746.7	0.0	0.0	0.0	0.0
	2726.3	-1475.1	0.0	0.0	0.0	0.0
	3099.3	383.7	0.0	0.0	0.0	0.0
	2961.4	655.3	0.0	0.0	0.0	0.0

Nodo 22	SX	SY	SZ	RX	RY	RZ
	-2984.2	-1978.0	0.0	0.0	0.0	0.0
	-3101.8	-1584.1	0.0	0.0	0.0	0.0
	-2769.2	11.7	0.0	0.0	0.0	0.0
	-2886.8	405.6	0.0	0.0	0.0	0.0
	-2858.4	-2360.0	0.0	0.0	0.0	0.0
	-2976.0	-1966.2	0.0	0.0	0.0	0.0
	-2643.5	-370.3	0.0	0.0	0.0	0.0
	-2761.1	23.5	0.0	0.0	0.0	0.0
	2243.6	-1414.3	0.0	0.0	0.0	0.0
	2126.0	-1020.5	0.0	0.0	0.0	0.0
	2458.6	575.4	0.0	0.0	0.0	0.0
	2341.0	969.2	0.0	0.0	0.0	0.0
	2369.4	-1796.3	0.0	0.0	0.0	0.0
	2251.8	-1402.5	0.0	0.0	0.0	0.0
	2584.4	193.4	0.0	0.0	0.0	0.0
	2466.7	587.2	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 5 SLU con SISMAY PRINC
COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
3 SISMAY SLU 1.00
2 SISMAX SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.001
2) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.002
3) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.003
4) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.004
5) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.001
6) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.002
7) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.003
8) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.004
9) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.001
10) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.002
11) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.003
12) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.004
13) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.001
14) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.002
15) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.003
16) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo 1	SX	SY	SZ	RX	RY	RZ
	-261.0	-2975.7	0.0	0.0	0.0	0.0
	-286.1	-2886.2	0.0	0.0	0.0	0.0
	930.1	-3130.4	0.0	0.0	0.0	0.0
	905.1	-3041.0	0.0	0.0	0.0	0.0
	-0.2	-4001.4	0.0	0.0	0.0	0.0
	-25.3	-3912.0	0.0	0.0	0.0	0.0
	1190.9	-4156.2	0.0	0.0	0.0	0.0
	1165.9	-4066.7	0.0	0.0	0.0	0.0
	-641.4	4693.6	0.0	0.0	0.0	0.0
	-666.5	4783.1	0.0	0.0	0.0	0.0
	549.7	4538.9	0.0	0.0	0.0	0.0
	524.7	4628.3	0.0	0.0	0.0	0.0
	-380.6	3667.9	0.0	0.0	0.0	0.0
	-405.7	3757.4	0.0	0.0	0.0	0.0
	810.5	3513.1	0.0	0.0	0.0	0.0
	785.4	3602.6	0.0	0.0	0.0	0.0

Nodo 2	SX	SY	SZ	RX	RY	RZ
	191.0	-4794.4	0.0	0.0	0.0	0.0
	148.4	-4692.8	0.0	0.0	0.0	0.0
	2261.8	-4985.9	0.0	0.0	0.0	0.0
	2219.1	-4884.3	0.0	0.0	0.0	0.0
	637.5	-5987.8	0.0	0.0	0.0	0.0
	594.8	-5886.1	0.0	0.0	0.0	0.0
	2708.3	-6179.3	0.0	0.0	0.0	0.0
	2665.6	-6077.6	0.0	0.0	0.0	0.0
	-524.7	6357.2	0.0	0.0	0.0	0.0
	-567.4	6458.8	0.0	0.0	0.0	0.0
	1546.0	6165.7	0.0	0.0	0.0	0.0
	1503.3	6267.3	0.0	0.0	0.0	0.0
	-78.3	5163.8	0.0	0.0	0.0	0.0
	-121.0	5265.5	0.0	0.0	0.0	0.0
	1992.5	4972.3	0.0	0.0	0.0	0.0
	1949.8	5074.0	0.0	0.0	0.0	0.0

Nodo 3	SX	SY	SZ	RX	RY	RZ
	-1069.0	-2659.3	0.0	0.0	0.0	0.0
	-1109.5	-2619.1	0.0	0.0	0.0	0.0
	1080.3	-2729.2	0.0	0.0	0.0	0.0
	1039.8	-2689.0	0.0	0.0	0.0	0.0
	-640.4	-3142.8	0.0	0.0	0.0	0.0
	-681.0	-3102.5	0.0	0.0	0.0	0.0
	1508.8	-3212.7	0.0	0.0	0.0	0.0
	1468.3	-3172.5	0.0	0.0	0.0	0.0
	-1811.1	3052.8	0.0	0.0	0.0	0.0
	-1851.6	3093.0	0.0	0.0	0.0	0.0
	338.2	2982.8	0.0	0.0	0.0	0.0
	297.7	3023.1	0.0	0.0	0.0	0.0
	-1382.6	2569.3	0.0	0.0	0.0	0.0
	-1423.1	2609.5	0.0	0.0	0.0	0.0
	766.7	2499.4	0.0	0.0	0.0	0.0
	726.2	2539.6	0.0	0.0	0.0	0.0

Nodo 4	SX	SY	SZ	RX	RY	RZ
	-855.0	-2168.6	0.0	0.0	0.0	0.0
	-894.4	-2151.4	0.0	0.0	0.0	0.0
	1308.6	-2196.4	0.0	0.0	0.0	0.0
	1269.1	-2179.3	0.0	0.0	0.0	0.0
	-433.9	-2377.8	0.0	0.0	0.0	0.0
	-473.3	-2360.7	0.0	0.0	0.0	0.0
	1729.7	-2405.7	0.0	0.0	0.0	0.0
	1690.2	-2388.5	0.0	0.0	0.0	0.0
	-1543.6	2156.5	0.0	0.0	0.0	0.0
	-1583.0	2173.6	0.0	0.0	0.0	0.0
	620.0	2128.6	0.0	0.0	0.0	0.0
	580.5	2145.8	0.0	0.0	0.0	0.0
	-1122.5	1947.2	0.0	0.0	0.0	0.0
	-1161.9	1964.4	0.0	0.0	0.0	0.0
	1041.1	1919.4	0.0	0.0	0.0	0.0
	1001.7	1936.5	0.0	0.0	0.0	0.0

Nodo 5	SX	SY	SZ	RX	RY	RZ
	-176.9	-2045.2	0.0	0.0	0.0	0.0
	-215.0	-2043.0	0.0	0.0	0.0	0.0
	1944.4	-2048.4	0.0	0.0	0.0	0.0
	1906.3	-2046.1	0.0	0.0	0.0	0.0
	232.0	-2071.0	0.0	0.0	0.0	0.0
	193.9	-2068.7	0.0	0.0	0.0	0.0
	2353.3	-2074.1	0.0	0.0	0.0	0.0
	2315.2	-2071.9	0.0	0.0	0.0	0.0
	-865.7	1815.2	0.0	0.0	0.0	0.0
	-903.8	1817.5	0.0	0.0	0.0	0.0
	1255.6	1812.0	0.0	0.0	0.0	0.0
	1217.5	1814.3	0.0	0.0	0.0	0.0
	-456.8	1789.4	0.0	0.0	0.0	0.0
	-494.9	1791.7	0.0	0.0	0.0	0.0
	1664.4	1786.3	0.0	0.0	0.0	0.0
	1626.4	1788.5	0.0	0.0	0.0	0.0

Nodo 6	SX	SY	SZ	RX	RY	RZ
	-1965.8	-2082.5	0.0	0.0	0.0	0.0
	-2004.7	-2096.2	0.0	0.0	0.0	0.0
	177.6	-2060.0	0.0	0.0	0.0	0.0
	138.7	-2073.7	0.0	0.0	0.0	0.0
	-1549.2	-1911.7	0.0	0.0	0.0	0.0
	-1588.2	-1925.4	0.0	0.0	0.0	0.0
	594.2	-1889.2	0.0	0.0	0.0	0.0
	555.2	-1902.9	0.0	0.0	0.0	0.0
	-2659.5	1690.8	0.0	0.0	0.0	0.0
	-2698.5	1677.1	0.0	0.0	0.0	0.0

	-516.1	1713.3	0.0	0.0	0.0	0.0
	-555.1	1699.6	0.0	0.0	0.0	0.0
	-2242.9	1861.6	0.0	0.0	0.0	0.0
	-2281.9	1847.9	0.0	0.0	0.0	0.0
	-99.5	1884.1	0.0	0.0	0.0	0.0
	-138.5	1870.4	0.0	0.0	0.0	0.0

Nodo 7	SX	SY	SZ	RX	RY	RZ
	-1008.9	-2448.5	0.0	0.0	0.0	0.0
	-1049.7	-2483.1	0.0	0.0	0.0	0.0
	1171.1	-2386.5	0.0	0.0	0.0	0.0
	1130.4	-2421.1	0.0	0.0	0.0	0.0
	-576.1	-2031.1	0.0	0.0	0.0	0.0
	-616.9	-2065.7	0.0	0.0	0.0	0.0
	1604.0	-1969.1	0.0	0.0	0.0	0.0
	1563.2	-2003.7	0.0	0.0	0.0	0.0
	-1669.5	1934.6	0.0	0.0	0.0	0.0
	-1710.3	1900.0	0.0	0.0	0.0	0.0
	510.6	1996.6	0.0	0.0	0.0	0.0
	469.8	1962.0	0.0	0.0	0.0	0.0
	-1236.6	2352.0	0.0	0.0	0.0	0.0
	-1277.4	2317.4	0.0	0.0	0.0	0.0
	943.5	2414.0	0.0	0.0	0.0	0.0
	902.7	2379.4	0.0	0.0	0.0	0.0

Nodo 8	SX	SY	SZ	RX	RY	RZ
	-1592.2	-3989.9	0.0	0.0	0.0	0.0
	-1634.9	-4069.0	0.0	0.0	0.0	0.0
	523.5	-3832.8	0.0	0.0	0.0	0.0
	480.8	-3911.9	0.0	0.0	0.0	0.0
	-1141.8	-3055.2	0.0	0.0	0.0	0.0
	-1184.6	-3134.3	0.0	0.0	0.0	0.0
	973.9	-2898.2	0.0	0.0	0.0	0.0
	931.1	-2977.3	0.0	0.0	0.0	0.0
	-2339.6	3318.3	0.0	0.0	0.0	0.0
	-2382.4	3239.1	0.0	0.0	0.0	0.0
	-223.9	3475.3	0.0	0.0	0.0	0.0
	-266.7	3396.2	0.0	0.0	0.0	0.0
	-1889.3	4252.9	0.0	0.0	0.0	0.0
	-1932.1	4173.8	0.0	0.0	0.0	0.0
	226.4	4410.0	0.0	0.0	0.0	0.0
	183.6	4330.9	0.0	0.0	0.0	0.0

Nodo 9	SX	SY	SZ	RX	RY	RZ
	-1005.0	-3634.4	0.0	0.0	0.0	0.0
	-1042.0	-3752.3	0.0	0.0	0.0	0.0
	702.9	-3427.5	0.0	0.0	0.0	0.0
	666.0	-3545.3	0.0	0.0	0.0	0.0
	-617.4	-2284.4	0.0	0.0	0.0	0.0
	-654.4	-2402.2	0.0	0.0	0.0	0.0
	1090.6	-2077.4	0.0	0.0	0.0	0.0
	1053.6	-2195.2	0.0	0.0	0.0	0.0
	-1701.6	3197.8	0.0	0.0	0.0	0.0
	-1738.6	3079.9	0.0	0.0	0.0	0.0
	6.4	3404.7	0.0	0.0	0.0	0.0
	-30.6	3286.9	0.0	0.0	0.0	0.0
	-1314.0	4547.8	0.0	0.0	0.0	0.0
	-1350.9	4430.0	0.0	0.0	0.0	0.0
	394.0	4754.8	0.0	0.0	0.0	0.0
	357.0	4637.0	0.0	0.0	0.0	0.0

Nodo 10	SX	SY	SZ	RX	RY	RZ
	-354.3	-3734.6	0.0	0.0	0.0	0.0
	-355.8	-3629.8	0.0	0.0	0.0	0.0
	817.8	-3906.8	0.0	0.0	0.0	0.0
	816.3	-3802.1	0.0	0.0	0.0	0.0
	-338.8	-4936.6	0.0	0.0	0.0	0.0
	-340.2	-4831.9	0.0	0.0	0.0	0.0
	833.3	-5108.9	0.0	0.0	0.0	0.0
	831.8	-5004.1	0.0	0.0	0.0	0.0
	-390.0	5507.7	0.0	0.0	0.0	0.0
	-391.5	5612.4	0.0	0.0	0.0	0.0
	782.0	5335.4	0.0	0.0	0.0	0.0
	780.5	5440.2	0.0	0.0	0.0	0.0
	-374.5	4305.6	0.0	0.0	0.0	0.0
	-376.0	4410.4	0.0	0.0	0.0	0.0
	797.6	4133.4	0.0	0.0	0.0	0.0
	796.1	4238.1	0.0	0.0	0.0	0.0

Nodo 11	SX	SY	SZ	RX	RY	RZ
	-663.2	-6272.8	0.0	0.0	0.0	0.0
	-665.6	-6144.9	0.0	0.0	0.0	0.0
	1130.8	-6483.3	0.0	0.0	0.0	0.0
	1128.5	-6355.4	0.0	0.0	0.0	0.0
	-638.9	-7774.7	0.0	0.0	0.0	0.0
	-641.3	-7646.8	0.0	0.0	0.0	0.0
	1155.1	-7985.3	0.0	0.0	0.0	0.0
	1152.8	-7857.4	0.0	0.0	0.0	0.0
	-719.9	8523.2	0.0	0.0	0.0	0.0
	-722.2	8651.1	0.0	0.0	0.0	0.0
	1074.2	8312.6	0.0	0.0	0.0	0.0
	1071.9	8440.5	0.0	0.0	0.0	0.0
	-695.6	7021.3	0.0	0.0	0.0	0.0
	-697.9	7149.1	0.0	0.0	0.0	0.0
	1098.5	6810.7	0.0	0.0	0.0	0.0
	1096.2	6938.6	0.0	0.0	0.0	0.0

Nodo 12	SX	SY	SZ	RX	RY	RZ
	-952.8	-5420.2	0.0	0.0	0.0	0.0
	-955.0	-5521.5	0.0	0.0	0.0	0.0
	878.2	-5252.7	0.0	0.0	0.0	0.0
	876.0	-5354.0	0.0	0.0	0.0	0.0
	-928.4	-4223.5	0.0	0.0	0.0	0.0
	-930.6	-4324.8	0.0	0.0	0.0	0.0
	902.6	-4056.1	0.0	0.0	0.0	0.0
	900.4	-4157.3	0.0	0.0	0.0	0.0
	-978.5	4838.2	0.0	0.0	0.0	0.0
	-980.7	4736.9	0.0	0.0	0.0	0.0
	852.5	5005.7	0.0	0.0	0.0	0.0
	850.3	4904.4	0.0	0.0	0.0	0.0
	-954.1	6034.9	0.0	0.0	0.0	0.0
	-956.3	5933.6	0.0	0.0	0.0	0.0
	876.9	6202.3	0.0	0.0	0.0	0.0
	874.7	6101.0	0.0	0.0	0.0	0.0

Nodo 13	SX	SY	SZ	RX	RY	RZ
	-1180.3	-4850.5	0.0	0.0	0.0	0.0
	-1182.3	-4993.7	0.0	0.0	0.0	0.0
	503.4	-4616.2	0.0	0.0	0.0	0.0
	501.4	-4759.4	0.0	0.0	0.0	0.0
	-1158.0	-3207.7	0.0	0.0	0.0	0.0
	-1160.0	-3350.9	0.0	0.0	0.0	0.0
	525.7	-2973.4	0.0	0.0	0.0	0.0
	523.7	-3116.6	0.0	0.0	0.0	0.0
	-1203.7	3879.0	0.0	0.0	0.0	0.0
	-1205.7	3735.8	0.0	0.0	0.0	0.0
	480.0	4113.3	0.0	0.0	0.0	0.0
	478.0	3970.2	0.0	0.0	0.0	0.0
	-1181.3	5521.8	0.0	0.0	0.0	0.0
	-1183.3	5378.7	0.0	0.0	0.0	0.0
	502.3	5756.1	0.0	0.0	0.0	0.0
	500.4	5613.0	0.0	0.0	0.0	0.0

Nodo	14	SX	SY	SZ	RX	RY	RZ
		-480.9	-3679.9	0.0	0.0	0.0	0.0
		-455.5	-3592.2	0.0	0.0	0.0	0.0
		618.6	-3814.2	0.0	0.0	0.0	0.0
		644.1	-3726.5	0.0	0.0	0.0	0.0
		-746.1	-4684.2	0.0	0.0	0.0	0.0
		-720.6	-4596.5	0.0	0.0	0.0	0.0
		353.5	-4818.5	0.0	0.0	0.0	0.0
		379.0	-4730.8	0.0	0.0	0.0	0.0
		-103.9	3822.1	0.0	0.0	0.0	0.0
		-78.4	3909.7	0.0	0.0	0.0	0.0
		995.7	3687.7	0.0	0.0	0.0	0.0
		1021.1	3775.4	0.0	0.0	0.0	0.0
		-369.1	2817.8	0.0	0.0	0.0	0.0
		-343.6	2905.4	0.0	0.0	0.0	0.0
		730.5	2683.4	0.0	0.0	0.0	0.0
		756.0	2771.1	0.0	0.0	0.0	0.0

Nodo	15	SX	SY	SZ	RX	RY	RZ
		-183.7	-5364.9	0.0	0.0	0.0	0.0
		-140.2	-5266.4	0.0	0.0	0.0	0.0
		1733.1	-5499.6	0.0	0.0	0.0	0.0
		1776.5	-5401.1	0.0	0.0	0.0	0.0
		-639.5	-6521.4	0.0	0.0	0.0	0.0
		-596.0	-6422.9	0.0	0.0	0.0	0.0
		1277.3	-6656.1	0.0	0.0	0.0	0.0
		1320.7	-6557.6	0.0	0.0	0.0	0.0
		526.8	5458.0	0.0	0.0	0.0	0.0
		570.3	5556.5	0.0	0.0	0.0	0.0
		2443.6	5323.2	0.0	0.0	0.0	0.0
		2487.1	5421.8	0.0	0.0	0.0	0.0
		71.0	4301.5	0.0	0.0	0.0	0.0
		114.5	4400.0	0.0	0.0	0.0	0.0
		1987.8	4166.7	0.0	0.0	0.0	0.0
		2031.3	4265.3	0.0	0.0	0.0	0.0

Nodo	16	SX	SY	SZ	RX	RY	RZ
		-1310.9	-2515.4	0.0	0.0	0.0	0.0
		-1269.6	-2477.0	0.0	0.0	0.0	0.0
		679.6	-2572.6	0.0	0.0	0.0	0.0
		721.0	-2534.2	0.0	0.0	0.0	0.0
		-1750.4	-2975.5	0.0	0.0	0.0	0.0
		-1709.1	-2937.1	0.0	0.0	0.0	0.0
		240.1	-3032.7	0.0	0.0	0.0	0.0
		281.5	-2994.3	0.0	0.0	0.0	0.0
		-570.3	2981.9	0.0	0.0	0.0	0.0
		-529.0	3020.3	0.0	0.0	0.0	0.0
		1420.2	2924.7	0.0	0.0	0.0	0.0
		1461.5	2963.1	0.0	0.0	0.0	0.0
		-1009.8	2521.8	0.0	0.0	0.0	0.0
		-968.5	2560.2	0.0	0.0	0.0	0.0
		980.7	2464.6	0.0	0.0	0.0	0.0
		1022.0	2503.0	0.0	0.0	0.0	0.0

Nodo	17	SX	SY	SZ	RX	RY	RZ
		-1086.6	-1890.6	0.0	0.0	0.0	0.0
		-1046.2	-1874.1	0.0	0.0	0.0	0.0
		923.3	-1916.3	0.0	0.0	0.0	0.0
		963.7	-1899.8	0.0	0.0	0.0	0.0
		-1520.3	-2091.1	0.0	0.0	0.0	0.0
		-1479.9	-2074.6	0.0	0.0	0.0	0.0
		489.6	-2116.8	0.0	0.0	0.0	0.0
		530.0	-2100.4	0.0	0.0	0.0	0.0
		-386.1	2333.5	0.0	0.0	0.0	0.0
		-345.8	2350.0	0.0	0.0	0.0	0.0
		1623.8	2307.8	0.0	0.0	0.0	0.0
		1664.2	2324.3	0.0	0.0	0.0	0.0
		-819.9	2133.0	0.0	0.0	0.0	0.0
		-779.5	2149.4	0.0	0.0	0.0	0.0
		1190.1	2107.2	0.0	0.0	0.0	0.0
		1230.4	2123.7	0.0	0.0	0.0	0.0

Nodo	18	SX	SY	SZ	RX	RY	RZ
		-577.8	-1749.3	0.0	0.0	0.0	0.0
		-538.8	-1747.1	0.0	0.0	0.0	0.0
		1392.4	-1752.4	0.0	0.0	0.0	0.0
		1431.4	-1750.2	0.0	0.0	0.0	0.0
		-998.6	-1774.7	0.0	0.0	0.0	0.0
		-959.6	-1772.5	0.0	0.0	0.0	0.0
		971.6	-1777.8	0.0	0.0	0.0	0.0
		1010.6	-1775.5	0.0	0.0	0.0	0.0
		128.9	2050.0	0.0	0.0	0.0	0.0
		167.9	2052.2	0.0	0.0	0.0	0.0
		2099.1	2047.0	0.0	0.0	0.0	0.0
		2138.1	2049.2	0.0	0.0	0.0	0.0
		-292.0	2024.6	0.0	0.0	0.0	0.0
		-253.0	2026.8	0.0	0.0	0.0	0.0
		1678.2	2021.6	0.0	0.0	0.0	0.0
		1717.2	2023.8	0.0	0.0	0.0	0.0

Nodo	19	SX	SY	SZ	RX	RY	RZ
		-1923.5	-1831.7	0.0	0.0	0.0	0.0
		-1883.5	-1844.7	0.0	0.0	0.0	0.0
		67.8	-1810.3	0.0	0.0	0.0	0.0
		107.8	-1823.3	0.0	0.0	0.0	0.0
		-2352.0	-1670.0	0.0	0.0	0.0	0.0
		-2311.9	-1683.0	0.0	0.0	0.0	0.0
		-360.7	-1648.5	0.0	0.0	0.0	0.0
		-320.7	-1661.5	0.0	0.0	0.0	0.0
		-1202.7	1855.5	0.0	0.0	0.0	0.0
		-1162.7	1842.5	0.0	0.0	0.0	0.0
		788.5	1877.0	0.0	0.0	0.0	0.0
		828.5	1864.0	0.0	0.0	0.0	0.0
		-1631.2	2017.3	0.0	0.0	0.0	0.0
		-1591.2	2004.3	0.0	0.0	0.0	0.0
		360.1	2038.8	0.0	0.0	0.0	0.0
		400.1	2025.8	0.0	0.0	0.0	0.0

Nodo	20	SX	SY	SZ	RX	RY	RZ
		-1146.2	-2370.4	0.0	0.0	0.0	0.0
		-1104.2	-2403.3	0.0	0.0	0.0	0.0
		880.2	-2322.8	0.0	0.0	0.0	0.0
		922.2	-2355.7	0.0	0.0	0.0	0.0
		-1590.7	-1974.0	0.0	0.0	0.0	0.0
		-1548.8	-2006.9	0.0	0.0	0.0	0.0
		435.7	-1926.3	0.0	0.0	0.0	0.0
		477.6	-1959.2	0.0	0.0	0.0	0.0
		-446.8	1853.9	0.0	0.0	0.0	0.0
		-404.9	1821.0	0.0	0.0	0.0	0.0
		1579.6	1901.6	0.0	0.0	0.0	0.0
		1621.5	1868.7	0.0	0.0	0.0	0.0
		-891.4	2250.4	0.0	0.0	0.0	0.0
		-849.4	2217.5	0.0	0.0	0.0	0.0
		1135.0	2298.0	0.0	0.0	0.0	0.0
		1177.0	2265.1	0.0	0.0	0.0	0.0

Nodo	21	SX	SY	SZ	RX	RY	RZ
		-1604.7	-4592.2	0.0	0.0	0.0	0.0
		-1560.8	-4668.8	0.0	0.0	0.0	0.0
		361.6	-4495.6	0.0	0.0	0.0	0.0
		405.6	-4572.2	0.0	0.0	0.0	0.0

	-2064.5	-3686.7	0.0	0.0	0.0	0.0
	-2020.6	-3763.4	0.0	0.0	0.0	0.0
	-98.2	-3590.1	0.0	0.0	0.0	0.0
	-54.3	-3666.8	0.0	0.0	0.0	0.0
	-820.9	2509.0	0.0	0.0	0.0	0.0
	-777.0	2432.3	0.0	0.0	0.0	0.0
	1145.4	2605.6	0.0	0.0	0.0	0.0
	1189.3	2528.9	0.0	0.0	0.0	0.0
	-1280.8	3414.5	0.0	0.0	0.0	0.0
	-1236.8	3337.8	0.0	0.0	0.0	0.0
	685.6	3511.1	0.0	0.0	0.0	0.0
	729.5	3434.4	0.0	0.0	0.0	0.0

Nodo 22	SX	SY	SZ	RX	RY	RZ
	-1224.0	-4695.2	0.0	0.0	0.0	0.0
	-1186.3	-4809.8	0.0	0.0	0.0	0.0
	344.3	-4526.1	0.0	0.0	0.0	0.0
	382.1	-4640.7	0.0	0.0	0.0	0.0
	-1616.1	-3382.4	0.0	0.0	0.0	0.0
	-1578.3	-3497.0	0.0	0.0	0.0	0.0
	-47.7	-3213.3	0.0	0.0	0.0	0.0
	-10.0	-3327.9	0.0	0.0	0.0	0.0
	-507.5	1937.1	0.0	0.0	0.0	0.0
	-469.7	1822.5	0.0	0.0	0.0	0.0
	1060.9	2106.2	0.0	0.0	0.0	0.0
	1098.6	1991.6	0.0	0.0	0.0	0.0
	-899.5	3249.9	0.0	0.0	0.0	0.0
	-861.8	3135.3	0.0	0.0	0.0	0.0
	668.8	3419.0	0.0	0.0	0.0	0.0
	706.6	3304.4	0.0	0.0	0.0	0.0

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CASO DI CARICO : 10 SLUGeo
COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____ +	1.00
2	Permanente_____ +	1.30
3	Var_copertura_____ +	1.30
4	Neve_(<1000m_slm)__ +	1.30

1) +1.00*c001 +1.30*c002 +1.30*c003 +1.30*c004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo 1	SX	SY	SZ	RX	RY	RZ
	354.5	493.5	0.0	0.0	0.0	0.0

Nodo 2	SX	SY	SZ	RX	RY	RZ
	1981.6	289.4	0.0	0.0	0.0	0.0

Nodo 3	SX	SY	SZ	RX	RY	RZ
	-262.8	-91.6	0.0	0.0	0.0	0.0

Nodo 4	SX	SY	SZ	RX	RY	RZ
	139.8	-200.1	0.0	0.0	0.0	0.0

Nodo 5	SX	SY	SZ	RX	RY	RZ
	1217.8	-223.9	0.0	0.0	0.0	0.0

Nodo 6	SX	SY	SZ	RX	RY	RZ
	-1814.2	-180.0	0.0	0.0	0.0	0.0

Nodo 7	SX	SY	SZ	RX	RY	RZ
	-135.9	-41.4	0.0	0.0	0.0	0.0

Nodo 8	SX	SY	SZ	RX	RY	RZ
	-1408.4	351.3	0.0	0.0	0.0	0.0

Nodo 9	SX	SY	SZ	RX	RY	RZ
	-387.8	802.5	0.0	0.0	0.0	0.0

Nodo 10	SX	SY	SZ	RX	RY	RZ
	269.8	380.2	0.0	0.0	0.0	0.0

Nodo 11	SX	SY	SZ	RX	RY	RZ
	579.9	472.2	0.0	0.0	0.0	0.0

Nodo 12	SX	SY	SZ	RX	RY	RZ
	-320.8	492.9	0.0	0.0	0.0	0.0

Nodo 13	SX	SY	SZ	RX	RY	RZ
	-405.0	583.8	0.0	0.0	0.0	0.0

Nodo 14	SX	SY	SZ	RX	RY	RZ
	138.9	-709.6	0.0	0.0	0.0	0.0

Nodo 15	SX	SY	SZ	RX	RY	RZ
	1709.7	-849.3	0.0	0.0	0.0	0.0

Nodo 16	SX	SY	SZ	RX	RY	RZ
	-234.1	-10.8	0.0	0.0	0.0	0.0

Nodo 17	SX	SY	SZ	RX	RY	RZ
	128.3	178.9	0.0	0.0	0.0	0.0

Nodo 18	SX	SY	SZ	RX	RY	RZ
	941.0	210.6	0.0	0.0	0.0	0.0

Nodo 19	SX	SY	SZ	RX	RY	RZ
	-1287.5	147.2	0.0	0.0	0.0	0.0

Nodo 20	SX	SY	SZ	RX	RY	RZ
	5.0	-86.9	0.0	0.0	0.0	0.0

Nodo 21	SX	SY	SZ	RX	RY	RZ
	-921.7	-907.7	0.0	0.0	0.0	0.0

Nodo 22	SX	SY	SZ	RX	RY	RZ
	-287.9	-1101.1	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 11 Rara
COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
3 Var_copertura + 1.00
4 Neve_(<1000m_slm)__ + 1.00

1) +1.00*c001 +1.00*c002 +1.00*c003 +1.00*c004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

		SX	SY	SZ	RX	RY	RZ
Nodo	1	325.4	436.7	0.0	0.0	0.0	0.0
Nodo	2	1694.2	242.2	0.0	0.0	0.0	0.0
Nodo	3	-234.0	-81.6	0.0	0.0	0.0	0.0
Nodo	4	118.8	-173.6	0.0	0.0	0.0	0.0
Nodo	5	1062.3	-193.8	0.0	0.0	0.0	0.0
Nodo	6	-1573.9	-156.7	0.0	0.0	0.0	0.0
Nodo	7	-109.8	-39.2	0.0	0.0	0.0	0.0
Nodo	8	-1186.3	294.3	0.0	0.0	0.0	0.0
Nodo	9	-367.7	707.5	0.0	0.0	0.0	0.0
Nodo	10	254.4	339.7	0.0	0.0	0.0	0.0
Nodo	11	465.3	428.3	0.0	0.0	0.0	0.0
Nodo	12	-232.0	444.8	0.0	0.0	0.0	0.0
Nodo	13	-384.5	519.9	0.0	0.0	0.0	0.0
Nodo	14	138.4	-629.1	0.0	0.0	0.0	0.0
Nodo	15	1461.8	-754.8	0.0	0.0	0.0	0.0
Nodo	16	-205.8	-9.3	0.0	0.0	0.0	0.0
Nodo	17	110.5	159.3	0.0	0.0	0.0	0.0
Nodo	18	823.9	187.4	0.0	0.0	0.0	0.0
Nodo	19	-1121.7	131.3	0.0	0.0	0.0	0.0
Nodo	20	8.3	-76.1	0.0	0.0	0.0	0.0
Nodo	21	-769.0	-804.0	0.0	0.0	0.0	0.0
Nodo	22	-278.7	-973.1	0.0	0.0	0.0	0.0

SOLLECITAZIONI ASTE:

SOLLECITAZIONI ASTE

CASO DI CARICO : 1 SLU SENZA SISMA COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+	1.30
2	Permanente_____	+	1.50
3	Var_copertura	+	1.50
4	Neve_(<1000m_slm)__	+	1.50

1) +1.30*c001 +1.50*c002 +1.50*c003 +1.50*c004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta 1 nodi 1 2

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2777.9	-0.2	-306043.7	-50.9	-247877.7
195.	0.0	2981.8	-0.2	-310395.0	-3.0	-247479.0
390.	0.0	9980.9	-0.2	-315819.0	44.7	996516.6

Asta 2 nodi 2 3

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7921.8	-0.2	-463495.8	-46.8	752043.5
215.	0.0	1093.0	-0.2	-471056.4	5.8	-4779.8
430.	0.0	11256.8	-0.2	-480595.0	58.9	1304935.6

Asta 3 nodi 3 4

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-11334.3	-0.4	-200642.4	-70.9	1297296.4
200.	0.0	-1172.3	-0.3	-210818.7	-0.7	38429.9
400.	0.0	9347.5	-0.4	-221761.4	69.5	851846.3

Asta 4 nodi 4 5

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-10311.3	-0.3	-30479.9	-69.0	835337.3
210.	0.0	943.4	-0.3	-42457.0	1.8	-151285.6
420.	0.0	12290.1	-0.3	-54604.2	72.8	1238417.7

Asta 5 nodi 5 6

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-13392.5	-0.2	118920.6	-63.6	1165740.7
255.	0.0	226.6	-0.2	104375.1	-1.0	-507501.4
510.	0.0	13552.1	-0.2	90445.7	61.4	1256541.4

Asta 6 nodi 6 7

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-10261.4	-0.4	316770.7	-76.9	1385663.5
180.	0.0	-1150.4	-0.4	307608.6	-0.1	364526.4
360.	0.0	7410.2	-0.4	299352.4	76.7	938241.1

Asta 7 nodi 7 8

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9219.5	-0.4	587935.4	-70.3	988396.7
165.	0.0	-2073.6	-0.4	581502.2	-7.6	67274.2
330.	0.0	4247.9	-0.4	576508.4	54.9	258467.7

Asta 8 nodi 8 9

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8486.3	-0.3	337613.7	-51.5	555745.5
210.	0.0	-1680.9	-0.3	332840.7	8.6	-487527.7
420.	0.0	3816.7	-0.3	329401.3	69.2	-242531.9

Asta 9 nodi 1 10

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3045.6	-0.3	214479.5	-50.2	-339510.5
175.	0.0	1287.1	-0.2	210790.4	-6.6	-484624.2
350.	0.0	5105.2	-0.2	207688.1	36.9	81170.0

Asta 10 nodi 2 11

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7013.4	-0.3	100553.1	-47.7	-159621.1
175.	0.0	-725.0	-0.3	96521.8	3.3	-822007.5
350.	0.0	4688.5	-0.3	92759.3	54.4	-464555.8

Asta 11 nodi 8 12

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5965.9	-0.3	-189610.8	-45.5	-255265.7
175.	0.0	-150.5	-0.3	-185324.7	1.8	-778404.4
350.	0.0	4970.3	-0.3	-181554.5	49.2	-348503.7

Asta 12 nodi 9 13

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2104.8	-0.4	-203878.2	-76.9	-384488.9
175.	0.0	1809.4	-0.4	-200951.8	-11.7	-405019.1
350.	0.0	5433.4	-0.4	-198584.8	53.1	232195.1

Asta 13 nodi 10 11

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4893.5	-0.2	-119738.3	-34.4	202735.0
195.	0.0	-501.1	-0.2	-122097.6	5.8	-335672.7
390.	0.0	4706.6	-0.2	-124878.9	46.1	60194.1

Asta 14 nodi 12 13

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4725.7	-0.2	136663.5	-41.6	-49046.2
210.	0.0	628.0	-0.2	134530.4	-2.6	-463210.9
420.	0.0	5176.1	-0.2	132936.3	36.2	158537.9

Asta 15 nodi 3 16

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7685.8	0.0	14092.4	-6.0	306682.1
385.	0.0	120.6	0.0	13471.5	0.0	-1054964.1
770.	0.0	6398.1	0.0	12962.1	7.3	203082.0

Asta 16 nodi 4 17

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8119.4	0.0	4613.4	-5.6	231181.5
385.	0.0	157.0	0.0	4448.2	0.0	-1194127.3
770.	0.0	6776.0	0.0	4319.7	5.8	139316.1

Asta 17 nodi 5 18

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8214.4	0.0	-3591.8	-6.4	216679.0
385.	0.0	151.0	0.0	-3459.6	0.0	-1225272.7
770.	0.0	6832.4	0.0	-3356.0	6.6	116687.2

Asta 18 nodi 6 19

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7974.2	0.0	-9675.0	-5.8	263684.7
385.	0.0	97.0	0.0	-9460.5	0.0	-1150820.9
770.	0.0	6600.7	0.0	-9324.1	5.2	136729.1

Asta 19 nodi 7 20

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7185.1	0.0	-27177.7	-5.8	309947.1
385.	0.0	75.8	0.0	-26304.4	0.0	-975578.8

770.	0.0	6045.0	0.0	-25648.6	4.4	202122.5

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4221.4	-0.2	-20329.6	-34.8	-68644.3
210.	0.0	-145.1	-0.2	-23747.7	6.7	-519220.5
420.	0.0	3618.8	-0.2	-27261.0	48.6	-151542.6

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5332.7	-0.2	101172.3	-49.8	-375835.1
210.	0.0	446.0	-0.2	97012.9	-1.5	-879620.6
420.	0.0	5951.0	-0.2	93242.1	46.6	-207493.2

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5579.6	-0.2	-99717.6	-41.3	-249176.5
210.	0.0	32.8	-0.2	-95694.7	-2.9	-825121.5
420.	0.0	5510.0	-0.2	-92055.1	35.3	-244867.1

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4522.5	-0.3	-5424.8	-44.8	52813.9
210.	0.0	-450.6	-0.3	-2926.0	8.0	-465123.4
420.	0.0	3494.0	-0.3	-438.9	61.4	-145555.5

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2356.1	-0.3	115594.6	-57.7	-44755.3
195.	0.0	1498.5	-0.3	115738.3	-3.1	-142183.4
390.	0.0	6218.9	-0.3	116282.0	51.3	596422.4

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5479.3	-0.3	288624.5	-56.4	567241.0
215.	0.0	638.1	-0.3	290053.4	8.0	30894.5
430.	0.0	7548.1	-0.3	292700.4	73.0	898768.0

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7850.5	-0.4	116777.7	-84.7	918753.7
200.	0.0	-949.9	-0.4	120024.6	-3.7	33405.2
400.	0.0	6173.7	-0.4	123707.8	77.2	553338.8

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6967.4	-0.4	26616.9	-71.7	546635.3
210.	0.0	638.5	-0.3	30774.9	1.7	-119768.3
420.	0.0	8304.3	-0.4	35056.2	75.3	819279.1

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9090.9	-0.2	-37001.3	-62.5	755489.1
255.	0.0	129.8	-0.2	-31821.6	-2.7	-384229.8
510.	0.0	9217.5	-0.2	-26829.7	56.6	810501.0

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6931.8	-0.3	-124772.2	-63.7	883705.0
180.	0.0	-646.1	-0.3	-121493.8	-2.2	204592.7
360.	0.0	5350.6	-0.3	-118573.1	59.3	633618.7

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5735.5	-0.3	-300426.4	-52.5	614351.7
165.	0.0	-626.9	-0.3	-298282.3	-4.8	95369.5

330.	0.0	4006.9	-0.3	-296876.6	42.8	381270.2

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5910.1	-0.2	-91989.6	-43.9	357817.1
210.	0.0	-777.8	-0.2	-90852.4	8.3	-329317.3
420.	0.0	3543.0	-0.3	-90079.2	61.0	-26014.0

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5823.5	-221.4	-302.5	-101.1	-33466.8	33398.2
160.	-5456.0	-221.4	-302.5	-101.1	14936.6	-2032.6
320.	-5088.4	-221.4	-302.5	-101.1	63340.1	-37463.3

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24916.1	-1197.3	-173.2	-139.2	-11944.3	143920.1
160.	-24448.1	-1197.3	-173.2	-139.2	15766.7	-47652.4
320.	-23980.1	-1197.3	-173.2	-139.2	43477.7	-239224.9

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-30277.0	161.7	56.5	-135.7	26729.5	-6453.2
160.	-29809.0	161.7	56.5	-135.7	17691.0	19417.8
320.	-29341.0	161.7	56.5	-135.7	8652.5	45288.8

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-27778.3	-84.3	121.7	-144.1	39900.0	11895.6
160.	-27310.3	-84.3	121.7	-144.1	20435.1	-1585.3
320.	-26842.3	-84.3	121.7	-144.1	970.2	-15066.2

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-33897.1	-742.4	135.9	-142.9	43154.2	76268.8
160.	-33429.1	-742.4	135.9	-142.9	21411.6	-42508.9
320.	-32961.1	-742.4	135.9	-142.9	-330.9	-161286.7

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-31787.6	1103.1	109.8	-144.1	37359.7	-119447.2
160.	-31319.6	1103.1	109.8	-144.1	19794.4	57052.1
320.	-30851.6	1103.1	109.8	-144.1	2229.0	233551.3

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-23814.8	80.0	26.2	-152.8	21364.1	-22978.0
160.	-23346.8	80.0	26.2	-152.8	17179.2	-10172.4
320.	-22878.8	80.0	26.2	-152.8	12994.2	2633.2

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-18700.1	844.9	-210.4	-151.9	-16371.0	-107667.0
160.	-18232.1	844.9	-210.4	-151.9	17290.4	27513.0
320.	-17764.1	844.9	-210.4	-151.9	50951.7	162693.1

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5921.5	245.3	-491.8	-146.1	-55087.6	-38653.7
160.	-5453.5	245.3	-491.8	-146.1	23603.3	597.8
320.	-4985.5	245.3	-491.8	-146.1	102294.2	39849.2

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14220.1	-170.5	-234.1	-106.0	-30076.0	25282.7

160.	-13852.5	-170.5	-234.1	-106.0	7375.6	-1991.0
320.	-13485.0	-170.5	-234.1	-106.0	44827.1	-29264.8

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14727.8	-340.6	-293.2	-150.3	-36158.1	51781.0
160.	-14259.8	-340.6	-293.2	-150.3	10756.3	-2708.9
320.	-13791.8	-340.6	-293.2	-150.3	57670.7	-57198.9

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15275.5	180.5	-305.0	-132.1	-37336.3	-32790.7
160.	-14807.5	180.5	-305.0	-132.1	11459.0	-3913.2
320.	-14339.5	180.5	-305.0	-132.1	60254.2	24964.3

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15131.9	256.9	-359.4	-134.1	-46444.9	-34622.1
160.	-14663.9	256.9	-359.4	-134.1	11060.7	6482.3
320.	-14195.9	256.9	-359.4	-134.1	68566.3	47586.8

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5974.8	-89.9	436.0	-106.2	35948.0	17494.2
160.	-5607.3	-89.9	436.0	-106.2	-33819.3	3105.5
320.	-5239.7	-89.9	436.0	-106.2	-103586.6	-11283.3

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17649.2	-1032.6	522.1	-154.4	35150.6	122423.4
160.	-17181.2	-1032.6	522.1	-154.4	-48390.5	-42790.9
320.	-16713.2	-1032.6	522.1	-154.4	-131931.5	-208005.2

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-21796.7	143.2	6.7	-165.0	-27159.4	-7023.7
160.	-21328.7	143.2	6.7	-165.0	-28223.7	15895.3
320.	-20860.7	143.2	6.7	-165.0	-29287.9	38814.3

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19917.2	-77.7	-110.1	-154.8	-42225.2	11023.2
160.	-19449.2	-77.7	-110.1	-154.8	-24603.2	-1412.3
320.	-18981.2	-77.7	-110.1	-154.8	-6981.3	-13847.8

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24227.6	-574.5	-129.7	-144.4	-44629.8	60434.0
160.	-23759.6	-574.5	-129.7	-144.4	-23884.6	-31491.6
320.	-23291.6	-574.5	-129.7	-144.4	-3139.4	-123417.2

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-22750.0	784.4	-90.5	-125.5	-38786.6	-82528.1
160.	-22282.0	784.4	-90.5	-125.5	-24300.9	42971.6
320.	-21814.0	784.4	-90.5	-125.5	-9815.3	168471.3

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17131.1	-4.3	53.0	-116.2	-20269.2	-6381.5
160.	-16663.1	-4.3	53.0	-116.2	-28753.8	-7068.7
320.	-16195.1	-4.3	53.0	-116.2	-37238.3	-7755.9

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15427.0	551.0	557.1	-122.0	39980.1	-68602.1

160.	-14959.0	551.0	557.1	-122.0	-49161.9	19551.4
320.	-14491.0	551.0	557.1	-122.0	-138303.9	107705.0

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7037.0	184.5	674.9	-122.3	55476.3	-26452.9
160.	-6569.0	184.5	674.9	-122.3	-52514.7	3062.5
320.	-6101.0	184.5	674.9	-122.3	-160505.7	32577.9

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	33.9	0.0	-1.2	0.0	0.0	0.0
88.	33.9	-511.9	-1.2	0.0	105.9	-22394.5
175.	33.9	-1023.7	-1.2	0.0	211.9	-89578.1

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	24.5	0.0	1.0	0.0	0.0	0.0
88.	24.5	-511.9	1.0	0.0	-85.3	-22394.5
175.	24.5	-1023.8	1.0	0.0	-170.5	-89578.1

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-94.0	1243.2	-2.0	-26889.2	-444.7	-43158.8
195.	-94.0	-852.6	-2.0	-26889.2	-52.1	25966.0
390.	-94.0	-4858.6	-2.0	-26889.2	340.4	-499834.1

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-716.2	14218.5	-0.3	-8967.3	-99.5	-839407.4
215.	-716.2	-518.0	-0.3	-8967.3	-28.2	633391.8
430.	-716.2	-15254.6	-0.3	-8967.3	43.1	-1062162.9

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-720.7	14086.4	0.5	-314.8	178.8	-1016874.1
200.	-720.7	378.0	0.5	-314.8	73.1	429563.8
400.	-720.7	-13330.4	0.5	-314.8	-32.6	-865678.2

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-775.3	13511.8	0.6	655.4	111.5	-880744.5
210.	-775.3	-882.0	0.6	655.4	-10.0	445392.6
420.	-775.3	-15275.8	0.6	655.4	-131.5	-1251172.6

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1153.8	17685.3	0.0	324.4	11.3	-1412459.3
255.	-1153.8	207.1	0.0	324.4	8.6	868824.4
510.	-1153.8	-17271.1	0.0	324.4	5.9	-1306835.5

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-611.9	13580.5	0.4	2553.5	150.0	-1073284.2
180.	-611.9	1243.0	0.4	2553.5	83.6	260832.8
360.	-611.9	-11094.6	0.4	2553.5	17.1	-625811.0

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-511.0	11784.2	1.1	15547.7	169.9	-623177.8
165.	-511.0	474.8	1.1	15547.7	-9.0	388190.6
330.	-511.0	-10834.6	1.1	15547.7	-187.9	-466496.9

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-108.6	1700.4	3.0	20194.5	581.0	-230538.4

210.	-108.6	471.9	3.0	20194.5	-48.4	-2439.7
420.	-108.6	-756.6	3.0	20194.5	-677.8	-32326.0

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-170.1	3845.2	2.7	5695.5	545.8	-90229.2
175.	-170.1	-998.9	2.7	5695.5	70.4	158822.4
350.	-170.1	-5842.9	2.7	5695.5	-405.0	-439833.6

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-36.3	3879.2	3.9	100348.4	791.0	-115134.0
175.	-36.3	-964.8	3.9	100348.4	110.3	139879.2
350.	-36.3	-5808.8	3.9	100348.4	-570.4	-452815.3

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-63.8	4205.3	-3.4	-73265.4	-787.5	-135883.0
175.	-63.8	-932.6	-3.4	-73265.4	-197.9	150477.8
350.	-63.8	-6070.5	-3.4	-73265.4	391.6	-462296.0

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-283.8	4228.9	-2.4	7523.3	-531.7	-122488.7
175.	-283.8	-909.0	-2.4	7523.3	-120.1	168003.4
350.	-283.8	-6046.9	-2.4	7523.3	291.6	-440639.1

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-92.9	949.3	-1.7	-6655.9	-345.2	-38636.6
195.	-92.9	-191.4	-1.7	-6655.9	-16.3	35258.5
390.	-92.9	-1332.2	-1.7	-6655.9	312.6	-113292.7

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-121.2	1292.7	3.0	2812.5	654.7	-88341.7
210.	-121.2	64.2	3.0	2812.5	16.5	54127.1
420.	-121.2	-1164.3	3.0	2812.5	-621.7	-61389.0

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-287.0	6692.7	0.2	15067.3	46.3	-491316.7
210.	-287.0	879.9	0.2	15067.3	2.6	303809.3
420.	-287.0	-4933.0	0.2	15067.3	-41.0	-121763.8

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-178.3	6650.8	-0.7	-70143.1	-107.5	-503830.1
210.	-178.3	838.0	-0.7	-70143.1	34.1	282493.8
420.	-178.3	-4974.9	-0.7	-70143.1	175.6	-151881.3

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-208.6	6976.3	-0.2	40040.7	-131.0	-519737.7
210.	-208.6	810.8	-0.2	40040.7	-84.1	297912.8
420.	-208.6	-5354.7	-0.2	40040.7	-37.2	-179190.6

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-453.2	6984.7	-0.5	-6279.0	-196.0	-512018.0
210.	-453.2	819.2	-0.5	-6279.0	-97.5	307390.8
420.	-453.2	-5346.3	-0.5	-6279.0	1.0	-167954.3

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-40.9	306.7	0.3	18177.2	65.2	3784.1
195.	-40.9	-739.0	0.3	18177.2	13.5	-38357.2
390.	-40.9	-1784.6	0.3	18177.2	-38.2	-284407.5

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-644.7	9953.7	1.0	38126.9	291.8	-562555.8
215.	-644.7	-465.9	1.0	38126.9	66.9	457374.9
430.	-644.7	-10885.5	1.0	38126.9	-158.0	-762908.1

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-585.7	9975.2	0.4	8839.0	7.0	-724093.8
200.	-585.7	282.5	0.4	8839.0	-69.1	301680.8
400.	-585.7	-9410.1	0.4	8839.0	-145.2	-611074.7

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-619.0	9571.1	0.4	1857.7	9.6	-624922.5
210.	-619.0	-606.2	0.4	1857.7	-66.3	316386.2
420.	-619.0	-10783.5	0.4	1857.7	-142.1	-879534.5

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-857.6	12508.1	0.4	-1281.7	2.3	-1002951.7
255.	-857.6	150.0	0.4	-1281.7	-99.8	610949.6
510.	-857.6	-12208.2	0.4	-1281.7	-201.8	-926471.9

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-499.6	9605.8	0.0	-11097.0	-76.2	-758000.6
180.	-499.6	882.4	0.0	-11097.0	-70.2	185937.9
360.	-499.6	-7841.0	0.0	-11097.0	-64.2	-440333.0

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-460.7	8354.1	0.0	-48335.3	52.0	-448088.9
165.	-460.7	357.7	0.0	-48335.3	47.7	270636.2
330.	-460.7	-7638.7	0.0	-48335.3	43.3	-330050.7

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-112.0	1497.6	0.6	-7448.6	128.1	-182305.0
210.	-112.0	371.4	0.6	-7448.6	2.4	13941.1
420.	-112.0	-754.7	0.6	-7448.6	-123.3	-26299.0

SOLLECITAZIONI ASTE

CASO DI CARICO : 4 SLU con SISMAX PRINC COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
2 SISMAX SLU 1.00
3 SISMAY SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.001
2) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.002
3) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.003
4) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.004

5) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.001
6) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.002
7) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.003
8) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.004
9) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.001
10) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.002
11) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.003
12) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.004
13) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.001
14) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.002
15) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.003
16) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1120.9	-0.7	-140440.7	-134.5	18951.5
	0.0	-1021.0	1.3	-146063.4	279.7	8065.1
	0.0	-1918.2	-2.9	-100409.8	-596.0	79013.7
	0.0	-1818.3	-0.9	-106032.5	-181.8	68127.3
	0.0	-1217.3	-2.8	-135121.3	-572.1	29786.0
	0.0	-1117.4	-0.8	-140744.0	-157.9	18899.6
	0.0	-2014.6	-5.0	-95090.5	-1033.6	89848.2
	0.0	-1914.7	-3.0	-100713.2	-619.4	78961.8
	0.0	-1332.4	2.8	-182304.6	570.7	-318056.6
	0.0	-1232.5	4.8	-187927.3	984.9	-328943.0
	0.0	-2129.7	0.6	-142273.7	109.2	-257994.4
	0.0	-2029.8	2.6	-147896.4	523.4	-268880.8
	0.0	-1428.8	0.6	-176985.3	133.1	-307222.0
	0.0	-1328.9	2.7	-182608.0	547.3	-318108.4
	0.0	-2226.1	-1.6	-136954.4	-328.4	-247159.9
	0.0	-2126.2	0.5	-142577.1	85.8	-258046.3
195.	0.0	1230.8	-0.7	-141426.1	0.0	14867.8
	0.0	1244.7	1.3	-146815.6	19.5	14930.0
	0.0	1296.1	-2.9	-103684.0	-31.8	5009.7
	0.0	1310.0	-0.9	-109073.6	-12.2	5071.9
	0.0	1215.3	-2.8	-136327.0	-23.4	14928.4
	0.0	1229.2	-0.8	-141716.6	-3.9	14990.6
	0.0	1280.6	-5.0	-98585.0	-55.2	5070.3
	0.0	1294.5	-3.0	-103974.5	-35.6	5132.5
	0.0	1805.3	2.7	-183509.3	32.7	-275746.6
	0.0	1819.2	4.8	-188898.8	52.3	-275684.4
	0.0	1870.6	0.6	-145767.2	1.0	-285604.7
	0.0	1884.5	2.6	-151156.7	20.6	-285542.5
	0.0	1789.8	0.6	-178410.2	9.3	-275686.0
	0.0	1803.7	2.6	-183799.7	28.9	-275623.8
	0.0	1855.1	-1.6	-140668.1	-22.4	-285544.1
	0.0	1869.0	0.5	-146057.7	-2.8	-285481.9
390.	0.0	4474.1	-0.7	-142900.3	134.4	557315.0
	0.0	4412.1	1.3	-148075.3	-239.7	552514.3
	0.0	5307.6	-2.9	-107316.6	531.0	636705.8
	0.0	5245.6	-0.9	-112491.6	156.9	631905.1
	0.0	4530.3	-2.8	-138003.8	524.0	561499.4
	0.0	4468.2	-0.8	-143178.8	149.9	556698.7
	0.0	5363.7	-5.0	-102420.2	920.6	640890.1
	0.0	5301.7	-3.0	-107595.2	546.5	636089.4
	0.0	5244.1	2.8	-185348.0	-503.7	406134.0
	0.0	5182.1	4.8	-190523.0	-877.8	401333.3
	0.0	6077.5	0.6	-149764.4	-107.1	485524.8
	0.0	6015.5	2.6	-154939.4	-481.2	480724.1
	0.0	5300.2	0.6	-180451.6	-114.1	410318.4
	0.0	5238.2	2.7	-185626.6	-488.1	405517.7
	0.0	6133.7	-1.6	-144868.0	282.5	489709.1
	0.0	6071.7	0.5	-150043.0	-91.5	484908.4

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5156.1	-0.8	-286838.1	-153.4	791151.1
	0.0	-5012.0	1.4	-296014.1	253.8	768749.8
	0.0	-6353.1	-2.9	-230521.4	-559.8	952925.4
	0.0	-6209.1	-0.8	-239697.4	-152.6	930524.1
	0.0	-5295.5	-2.9	-278107.2	-557.8	813111.8
	0.0	-5151.4	-0.7	-287283.2	-150.6	790710.5
	0.0	-6492.5	-5.0	-221790.4	-964.2	974886.2
	0.0	-6348.5	-2.9	-230966.4	-557.0	952484.8
	0.0	-2296.5	2.6	-222421.7	511.7	-108374.7
	0.0	-2152.4	4.8	-231597.7	918.9	-130776.1
	0.0	-3493.5	0.5	-166105.0	105.3	53399.6
	0.0	-3349.5	2.7	-175281.0	512.5	30998.2
	0.0	-2435.9	0.5	-213690.7	107.3	-86414.0
	0.0	-2291.8	2.7	-222866.8	514.5	-108815.4
	0.0	-3633.0	-1.6	-157374.0	-299.1	75360.3
	0.0	-3488.9	0.6	-166550.0	108.1	52959.0
215.	0.0	-728.6	-0.8	-289340.4	17.5	145216.1
	0.0	-653.8	1.3	-298309.0	-36.2	146005.7
	0.0	-1213.5	-2.9	-235217.9	68.3	129178.1
	0.0	-1138.7	-0.8	-244186.5	14.7	129967.8
	0.0	-802.5	-2.9	-280805.2	63.8	144555.4
	0.0	-727.7	-0.7	-289773.8	10.1	145345.1
	0.0	-1287.5	-5.0	-226682.7	114.6	128517.4
	0.0	-1212.7	-2.9	-235651.3	61.0	129307.1
	0.0	1903.2	2.6	-225271.7	-55.1	-159521.8
	0.0	1978.1	4.8	-234240.2	-108.8	-158732.1
	0.0	1418.3	0.5	-171149.1	-4.3	-175559.8
	0.0	1493.1	2.7	-180117.7	-57.9	-174770.1
	0.0	1829.3	0.5	-216736.5	-8.8	-160182.4
	0.0	1904.1	2.7	-225705.1	-62.5	-159392.7
	0.0	1344.3	-1.6	-162613.9	42.0	-176220.4
	0.0	1419.1	0.6	-171582.5	-11.6	-175430.7
430.	0.0	4308.9	-0.8	-293057.7	189.6	521275.1
	0.0	4334.9	1.4	-301856.5	-328.8	532544.8
	0.0	4359.4	-3.0	-240902.1	701.3	461604.0
	0.0	4385.4	-0.8	-249700.9	183.0	472873.7
	0.0	4281.1	-2.9	-284682.5	690.0	510016.2
	0.0	4307.1	-0.8	-293481.3	171.6	521285.8
	0.0	4331.7	-5.1	-232526.9	1201.7	450345.1
	0.0	4357.6	-2.9	-241325.7	683.4	461614.7
	0.0	6623.7	2.7	-229067.6	-625.9	748262.8
	0.0	6649.6	4.8	-237866.4	-1144.3	759532.5
	0.0	6674.2	0.5	-176912.0	-114.2	688591.7
	0.0	6700.2	2.7	-185710.8	-632.5	699861.4
	0.0	6595.9	0.5	-220692.4	-125.5	737003.9
	0.0	6621.9	2.7	-229491.2	-643.9	748273.6
	0.0	6646.4	-1.6	-168536.7	386.2	677332.8
	0.0	6672.4	0.6	-177335.5	-132.1	688602.5

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6394.5	-0.8	-124514.7	-190.6	806185.6
	0.0	-6341.5	2.2	-134304.9	425.3	805121.0
	0.0	-6776.9	-4.3	-68910.4	-855.4	779537.0
	0.0	-6724.0	-1.3	-78700.6	-239.4	778472.4
	0.0	-6447.1	-3.7	-115294.6	-771.4	807703.7
	0.0	-6394.1	-0.6	-125084.8	-155.5	806639.1
	0.0	-6829.5	-7.1	-59690.3	-1436.1	781055.1
	0.0	-6776.6	-4.1	-69480.5	-820.2	779990.5
	0.0	-4428.4	3.8	-117382.1	750.8	428232.3
	0.0	-4375.5	6.8	-127172.3	1366.8	427167.7
	0.0	-4810.8	0.3	-61777.8	86.1	401583.7
	0.0	-4757.9	3.3	-71568.0	702.1	400519.1
	0.0	-4481.0	0.9	-108162.0	170.1	429750.4

	0.0	-4428.0	3.9	-117952.2	786.0	428685.8
	0.0	-4863.4	-2.5	-52557.7	-494.6	403101.8
	0.0	-4810.5	0.5	-62347.9	121.3	402037.2
200.	0.0	-1359.5	-0.8	-128771.8	-25.2	27038.2
	0.0	-1336.9	2.2	-138439.1	-11.7	33314.0
	0.0	-1376.1	-4.3	-74793.4	0.8	-37713.0
	0.0	-1353.5	-1.3	-84460.7	14.3	-31437.3
	0.0	-1383.3	-3.6	-119667.3	-41.1	21118.0
	0.0	-1360.7	-0.6	-129334.6	-27.6	27393.8
	0.0	-1399.8	-7.1	-65688.9	-15.1	-43633.2
	0.0	-1377.3	-4.1	-75356.2	-1.6	-37357.5
	0.0	319.0	3.7	-121574.2	0.9	12708.7
	0.0	341.5	6.7	-131241.5	14.4	18984.5
	0.0	302.4	0.3	-67595.7	26.9	-52042.5
	0.0	325.0	3.3	-77263.1	40.4	-45766.8
	0.0	295.2	0.9	-112469.6	-15.0	6788.6
	0.0	317.8	3.9	-122136.9	-1.6	13064.3
	0.0	278.6	-2.5	-58491.2	11.0	-57962.7
	0.0	301.2	0.5	-68158.5	24.4	-51686.9
400.	0.0	3822.4	-0.8	-133497.0	139.6	271694.9
	0.0	3825.7	2.2	-143076.6	-448.7	280404.0
	0.0	4083.7	-4.3	-80948.2	856.5	232619.9
	0.0	4087.0	-1.3	-90527.8	268.2	241329.0
	0.0	3816.9	-3.7	-124474.9	687.6	262994.1
	0.0	3820.2	-0.6	-134054.6	99.3	271703.1
	0.0	4078.2	-7.1	-71926.1	1404.5	223919.1
	0.0	4081.5	-4.1	-81505.8	816.2	232628.1
	0.0	5287.1	3.8	-126208.1	-748.4	570614.1
	0.0	5290.4	6.8	-135787.7	-1336.6	579323.1
	0.0	5548.4	0.3	-73659.3	-31.5	531539.1
	0.0	5551.7	3.3	-83238.9	-619.8	540248.1
	0.0	5281.7	0.9	-117186.1	-200.3	561913.2
	0.0	5285.0	3.9	-126765.7	-788.6	570622.3
	0.0	5543.0	-2.5	-64637.3	516.5	522838.2
	0.0	5546.2	0.5	-74216.9	-71.7	531547.3

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5653.8	-0.3	-19617.7	-70.8	556273.7
	0.0	-5627.8	2.6	-27810.8	507.4	553689.9
	0.0	-5891.0	-4.5	6256.0	-903.2	540661.7
	0.0	-5865.0	-1.7	-1937.0	-325.0	538078.0
	0.0	-5680.7	-2.9	-11942.9	-601.1	559240.5
	0.0	-5654.6	0.0	-20136.0	-22.9	556656.7
	0.0	-5917.9	-7.1	13930.8	-1433.6	543628.5
	0.0	-5891.8	-4.3	5737.8	-855.3	541044.8
	0.0	-4265.0	4.0	-32650.2	788.1	248604.7
	0.0	-4238.9	6.8	-40843.3	1366.4	246020.9
	0.0	-4502.2	-0.3	-6776.5	-44.3	232992.7
	0.0	-4476.1	2.5	-14969.6	533.9	230409.0
	0.0	-4291.8	1.4	-24975.4	257.8	251571.5
	0.0	-4265.8	4.2	-33168.5	836.0	248987.7
	0.0	-4529.0	-2.9	898.3	-574.6	235959.5
	0.0	-4503.0	-0.1	-7294.8	3.6	233375.8
210.	0.0	-124.5	-0.3	-24875.2	-16.7	-51437.2
	0.0	-110.8	2.6	-33010.9	-35.8	-49977.5
	0.0	-129.8	-4.5	-349.5	47.2	-91650.5
	0.0	-116.2	-1.7	-8485.2	28.2	-90190.8
	0.0	-139.4	-2.8	-17254.3	-1.0	-52740.4
	0.0	-125.8	0.0	-25390.1	-20.0	-51280.7
	0.0	-144.8	-7.1	7271.4	63.0	-92953.7
	0.0	-131.1	-4.3	-864.3	43.9	-91494.0
	0.0	1084.8	3.9	-37824.2	-42.2	-87583.6
	0.0	1098.5	6.8	-45959.9	-61.2	-86123.8
	0.0	1079.5	-0.3	-13298.4	21.8	-127796.9
	0.0	1093.1	2.5	-21434.2	2.7	-126337.1
	0.0	1069.8	1.4	-30203.3	-26.5	-88886.7
	0.0	1083.5	4.2	-38339.0	-45.5	-87427.0
	0.0	1064.5	-2.9	-5677.6	37.5	-129100.0
	0.0	1078.2	-0.1	-13813.3	18.5	-127640.3
420.	0.0	5405.0	-0.3	-30232.4	36.3	503886.7
	0.0	5413.2	2.6	-38343.4	-581.2	507532.7
	0.0	5598.3	-4.6	-6956.3	1000.7	483828.5
	0.0	5606.5	-1.7	-15067.3	383.1	487474.5
	0.0	5395.3	-2.9	-22635.0	599.2	500098.5
	0.0	5403.5	0.0	-30746.0	-18.4	503744.6
	0.0	5588.6	-7.2	641.1	1563.5	480040.3
	0.0	5596.8	-4.3	-7469.8	946.0	483686.4
	0.0	6537.7	4.0	-43149.7	-875.2	711835.9
	0.0	6545.9	6.8	-51260.7	-1492.7	715481.9
	0.0	6730.9	-0.3	-19873.5	89.2	691777.7
	0.0	6739.2	2.5	-27984.5	-528.4	695423.7
	0.0	6528.0	1.4	-35552.2	-312.4	708047.7
	0.0	6536.2	4.2	-43663.2	-929.9	711693.7
	0.0	6721.2	-2.9	-12276.1	652.0	687989.5
	0.0	6729.4	-0.1	-20387.1	34.4	691635.6

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7216.7	0.2	66972.4	28.8	758820.0
	0.0	-7200.6	2.3	58187.7	569.7	751572.5
	0.0	-7526.4	-3.7	60926.6	-933.6	756816.9
	0.0	-7510.3	-1.6	52142.0	-392.7	749569.4
	0.0	-7234.3	-1.7	75236.8	-465.0	766259.2
	0.0	-7218.3	0.4	66452.1	75.8	759011.7
	0.0	-7544.1	-5.6	69191.0	-1427.4	764256.1
	0.0	-7528.0	-3.5	60406.4	-886.6	757008.7
	0.0	-5738.0	3.3	48625.2	824.9	367216.5
	0.0	-5721.9	5.4	39840.6	1365.8	359969.0
	0.0	-6047.7	-0.6	42579.5	-137.5	365213.4
	0.0	-6031.7	1.5	33794.8	403.4	357966.0
	0.0	-5755.7	1.4	56889.6	331.1	374655.7
	0.0	-5739.6	3.5	48105.0	871.9	367408.3
	0.0	-6065.4	-2.5	50843.9	-631.4	372652.7
	0.0	-6049.3	-0.4	42059.2	-90.5	365405.2
255.	0.0	-652.0	0.2	60571.2	-21.8	-239235.5
	0.0	-633.7	2.3	51770.8	-11.5	-242346.3
	0.0	-733.2	-3.6	53074.0	3.6	-290813.5
	0.0	-714.9	-1.6	44273.7	14.0	-293924.3
	0.0	-671.8	-1.7	68850.1	-29.4	-236330.4
	0.0	-653.4	0.4	60049.7	-19.1	-239441.2
	0.0	-753.0	-5.5	61353.0	-4.0	-287908.3
	0.0	-734.6	-3.5	52552.6	6.4	-291019.2
	0.0	891.1	3.2	42176.8	-7.4	-251289.2
	0.0	909.5	5.3	33376.4	2.9	-254400.1
	0.0	809.9	-0.6	34679.6	18.1	-302867.2
	0.0	828.3	1.5	25879.3	28.4	-305978.0
	0.0	871.3	1.4	50455.7	-15.0	-248384.1
	0.0	889.7	3.4	41655.3	-4.6	-251495.0
	0.0	790.1	-2.5	42958.6	10.5	-299962.1
	0.0	808.5	-0.4	34158.2	20.8	-303072.9
510.	0.0	5620.3	0.2	54532.4	-75.4	400547.9
	0.0	5655.0	2.3	45664.3	-594.1	403879.6
	0.0	5797.1	-3.7	45529.8	941.1	359901.3
	0.0	5831.8	-1.6	36661.8	422.4	363233.0
	0.0	5584.8	-1.7	62874.7	402.2	396714.1
	0.0	5619.5	0.4	54006.7	-116.5	400045.8
	0.0	5761.5	-5.6	53872.1	1418.7	356067.5
	0.0	5796.3	-3.5	45004.1	900.0	359399.1
	0.0	7538.7	3.3	35982.1	-840.5	824038.3
	0.0	7573.5	5.4	27114.1	-1359.2	827370.0
	0.0	7715.5	-0.6	26979.6	176.0	783391.7

	0.0	7750.3	1.5	18111.5	-342.7	786723.4
	0.0	7503.2	1.4	44324.4	-362.9	820204.5
	0.0	7538.0	3.5	35456.4	-881.6	823536.2
	0.0	7680.0	-2.5	35321.9	653.6	779557.9
	0.0	7714.7	-0.5	26453.9	134.9	782889.6

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5771.6	1.0	157742.5	167.4	757521.9
	0.0	-5764.7	4.4	147356.4	790.5	749283.2
	0.0	-6015.2	-6.7	120682.3	-1209.9	727124.6
	0.0	-6008.3	-3.3	110296.2	-586.9	718885.9
	0.0	-5780.3	-2.2	167533.8	-416.3	765603.2
	0.0	-5773.4	1.2	157147.7	206.8	757364.5
	0.0	-6023.9	-9.9	130473.6	-1793.6	735205.9
	0.0	-6017.0	-6.5	120087.5	-1170.5	726967.2
	0.0	-4206.8	6.1	175560.2	1096.1	576850.3
	0.0	-4199.9	9.5	165174.1	1719.2	568611.6
	0.0	-4450.4	-1.6	138500.0	-281.2	546453.0
	0.0	-4443.5	1.8	128113.9	341.9	538214.3
	0.0	-4215.5	2.9	185351.5	512.5	584931.7
	0.0	-4208.6	6.3	174965.3	1135.5	576693.0
	0.0	-4459.1	-4.8	148291.3	-864.9	554534.4
	0.0	-4452.2	-1.4	137905.2	-241.8	546295.7
180.	0.0	-1537.2	1.0	153839.0	-15.3	103028.8
	0.0	-1508.9	4.4	143371.4	0.2	97813.6
	0.0	-1547.2	-6.7	115631.4	-7.3	49040.5
	0.0	-1518.9	-3.3	105163.7	8.2	43825.3
	0.0	-1566.3	-2.2	163706.8	-25.8	107839.4
	0.0	-1538.0	1.2	153239.2	-10.3	102624.2
	0.0	-1576.3	-9.8	125499.2	-17.7	53851.0
	0.0	-1548.0	-6.5	115031.5	-2.2	48635.8
	0.0	398.8	6.1	171534.4	2.2	236389.8
	0.0	427.1	9.4	161066.8	17.7	231174.6
	0.0	388.9	-1.6	133326.8	10.2	182401.4
	0.0	417.1	1.8	122859.1	25.7	177186.2
	0.0	369.7	2.9	181402.2	-8.3	241200.4
	0.0	398.0	6.3	170934.6	7.2	235985.2
	0.0	359.8	-4.8	143194.6	-0.2	187212.0
	0.0	388.0	-1.4	132726.9	15.3	181996.8
360.	0.0	2409.1	1.0	150388.6	-198.0	186395.9
	0.0	2469.4	4.4	139808.6	-789.5	188975.5
	0.0	2704.4	-6.7	110920.9	1194.5	156958.9
	0.0	2764.6	-3.3	100341.0	603.0	159538.5
	0.0	2349.7	-2.2	160362.0	364.4	183398.2
	0.0	2409.9	1.2	149782.0	-227.1	185977.8
	0.0	2644.9	-9.9	120894.3	1757.0	153961.2
	0.0	2705.2	-6.5	110314.4	1165.5	156540.8
	0.0	4765.2	6.1	168013.9	-1091.1	706022.6
	0.0	4825.4	9.5	157433.9	-1682.7	708602.2
	0.0	5060.4	-1.6	128546.2	301.4	676585.6
	0.0	5120.7	1.8	117966.2	-290.1	679165.2
	0.0	4705.7	2.9	177987.3	-528.7	703024.9
	0.0	4766.0	6.3	167407.3	-1120.2	705604.5
	0.0	5001.0	-4.8	138519.6	863.8	673587.8
	0.0	5061.2	-1.4	127939.6	272.3	676167.4

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5716.2	1.0	258130.8	197.2	508901.3
	0.0	-5677.3	3.9	248787.2	717.8	499014.2
	0.0	-5741.3	-5.9	221926.6	-1089.1	482488.4
	0.0	-5702.4	-3.1	212583.0	-568.4	472601.3
	0.0	-5756.0	-1.7	267009.3	-307.6	518756.9
	0.0	-5717.0	1.1	257665.7	213.1	508869.8
	0.0	-5781.1	-8.7	230805.1	-1593.8	492343.9
	0.0	-5742.1	-5.9	221461.5	-1073.2	482456.8
	0.0	-3067.4	5.5	353023.9	1004.9	420416.9
	0.0	-3028.4	8.3	343680.3	1525.5	410529.8
	0.0	-3092.5	-1.5	316819.7	-281.3	394004.0
	0.0	-3053.5	1.3	307476.1	239.3	384116.9
	0.0	-3107.1	2.7	361902.4	500.2	430272.4
	0.0	-3068.2	5.5	352558.8	1020.8	420385.3
	0.0	-3132.2	-4.2	325698.2	-786.1	403859.5
	0.0	-3093.3	-1.4	316354.6	-265.5	393972.4
165.	0.0	-2405.6	1.0	255491.8	25.3	-156727.9
	0.0	-2326.6	3.8	246019.4	82.5	-157042.3
	0.0	-2071.8	-5.9	218034.6	-115.0	-158735.2
	0.0	-1992.8	-3.1	208562.2	-57.8	-159049.6
	0.0	-2483.3	-1.7	264491.6	-26.9	-156411.1
	0.0	-2404.3	1.1	255019.2	30.3	-156725.5
	0.0	-2149.4	-8.6	227034.4	-167.1	-158418.4
	0.0	-2070.4	-5.8	217562.0	-109.9	-158732.8
	0.0	576.6	5.5	350462.0	102.7	220411.6
	0.0	655.6	8.3	340989.6	159.9	220097.2
	0.0	910.4	-1.5	313004.9	-37.6	218404.4
	0.0	989.5	1.3	303532.4	19.7	218089.9
	0.0	498.9	2.7	359461.8	50.5	220728.5
	0.0	577.9	5.5	349989.4	107.7	220414.1
	0.0	832.8	-4.2	322004.6	-89.7	218721.2
	0.0	911.8	-1.4	312532.2	-32.5	218406.8
330.	0.0	581.2	1.0	253485.3	-146.1	-303126.6
	0.0	712.1	3.8	243860.6	-550.8	-286279.0
	0.0	1356.9	-5.9	214682.3	856.3	-214698.1
	0.0	1487.8	-3.1	205057.6	451.5	-197850.4
	0.0	454.6	-1.7	262628.6	253.1	-319517.7
	0.0	585.4	1.1	253003.9	-151.7	-302670.0
	0.0	1230.3	-8.6	223825.6	1255.4	-231089.1
	0.0	1361.2	-5.8	214200.9	850.7	-214241.5
	0.0	3765.1	5.5	348767.7	-797.0	585682.7
	0.0	3896.0	8.3	339143.0	-1201.8	602530.4
	0.0	4540.9	-1.5	309964.8	205.3	674111.3
	0.0	4671.7	1.3	300340.1	-199.4	690958.9
	0.0	3638.5	2.7	357911.1	-397.9	569291.7
	0.0	3769.4	5.5	348286.3	-802.6	586139.3
	0.0	4414.3	-4.2	319108.1	604.5	657720.2
	0.0	4545.1	-1.4	309483.4	199.7	674567.9

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4867.1	0.7	201228.2	127.9	217866.4
	0.0	-4905.9	2.9	191630.0	513.1	215790.6
	0.0	-5558.3	-4.4	152803.6	-797.8	264665.4
	0.0	-5597.0	-2.3	143205.4	-412.7	262589.6
	0.0	-4834.1	-1.6	210372.2	-271.3	220419.9
	0.0	-4872.9	0.6	200774.0	113.9	218344.1
	0.0	-5525.3	-6.7	161947.6	-1197.1	267218.9
	0.0	-5564.0	-4.5	152349.4	-811.9	265143.0
	0.0	-3622.5	4.2	160732.8	760.9	350645.8
	0.0	-3661.3	6.4	151134.6	1146.1	348570.0
	0.0	-4313.6	-0.9	112308.2	-164.9	397444.8
	0.0	-4352.4	1.3	102710.0	220.3	395369.0
	0.0	-3589.5	2.0	169876.8	361.7	353199.3
	0.0	-3628.3	4.1	160278.6	746.8	351123.5
	0.0	-4280.7	-3.2	121452.2	-564.1	399998.3
	0.0	-4319.4	-1.0	111854.0	-179.0	397922.5
210.	0.0	-1415.4	0.7	199476.6	-21.0	-436000.0
	0.0	-1373.4	2.9	189650.0	-88.8	-438025.0
	0.0	-1438.7	-4.4	149179.3	128.2	-466128.3
	0.0	-1396.7	-2.3	139352.7	60.4	-468153.3
	0.0	-1458.5	-1.6	208836.2	54.9	-434238.2
	0.0	-1416.5	0.6	199009.6	-12.9	-436263.2

	0.0	-1481.9	-6.7	158538.9	204.0	-464366.5
	0.0	-1439.9	-4.5	148712.3	136.3	-466391.5
	0.0	-396.6	4.2	159448.0	-127.6	-54001.0
	0.0	-354.6	6.4	149621.4	-195.4	-56026.0
	0.0	-420.0	-0.9	109150.6	21.6	-84129.3
	0.0	-378.0	1.3	99324.0	-46.2	-86154.3
	0.0	-439.8	2.0	168807.6	-51.7	-52239.2
	0.0	-397.8	4.1	158981.0	-119.5	-54264.3
	0.0	-463.2	-3.2	118510.2	97.4	-82367.5
	0.0	-421.1	-1.0	108683.6	29.7	-84392.6
420.	0.0	1802.6	0.7	198524.3	-171.3	-393713.0
	0.0	1942.4	2.9	188429.9	-696.4	-376933.8
	0.0	2565.3	-4.5	146152.6	1062.7	-348142.2
	0.0	2705.0	-2.3	136058.2	537.5	-331363.0
	0.0	1667.4	-1.6	208137.0	384.6	-410417.4
	0.0	1807.2	0.6	198042.6	-140.6	-393638.3
	0.0	2430.1	-6.8	155765.3	1618.5	-364846.6
	0.0	2569.8	-4.6	145670.9	1093.4	-348067.5
	0.0	1811.9	4.3	158802.0	-1024.4	112476.9
	0.0	1951.6	6.5	148707.7	-1549.6	129256.0
	0.0	2574.5	-0.9	106430.3	209.5	158047.7
	0.0	2714.3	1.3	96336.0	-315.7	174826.8
	0.0	1676.7	2.0	168414.8	-468.5	95772.4
	0.0	1816.4	4.2	158320.4	-993.7	112551.5
	0.0	2439.3	-3.2	116043.0	765.4	141343.2
	0.0	2579.1	-1.0	105948.7	240.2	158122.3

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1278.9	-0.6	125374.2	-122.8	-81092.0
	0.0	-1294.3	1.4	130022.6	276.0	-60707.6
	0.0	-1315.8	-2.9	74594.7	-577.9	-239080.6
	0.0	-1331.1	-0.9	79243.1	-179.0	-218696.2
	0.0	-1261.7	-2.7	121199.3	-547.0	-100942.1
	0.0	-1277.0	-0.7	125847.7	-148.2	-80557.7
	0.0	-1298.6	-5.0	70419.9	-1002.1	-258930.7
	0.0	-1313.9	-3.0	75068.3	-603.2	-238546.3
	0.0	-2357.4	2.7	127635.0	555.2	-79276.4
	0.0	-2372.8	4.7	132283.4	954.0	-58892.0
	0.0	-2394.3	0.5	76855.5	100.2	-237265.1
	0.0	-2409.6	2.5	81503.9	499.0	-216880.6
	0.0	-2340.2	0.6	123460.1	131.0	-99126.5
	0.0	-2355.5	2.6	128108.5	529.8	-78742.1
	0.0	-2377.1	-1.6	72680.7	-324.0	-257115.2
	0.0	-2392.4	0.4	77329.1	74.8	-236730.7
175.	0.0	368.5	-0.6	122172.2	-15.0	-159240.3
	0.0	293.4	1.3	126797.6	39.2	-147372.5
	0.0	936.8	-2.8	71658.6	-79.3	-264792.4
	0.0	861.6	-0.9	76284.1	-25.1	-252924.6
	0.0	441.8	-2.7	118017.8	-73.4	-170600.7
	0.0	366.7	-0.7	122643.3	-19.2	-158733.0
	0.0	1010.1	-4.9	67504.3	-137.6	-276152.8
	0.0	935.0	-3.0	72129.7	-83.4	-264285.0
	0.0	304.9	2.7	127444.1	77.2	-257150.3
	0.0	229.7	4.7	132069.5	131.4	-245282.5
	0.0	873.1	0.5	76930.6	13.0	-362702.4
	0.0	798.0	2.5	81556.0	67.2	-350834.6
	0.0	378.2	0.6	123289.7	18.9	-268510.7
	0.0	303.1	2.6	127915.2	73.1	-256643.0
	0.0	946.5	-1.6	72776.2	-45.4	-374062.8
	0.0	871.3	0.4	77401.6	8.8	-362195.0
350.	0.0	1938.4	-0.6	119310.3	92.3	43421.9
	0.0	1841.8	1.3	123925.7	-196.4	39733.4
	0.0	2728.5	-2.8	68922.0	416.8	62072.0
	0.0	2631.9	-0.9	73537.4	128.1	58383.4
	0.0	2031.7	-2.7	115164.8	398.0	47148.8
	0.0	1935.2	-0.7	119780.2	109.2	43460.3
	0.0	2821.8	-4.9	64776.5	722.5	65798.8
	0.0	2725.3	-3.0	69391.9	433.7	62110.3
	0.0	2888.9	2.7	127608.1	-398.3	22903.8
	0.0	2792.3	4.7	132223.5	-687.1	19215.3
	0.0	3679.0	0.5	77219.8	-73.8	41553.8
	0.0	3582.4	2.5	81835.2	-362.6	37865.3
	0.0	2982.2	0.6	123462.6	-92.6	26630.7
	0.0	2885.7	2.6	128078.0	-381.4	22942.2
	0.0	3772.3	-1.6	73074.3	231.9	45280.7
	0.0	3675.8	0.4	77689.7	-56.9	41592.2

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3132.5	-0.8	-16464.6	-140.2	-26203.3
	0.0	-3207.0	1.6	-9651.4	254.7	1763.5
	0.0	-2409.5	-3.5	-81488.6	-569.2	-308673.3
	0.0	-2484.0	-1.1	-74675.4	-174.2	-280706.5
	0.0	-3062.0	-3.3	-22777.4	-552.5	-52646.0
	0.0	-3136.5	-0.9	-15964.3	-157.5	-24679.3
	0.0	-2339.0	-5.9	-87801.4	-981.4	-335116.0
	0.0	-2413.5	-3.6	-80988.3	-586.5	-307149.2
	0.0	-4749.1	3.3	150676.5	540.6	137290.2
	0.0	-4823.6	5.7	157489.7	935.6	165257.0
	0.0	-4026.0	0.6	85652.5	111.6	-145179.7
	0.0	-4100.5	3.0	92465.7	506.6	-117212.9
	0.0	-4678.6	0.8	144363.7	128.3	110847.5
	0.0	-4753.1	3.2	151176.8	523.3	138814.3
	0.0	-3955.5	-1.9	79339.7	-300.6	-171622.5
	0.0	-4030.0	0.5	86152.8	94.3	-143655.7
175.	0.0	-1.4	-0.8	-19381.3	-2.8	-296338.5
	0.0	-121.9	1.6	-12599.8	-20.5	-285914.8
	0.0	1188.5	-3.5	-84083.2	35.6	-406534.9
	0.0	1068.0	-1.1	-77301.7	17.9	-396111.2
	0.0	112.6	-3.3	-25665.0	19.6	-306183.5
	0.0	-7.9	-0.9	-18883.5	1.9	-295759.8
	0.0	1302.5	-5.9	-90367.0	58.0	-416379.9
	0.0	1182.0	-3.6	-83585.5	40.3	-405956.2
	0.0	-1715.7	3.3	149746.6	-37.2	-422690.1
	0.0	-1836.2	5.7	156528.1	-54.8	-412266.4
	0.0	-525.8	0.6	85044.7	1.2	-532886.5
	0.0	-646.3	3.0	91826.1	-16.5	-522462.9
	0.0	-1601.7	0.8	143462.8	-14.7	-432535.1
	0.0	-1722.2	3.2	150244.3	-32.4	-422111.5
	0.0	-411.8	-1.9	78760.9	23.7	-542731.5
	0.0	-532.3	0.5	85542.4	6.0	-532307.9
350.	0.0	2894.4	-0.8	-22351.9	134.6	-40424.5
	0.0	2757.9	1.6	-15583.2	-296.3	-52907.5
	0.0	4244.5	-3.5	-86912.0	641.3	75885.8
	0.0	4108.0	-1.1	-80143.3	210.5	63402.8
	0.0	3023.5	-3.3	-28624.1	592.4	-28602.7
	0.0	2887.0	-0.9	-21855.4	161.5	-41085.7
	0.0	4373.6	-6.0	-93184.1	1099.2	87707.6
	0.0	4237.1	-3.6	-86415.4	668.3	75224.6
	0.0	990.0	3.3	149233.6	-616.0	-482627.5
	0.0	853.5	5.7	156002.3	-1046.9	-495110.5
	0.0	2340.0	0.6	84673.6	-109.2	-366317.2
	0.0	2203.6	3.0	91442.3	-540.1	-378800.2
	0.0	1119.0	0.8	142961.4	-158.1	-470805.7
	0.0	982.6	3.2	149730.1	-589.0	-483288.7
	0.0	2469.1	-1.9	78401.4	348.6	-354495.4
	0.0	2332.7	0.5	85170.1	-82.3	-366978.4

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4242.1	0.6	-191583.7	105.1	66573.5

	0.0	-4178.3	2.8	-183468.5	459.8	41441.9
	0.0	-3727.6	-4.5	-132188.8	-735.6	-145653.3
	0.0	-3663.8	-2.3	-124073.6	-380.9	-170784.9
	0.0	-4302.2	-1.7	-199124.4	-261.0	90256.4
	0.0	-4238.4	0.5	-191009.2	93.6	65124.8
	0.0	-3787.7	-6.8	-139729.5	-1101.7	-121970.3
	0.0	-3723.8	-4.6	-131614.4	-747.1	-147101.9
	0.0	-2476.6	4.3	-22580.0	702.1	-115659.8
	0.0	-2412.8	6.5	-14464.8	1056.8	-140791.4
	0.0	-1962.1	-0.8	36814.9	-138.5	-327886.5
	0.0	-1898.3	1.4	44930.1	216.1	-353018.1
	0.0	-2536.7	2.0	-30120.7	336.0	-91976.8
	0.0	-2472.8	4.2	-22005.5	690.6	-117108.4
	0.0	-2022.2	-3.1	29274.2	-504.7	-304203.6
	0.0	-1958.3	-0.9	37389.3	-150.0	-329335.2
175.	0.0	-1401.4	0.6	-190652.4	1.3	-422150.1
	0.0	-1293.4	2.8	-182573.8	-27.1	-431790.5
	0.0	-516.6	-4.5	-131550.4	44.2	-508068.1
	0.0	-408.6	-2.3	-123471.8	15.8	-517708.6
	0.0	-1503.1	-1.7	-198159.2	36.6	-413049.4
	0.0	-1395.1	0.5	-190080.6	8.3	-422689.9
	0.0	-618.3	-6.7	-139057.1	79.5	-498967.5
	0.0	-510.3	-4.6	-130978.5	51.2	-508607.9
	0.0	499.5	4.3	-19471.1	-49.2	-285424.8
	0.0	607.5	6.5	-11392.5	-77.5	-295065.3
	0.0	1384.2	-0.8	39630.9	-6.3	-371342.9
	0.0	1492.2	1.4	47709.5	-34.6	-380983.3
	0.0	397.8	2.0	-26977.9	-13.8	-276324.2
	0.0	505.8	4.2	-18899.3	-42.2	-285964.6
	0.0	1282.5	-3.0	32124.2	29.0	-362242.3
	0.0	1390.5	-0.9	40202.8	0.7	-371882.7
350.	0.0	1155.6	0.6	-190252.0	-102.5	-440725.0
	0.0	1279.0	2.8	-182187.5	-514.7	-429716.9
	0.0	2167.2	-4.5	-131278.1	825.3	-357325.9
	0.0	2290.6	-2.3	-123213.6	413.0	-346317.8
	0.0	1039.3	-1.7	-197745.7	335.5	-451071.9
	0.0	1162.7	0.5	-189681.2	-76.8	-440063.8
	0.0	2051.0	-6.8	-138771.9	1263.2	-367672.8
	0.0	2174.4	-4.6	-130707.4	851.0	-356664.7
	0.0	3299.7	4.3	-16416.5	-802.0	48981.3
	0.0	3423.1	6.5	-8352.0	-1214.3	59989.4
	0.0	4311.4	-0.8	42557.3	125.7	132380.4
	0.0	4434.8	1.4	50621.8	-286.5	143388.5
	0.0	3183.5	2.0	-23910.3	-364.1	38634.4
	0.0	3306.9	4.2	-15845.8	-776.3	49642.5
	0.0	4195.1	-3.1	35063.6	563.7	122033.5
	0.0	4318.5	-0.9	43128.1	151.4	133041.6

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2119.3	0.9	-126738.3	192.4	-103778.8
	0.0	-2086.7	3.9	-119650.2	789.5	-129020.3
	0.0	-2150.0	-5.9	-64422.7	-1196.3	-235493.2
	0.0	-2117.5	-3.0	-57334.7	-599.2	-260734.6
	0.0	-2153.3	-2.2	-133175.4	-443.9	-79170.0
	0.0	-2120.8	0.8	-126087.4	153.2	-104411.4
	0.0	-2184.1	-9.1	-70859.9	-1832.6	-210884.3
	0.0	-2151.6	-6.1	-63771.8	-1235.5	-236125.7
	0.0	-701.6	5.7	-127825.7	1158.9	-124441.9
	0.0	-669.1	8.7	-120737.7	1756.0	-149683.4
	0.0	-732.4	-1.1	-65510.2	-229.9	-256156.3
	0.0	-699.9	1.8	-58422.1	367.2	-281397.7
	0.0	-735.7	2.6	-134262.9	522.6	-99833.1
	0.0	-703.2	5.5	-127174.9	1119.7	-125074.5
	0.0	-766.5	-4.3	-71947.4	-866.2	-231547.4
	0.0	-733.9	-1.3	-64859.3	-269.0	-256788.9

175.	0.0	519.1	0.9	-127288.7	27.1	-243169.4
	0.0	616.1	3.9	-120233.2	109.8	-256419.9
	0.0	1012.8	-5.9	-65284.9	-164.3	-329233.4
	0.0	1109.8	-2.9	-58229.5	-81.6	-342483.9
	0.0	424.4	-2.2	-133696.2	-62.5	-230443.4
	0.0	521.5	0.8	-126640.8	20.2	-243693.9
	0.0	918.1	-9.0	-71692.4	-253.9	-316507.4
	0.0	1015.1	-6.1	-64637.0	-171.3	-329757.9
	0.0	698.7	5.7	-124660.7	159.4	-124475.1
	0.0	795.8	8.6	-117605.2	242.1	-137725.6
	0.0	1192.4	-1.1	-62656.9	-32.0	-210539.1
	0.0	1289.5	1.8	-55601.5	50.7	-223789.6
	0.0	604.1	2.6	-131068.2	69.8	-111749.1
	0.0	701.1	5.5	-124012.7	152.5	-124999.6
	0.0	1097.7	-4.2	-69064.4	-121.6	-197813.1
	0.0	1194.8	-1.3	-62009.0	-38.9	-211063.6
350.	0.0	3152.3	0.9	-128192.7	-137.3	77686.8
	0.0	3272.2	3.9	-121150.3	-566.5	83994.0
	0.0	3839.4	-5.9	-66328.1	862.5	99566.6
	0.0	3959.3	-2.9	-59285.6	433.3	105873.8
	0.0	3036.2	-2.2	-134588.4	316.9	71420.6
	0.0	3156.1	0.8	-127545.9	-112.3	77727.8
	0.0	3723.2	-9.0	-72723.8	1316.8	93300.4
	0.0	3843.1	-6.1	-65681.3	887.6	99607.6
	0.0	2105.0	5.7	-121843.5	-835.0	120567.4
	0.0	2224.9	8.6	-114801.0	-1264.2	126874.6
	0.0	2792.0	-1.1	-59978.8	164.9	142447.2
	0.0	2911.9	1.8	-52936.4	-264.3	148754.4
	0.0	1988.8	2.6	-128239.1	-380.7	114301.2
	0.0	2108.7	5.5	-121196.7	-809.9	120608.4
	0.0	2675.9	-4.2	-66374.5	619.1	136181.0
	0.0	2795.8	-1.3	-59332.0	189.9	142488.2

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2959.0	-0.5	-77684.9	-82.5	241384.3
	0.0	-2953.5	1.1	-82493.1	182.2	240773.2
	0.0	-3020.0	-2.4	-33106.0	-390.5	247858.9
	0.0	-3014.5	-0.8	-37914.2	-125.8	247247.8
	0.0	-2964.1	-2.2	-73241.2	-363.7	241966.2
	0.0	-2958.6	-0.6	-78049.4	-99.0	241355.1
	0.0	-3025.2	-4.1	-28662.2	-671.7	248440.9
	0.0	-3019.7	-2.5	-33470.4	-407.0	247829.8
	0.0	-2307.5	2.3	-78902.7	373.9	-61735.2
	0.0	-2302.0	3.9	-83710.9	638.5	-62346.2
	0.0	-2368.6	0.4	-34323.7	65.9	-55260.5
	0.0	-2363.0	2.0	-39131.9	330.5	-55871.6
	0.0	-2312.7	0.6	-74458.9	92.7	-61153.2
	0.0	-2307.2	2.2	-79267.1	357.3	-61764.3
	0.0	-2373.7	-1.3	-29880.0	-215.3	-54678.5
	0.0	-2368.2	0.3	-34688.2	49.4	-55289.6
195.	0.0	-894.6	-0.5	-78049.0	10.9	-145431.8
	0.0	-892.2	1.1	-82671.4	-33.8	-145285.6
	0.0	-919.2	-2.4	-35324.3	71.0	-147050.1
	0.0	-916.7	-0.8	-39946.7	26.3	-146903.9
	0.0	-897.0	-2.2	-73780.3	59.8	-145568.4
	0.0	-894.6	-0.6	-78402.7	15.1	-145422.1
	0.0	-921.5	-4.1	-31055.6	119.8	-147186.7
	0.0	-919.1	-2.5	-35678.0	75.1	-147040.4
	0.0	533.2	2.3	-79103.8	-69.6	-234387.7
	0.0	535.6	3.9	-83726.2	-114.3	-234241.4
	0.0	508.6	0.4	-36379.1	-9.5	-236006.0
	0.0	511.1	2.0	-41001.5	-54.2	-235859.7
	0.0	530.8	0.6	-74835.0	-20.7	-234524.2
	0.0	533.2	2.2	-79457.4	-65.4	-234378.0
	0.0	506.3	-1.3	-32110.3	39.3	-236142.5

	0.0	508.7	0.3	-36732.7	-5.4	-235996.3
390.	0.0	1864.4	-0.5	-78682.8	104.8	-62615.1
	0.0	1864.8	1.1	-83135.4	-251.4	-62206.5
	0.0	1861.0	-2.4	-37664.7	535.9	-66710.7
	0.0	1861.4	-0.8	-42117.3	179.6	-66302.1
	0.0	1863.9	-2.2	-74574.3	486.1	-63014.3
	0.0	1864.3	-0.6	-79026.9	129.9	-62605.8
	0.0	1860.5	-4.1	-33556.2	917.2	-67109.9
	0.0	1861.0	-2.5	-38008.8	560.9	-66701.4
	0.0	3399.6	2.3	-79578.3	-516.5	148030.5
	0.0	3400.0	3.9	-84030.8	-872.7	148439.0
	0.0	3396.2	0.4	-38560.2	-85.4	143934.9
	0.0	3396.6	2.0	-43012.7	-441.7	144343.4
	0.0	3399.1	0.6	-75469.7	-135.1	147631.2
	0.0	3399.5	2.2	-79922.3	-491.4	148039.8
	0.0	3395.7	-1.3	-34451.6	295.9	143535.6
	0.0	3396.1	0.3	-38904.2	-60.3	143944.2

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3608.2	0.4	91277.6	88.2	93486.4
	0.0	-3610.0	2.0	83595.2	450.2	93492.6
	0.0	-3622.5	-3.2	40596.2	-714.8	92393.4
	0.0	-3624.3	-1.6	32913.8	-352.8	92399.7
	0.0	-3606.4	-1.3	98477.2	-299.8	93465.0
	0.0	-3608.2	0.3	90794.9	62.2	93471.3
	0.0	-3620.6	-4.9	47795.8	-1102.8	92372.1
	0.0	-3622.5	-3.3	40113.4	-740.8	92378.3
	0.0	-1710.9	3.1	87844.6	699.4	-120046.6
	0.0	-1712.7	4.7	80162.2	1061.4	-120040.4
	0.0	-1725.2	-0.5	37163.1	-103.6	-121139.5
	0.0	-1727.0	1.1	29480.8	258.4	-121133.3
	0.0	-1709.1	1.4	95044.2	311.4	-120067.9
	0.0	-1710.9	3.0	87361.8	673.4	-120061.7
	0.0	-1723.3	-2.2	44362.7	-491.6	-121160.8
	0.0	-1725.2	-0.6	36680.4	-129.6	-121154.6
210.	0.0	-642.0	0.4	90994.1	0.4	-352982.6
	0.0	-641.6	2.0	83130.3	24.6	-353139.1
	0.0	-637.2	-3.2	38822.0	-44.4	-355321.9
	0.0	-636.7	-1.6	30958.2	-20.3	-355478.4
	0.0	-642.3	-1.3	98364.7	-27.2	-352829.4
	0.0	-641.9	0.3	90500.9	-3.1	-352985.9
	0.0	-637.5	-4.9	46192.6	-72.1	-355168.7
	0.0	-637.0	-3.3	38328.8	-48.0	-355325.2
	0.0	1150.1	3.1	87402.8	45.2	-164605.5
	0.0	1150.5	4.7	79539.0	69.4	-164762.0
	0.0	1154.9	-0.5	35230.7	0.3	-166944.8
	0.0	1155.3	1.1	27366.9	24.5	-167101.3
	0.0	1149.8	1.4	94773.4	17.5	-164452.3
	0.0	1150.2	3.0	86909.6	41.7	-164608.8
	0.0	1154.6	-2.2	42601.3	-27.3	-166791.6
	0.0	1155.0	-0.6	34737.5	-3.2	-166948.1
420.	0.0	2419.8	0.4	91075.1	-87.4	-169733.1
	0.0	2423.4	2.0	82998.4	-399.5	-169480.0
	0.0	2459.2	-3.2	37203.3	623.0	-167703.4
	0.0	2462.8	-1.6	29126.6	310.9	-167450.4
	0.0	2416.5	-1.3	98646.2	243.5	-169940.1
	0.0	2420.1	0.3	90569.5	-68.5	-169687.0
	0.0	2455.9	-4.9	44774.4	953.9	-167910.4
	0.0	2459.5	-3.3	36697.7	641.8	-167657.3
	0.0	3234.0	3.1	87311.2	-606.1	309036.3
	0.0	3237.6	4.7	79234.4	-918.2	309289.4
	0.0	3273.4	-0.5	33439.4	104.3	311066.0
	0.0	3277.0	1.1	25362.7	-207.8	311319.0
	0.0	3230.7	1.4	94882.2	-275.1	308829.3
	0.0	3234.4	3.0	86805.5	-587.2	309082.4
	0.0	3270.1	-2.2	41010.5	435.2	310859.0
	0.0	3273.8	-0.6	32933.7	123.1	311112.1

Asta	15	nodi	3	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4193.4	-0.1	11328.2	-18.9	274947.5
	0.0	-4222.5	0.1	12881.7	33.3	290532.2
	0.0	-3770.9	-0.2	-3188.2	-70.1	63933.1
	0.0	-3799.9	-0.1	-1634.6	-17.9	79517.7
	0.0	-4166.5	-0.2	9880.5	-68.5	260409.7
	0.0	-4195.6	-0.1	11434.1	-16.3	275994.4
	0.0	-3744.0	-0.4	-4635.9	-119.7	49395.2
	0.0	-3773.0	-0.2	-3082.3	-67.5	64979.9
	0.0	-3973.5	0.2	13998.6	61.7	244339.9
	0.0	-4002.5	0.4	15552.2	113.9	259924.5
	0.0	-3551.0	0.0	-517.8	10.4	33325.4
	0.0	-3580.0	0.2	1035.8	62.6	48910.1
	0.0	-3946.6	0.0	12550.9	12.0	229802.0
	0.0	-3975.6	0.2	14104.5	64.2	245386.7
	0.0	-3524.1	-0.1	-1965.4	-39.2	18787.5
	0.0	-3553.1	0.0	-411.9	13.0	34372.2
385.	0.0	-198.8	0.0	11014.8	0.0	-529984.5
	0.0	-241.8	0.1	12561.6	0.0	-529385.6
	0.0	377.6	-0.1	-3439.3	0.0	-535928.6
	0.0	334.6	0.0	-1892.5	0.0	-535329.7
	0.0	-158.6	-0.1	9573.4	0.0	-530544.1
	0.0	-201.6	0.0	11120.2	0.0	-529945.2
	0.0	417.8	-0.2	-4880.7	0.0	-536488.3
	0.0	374.8	-0.1	-3333.8	0.0	-535889.4
	0.0	-253.9	0.1	13742.8	0.0	-529755.3
	0.0	-296.9	0.2	15289.6	0.0	-529156.4
	0.0	322.5	0.0	-711.3	0.0	-535699.4
	0.0	279.5	0.1	835.5	0.0	-535100.5
	0.0	-213.7	0.0	12301.4	0.0	-530314.9
	0.0	-256.7	0.1	13848.2	0.0	-529716.0
	0.0	362.7	-0.1	-2152.7	0.0	-536259.0
	0.0	319.7	0.0	-605.8	0.0	-535660.2
770.	0.0	3191.6	-0.1	10792.5	19.9	42264.5
	0.0	3163.1	0.1	12345.3	-31.9	28064.2
	0.0	3605.9	-0.2	-3718.8	70.3	238865.7
	0.0	3577.4	-0.1	-2165.9	18.5	224665.4
	0.0	3218.1	-0.2	9345.5	68.9	55514.9
	0.0	3189.6	-0.1	10898.3	17.1	41314.6
	0.0	3632.4	-0.4	-5165.8	119.3	252116.1
	0.0	3603.9	-0.2	-3612.9	67.4	237915.8
	0.0	2919.9	0.2	13600.6	-60.2	-23661.4
	0.0	2891.4	0.4	15153.5	-112.1	-37861.7
	0.0	3334.3	0.0	-910.7	-9.9	172939.9
	0.0	3305.7	0.2	642.2	-61.7	158739.5
	0.0	2946.4	0.0	12153.6	-11.3	-10410.9
	0.0	2917.9	0.2	13706.5	-63.1	-24611.2
	0.0	3360.7	-0.1	-2357.7	39.1	186190.3
	0.0	3332.2	0.0	-804.8	-12.7	171990.0

Asta	16	nodi	4	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4336.5	0.0	4043.5	-8.3	220693.9
	0.0	-4357.7	0.1	4763.9	38.2	230545.7
	0.0	-3837.6	-0.2	-2186.9	-70.3	4804.3
	0.0	-3858.8	-0.1	-1466.5	-23.8	14656.0
	0.0	-4316.9	-0.2	3380.0	-51.2	211560.0
	0.0	-4338.1	0.0	4100.4	-4.7	221411.7
	0.0	-3818.0	-0.4	-2850.4	-113.3	-4329.6
	0.0	-3839.3	-0.2	-2130.0	-66.8	5522.1
	0.0	-4204.1	0.2	5467.0	61.3	212884.1
	0.0	-4225.4	0.4	6187.4	107.8	222735.9

	0.0	-3705.3	0.0	-763.4	-0.8	-3005.5
	0.0	-3726.5	0.2	-43.1	45.7	6846.2
	0.0	-4184.6	0.1	4803.5	18.3	203750.2
	0.0	-4205.8	0.2	5523.9	64.9	213601.9
	0.0	-3685.7	-0.1	-1426.9	-43.7	-12139.4
	0.0	-3706.9	0.0	-706.6	2.8	-2287.7
385.	0.0	-182.9	0.0	3954.8	0.0	-600285.8
	0.0	-209.3	0.1	4672.0	0.0	-600057.3
	0.0	387.0	-0.1	-2248.7	0.0	-603239.5
	0.0	360.6	0.0	-1531.5	0.0	-603011.0
	0.0	-158.4	-0.1	3294.2	0.0	-600498.8
	0.0	-184.8	0.0	4011.5	0.0	-600270.3
	0.0	411.5	-0.2	-2909.3	0.0	-603452.4
	0.0	385.1	-0.1	-2192.1	0.0	-603224.0
	0.0	-221.0	0.1	5401.4	0.0	-590736.5
	0.0	-247.3	0.2	6118.6	0.0	-590508.1
	0.0	349.0	0.0	-802.2	0.0	-593690.2
	0.0	322.6	0.1	-84.9	0.0	-593461.7
	0.0	-196.5	0.0	4740.8	0.0	-590949.5
	0.0	-222.8	0.1	5458.0	0.0	-590721.1
	0.0	373.5	-0.1	-1462.7	0.0	-593903.2
	0.0	347.1	0.0	-745.5	0.0	-593674.7
770.	0.0	3254.8	0.0	3898.8	8.5	-14044.3
	0.0	3233.9	0.1	4618.8	-37.9	-23343.0
	0.0	3747.7	-0.2	-2329.1	70.9	194308.0
	0.0	3726.8	-0.1	-1609.1	24.5	185009.3
	0.0	3274.1	-0.2	3235.7	51.6	-5422.7
	0.0	3253.2	0.0	3955.7	5.2	-14721.4
	0.0	3767.0	-0.4	-2992.2	114.0	202929.6
	0.0	3746.1	-0.2	-2272.3	67.6	193631.0
	0.0	3068.3	0.2	5380.4	-61.9	-48607.9
	0.0	3047.4	0.4	6100.4	-108.3	-57906.6
	0.0	3561.2	0.0	-847.5	0.5	159744.4
	0.0	3540.3	0.2	-127.5	-45.9	150445.8
	0.0	3087.6	0.1	4717.3	-18.8	-39986.3
	0.0	3066.7	0.2	5437.3	-65.2	-49284.9
	0.0	3580.5	-0.1	-1510.6	43.6	168366.1
	0.0	3559.6	0.0	-790.6	-2.8	159067.4

Asta	17	nodi	5	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4311.4	0.0	-1728.6	-0.8	204381.4
	0.0	-4312.8	0.2	-1183.9	54.2	205166.9
	0.0	-3818.3	-0.3	-2736.9	-91.3	-925.0
	0.0	-3819.7	-0.1	-2192.2	-36.3	-139.6
	0.0	-4310.2	-0.2	-2240.2	-50.7	203645.6
	0.0	-4311.5	0.0	-1695.4	4.3	204431.1
	0.0	-3817.0	-0.5	-3248.4	-141.2	-1660.9
	0.0	-3818.4	-0.3	-2703.7	-86.2	-875.4
	0.0	-4284.4	0.3	-609.0	80.0	201052.4
	0.0	-4285.8	0.5	-64.3	135.0	201837.8
	0.0	-3791.3	0.0	-1617.3	-10.5	-4254.1
	0.0	-3792.6	0.1	-1072.5	44.5	-3468.6
	0.0	-4283.1	0.1	-1120.5	30.1	200316.6
	0.0	-4284.5	0.3	-575.8	85.1	201102.0
	0.0	-3790.0	-0.2	-2128.8	-60.4	-4989.9
	0.0	-3791.4	0.0	-1584.1	-5.4	-4204.4
385.	0.0	-186.8	0.0	-1648.5	0.0	-610663.8
	0.0	-189.1	0.1	-1106.1	0.0	-610663.3
	0.0	349.3	-0.2	-2652.5	0.0	-612657.9
	0.0	347.0	-0.1	-2110.1	0.0	-612657.5
	0.0	-184.6	-0.1	-2157.8	0.0	-610667.3
	0.0	-186.9	0.0	-1615.4	0.0	-610666.8
	0.0	351.5	-0.3	-3161.8	0.0	-612661.4
	0.0	349.2	-0.2	-2619.4	0.0	-612661.0
	0.0	-189.3	0.2	-562.2	0.0	-609345.9
	0.0	-191.6	0.3	-19.8	0.0	-609345.4
	0.0	346.8	0.0	-1566.1	0.0	-611340.0
	0.0	344.5	0.1	-1023.8	0.0	-611339.6
	0.0	-187.1	0.1	-1071.5	0.0	-609349.4
	0.0	-189.4	0.2	-529.1	0.0	-609348.9
	0.0	349.0	-0.1	-2075.5	0.0	-611343.6
	0.0	346.7	0.0	-1533.1	0.0	-611343.1
770.	0.0	3194.6	0.0	-1581.9	0.9	-36885.2
	0.0	3193.3	0.2	-1037.4	-53.8	-37665.8
	0.0	3682.4	-0.3	-2590.0	91.0	163064.2
	0.0	3681.0	-0.1	-2045.4	36.3	162283.6
	0.0	3195.9	-0.2	-2093.3	50.5	-36154.1
	0.0	3194.5	0.0	-1548.8	-4.2	-36934.7
	0.0	3683.6	-0.5	-3101.3	140.6	163795.2
	0.0	3682.3	-0.3	-2556.8	85.9	163014.7
	0.0	3165.6	0.3	-520.0	-79.5	-41786.7
	0.0	3164.2	0.4	24.6	-134.2	-42567.3
	0.0	3653.3	0.0	-1528.0	10.6	158162.6
	0.0	3651.9	0.1	-983.5	-44.1	157382.1
	0.0	3166.8	0.1	-1031.3	-29.9	-41055.6
	0.0	3165.5	0.3	-486.8	-84.6	-41836.2
	0.0	3654.6	-0.2	-2039.4	60.2	158893.7
	0.0	3653.2	0.0	-1494.8	5.5	158113.2

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4029.1	0.0	-8458.0	11.1	208356.9
	0.0	-4013.1	0.2	-7387.9	60.4	199972.7
	0.0	-3589.0	-0.3	-1355.7	-93.3	16088.5
	0.0	-3573.0	-0.1	-285.6	-43.9	7704.3
	0.0	-4043.4	-0.1	-9457.5	-34.7	215991.4
	0.0	-4027.4	0.0	-8387.4	14.6	207607.2
	0.0	-3603.3	-0.5	-2355.2	-139.0	23723.0
	0.0	-3587.3	-0.3	-1285.1	-89.7	15338.8
	0.0	-4334.1	0.3	-6284.8	84.1	234804.4
	0.0	-4318.1	0.4	-5214.7	133.4	226420.3
	0.0	-3894.0	-0.1	817.5	-20.3	42536.1
	0.0	-3878.0	0.1	1887.7	29.0	34151.9
	0.0	-4348.5	0.1	-7284.3	38.3	242439.0
	0.0	-4332.4	0.3	-6214.2	87.6	234054.8
	0.0	-3908.3	-0.2	-182.0	-66.1	50170.6
	0.0	-3892.3	-0.1	888.2	-16.7	41786.4
385.	0.0	-217.7	0.0	-8350.3	0.0	-563573.4
	0.0	-194.6	0.1	-7284.8	0.0	-563850.2
	0.0	291.2	-0.2	-1278.3	0.0	-566376.9
	0.0	314.3	-0.1	-212.8	0.0	-566653.6
	0.0	-238.9	-0.1	-9345.5	0.0	-563322.1
	0.0	-215.8	0.0	-8280.0	0.0	-563598.9
	0.0	270.0	-0.3	-2273.5	0.0	-566125.6
	0.0	293.2	-0.2	-1208.0	0.0	-566402.3
	0.0	-185.0	0.2	-6210.5	0.0	-588106.6
	0.0	-161.9	0.3	-5145.0	0.0	-588383.3
	0.0	323.9	0.0	861.5	0.0	-590910.0
	0.0	347.0	0.1	1927.0	0.0	-591186.8
	0.0	-206.2	0.1	-7205.7	0.0	-587855.3
	0.0	-183.1	0.2	-6140.2	0.0	-588132.0
	0.0	302.7	-0.1	-133.6	0.0	-590658.7
	0.0	325.8	0.0	931.9	0.0	-590935.5
770.	0.0	2941.3	0.0	-8311.6	-10.7	-45242.8
	0.0	2957.0	0.2	-7242.0	-59.9	-37520.4
	0.0	3376.1	-0.3	-1211.4	92.9	139940.9
	0.0	3391.8	-0.1	-141.8	43.8	147663.3
	0.0	2927.4	-0.1	-9310.7	35.2	-52262.1
	0.0	2943.1	0.0	-8241.0	-14.0	-44539.7
	0.0	3362.2	-0.5	-2210.5	138.8	132921.7
	0.0	3377.9	-0.3	-1140.9	89.7	140644.1

	0.0	3279.6	0.3	-6187.5	-84.7	2490.4
	0.0	3295.3	0.4	-5117.9	-133.8	10212.8
	0.0	3714.4	-0.1	912.7	18.9	187674.1
	0.0	3730.1	0.1	1982.3	-30.2	195396.5
	0.0	3265.7	0.1	-7186.6	-38.8	-4528.9
	0.0	3281.4	0.3	-6116.9	-87.9	3193.5
	0.0	3700.5	-0.2	-86.4	64.8	180654.9
	0.0	3716.2	-0.1	983.2	15.7	188377.3

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3623.2	0.1	-19576.1	16.9	212720.9
	0.0	-3603.7	0.2	-17903.7	60.3	200001.9
	0.0	-3319.8	-0.3	-6110.5	-90.3	50863.7
	0.0	-3300.3	-0.2	-4438.0	-46.9	38144.8
	0.0	-3641.0	-0.1	-21125.1	-24.9	224492.2
	0.0	-3621.5	0.1	-19452.6	18.5	211773.3
	0.0	-3337.6	-0.4	-7659.4	-132.1	62635.1
	0.0	-3318.1	-0.3	-5986.9	-88.7	49916.1
	0.0	-3998.4	0.3	-16876.2	83.1	267489.6
	0.0	-3978.9	0.4	-15203.7	126.5	254770.7
	0.0	-3695.0	-0.1	-3410.5	-24.1	105632.5
	0.0	-3675.5	0.1	-1738.1	19.3	92913.5
	0.0	-4016.2	0.1	-18425.1	41.3	279261.0
	0.0	-3996.7	0.3	-16752.6	84.8	266542.0
	0.0	-3712.8	-0.2	-4959.4	-65.9	117403.8
	0.0	-3693.2	-0.1	-3287.0	-22.5	104684.9
385.	0.0	-209.4	0.0	-19252.3	0.0	-490313.7
	0.0	-172.9	0.1	-17587.1	0.0	-490959.3
	0.0	240.4	-0.2	-5843.9	0.0	-495464.0
	0.0	276.9	-0.1	-4178.7	0.0	-496109.6
	0.0	-243.3	0.0	-20794.5	0.0	-489713.7
	0.0	-206.8	0.0	-19129.3	0.0	-490359.3
	0.0	206.5	-0.3	-7386.0	0.0	-494864.0
	0.0	243.0	-0.2	-5720.8	0.0	-495509.6
	0.0	-166.8	0.2	-16414.9	0.0	-498362.7
	0.0	-130.3	0.2	-14749.7	0.0	-499008.4
	0.0	283.0	0.0	-3006.4	0.0	-503513.1
	0.0	319.5	0.0	-1341.3	0.0	-504158.7
	0.0	-200.7	0.1	-17957.0	0.0	-497762.7
	0.0	-164.2	0.2	-16291.9	0.0	-498408.3
	0.0	249.1	-0.1	-4548.6	0.0	-502913.1
	0.0	285.6	0.0	-2883.4	0.0	-503558.7
770.	0.0	2764.6	0.1	-19087.7	-17.6	-6967.0
	0.0	2783.7	0.2	-17416.0	-60.9	4278.4
	0.0	3060.3	-0.3	-5625.6	89.3	142291.2
	0.0	3079.4	-0.2	-3953.9	46.1	153536.7
	0.0	2747.3	-0.1	-20635.8	23.6	-17357.1
	0.0	2766.4	0.1	-18964.2	-19.6	-6111.6
	0.0	3043.0	-0.4	-7173.8	130.6	131901.2
	0.0	3062.1	-0.3	-5502.1	87.3	143146.6
	0.0	3152.8	0.3	-16089.3	-83.1	71612.2
	0.0	3171.9	0.4	-14417.6	-126.3	82857.6
	0.0	3448.5	-0.1	-2627.2	23.9	220870.4
	0.0	3467.6	0.1	-955.6	-19.4	232115.9
	0.0	3135.5	0.1	-17637.5	-41.8	61222.1
	0.0	3154.6	0.3	-15965.8	-85.1	72467.6
	0.0	3431.2	-0.2	-4175.4	65.1	210480.4
	0.0	3450.3	-0.1	-2503.7	21.8	221725.8

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2206.0	-0.5	26800.5	-88.8	38033.6
	0.0	-2331.9	1.0	31563.8	177.8	58501.1
	0.0	-1175.3	-2.2	-29084.7	-390.2	-122752.7
	0.0	-1301.1	-0.7	-24321.4	-123.6	-102285.1
	0.0	-2084.4	-2.1	22565.5	-371.0	18183.5
	0.0	-2210.2	-0.6	27328.8	-104.4	38651.1
	0.0	-1053.6	-3.8	-33319.7	-672.4	-142602.7
	0.0	-1179.5	-2.3	-28556.4	-405.8	-122135.1
	0.0	-3701.1	2.1	10044.9	372.3	62429.7
	0.0	-3827.0	3.6	14808.2	639.0	82897.3
	0.0	-2670.4	0.4	-45840.3	70.9	-98356.5
	0.0	-2796.2	1.9	-41077.0	337.5	-77888.9
	0.0	-3579.5	0.5	5809.9	90.2	42579.7
	0.0	-3705.3	2.0	10573.2	356.8	63047.3
	0.0	-2548.7	-1.2	-50075.3	-211.2	-118206.5
	0.0	-2674.6	0.3	-45312.0	55.4	-97738.9
210.	0.0	-371.4	-0.5	23617.6	16.6	-232194.6
	0.0	-476.7	1.0	28386.1	-34.1	-236825.4
	0.0	459.4	-2.2	-32313.7	77.3	-189042.4
	0.0	354.1	-0.7	-27545.2	26.7	-193673.2
	0.0	-269.2	-2.1	19377.9	71.0	-227764.3
	0.0	-374.5	-0.6	24146.4	20.3	-232395.0
	0.0	561.6	-3.8	-36553.4	131.7	-184612.1
	0.0	456.3	-2.3	-31785.0	81.1	-189242.9
	0.0	-606.4	2.1	10475.6	-74.7	-390720.4
	0.0	-711.7	3.6	15244.0	-125.4	-395351.2
	0.0	224.4	0.4	-45455.8	-14.0	-347568.2
	0.0	119.1	1.9	-40687.3	-64.7	-352199.0
	0.0	-504.2	0.5	6235.8	-20.4	-386290.1
	0.0	-609.5	2.0	11004.3	-71.0	-390920.9
	0.0	326.6	-1.2	-49695.5	40.4	-343137.9
	0.0	221.3	0.3	-44927.1	-10.3	-347768.7
420.	0.0	1497.7	-0.5	20529.4	123.1	-115709.2
	0.0	1460.3	1.0	25322.2	-248.2	-136192.2
	0.0	1643.5	-2.3	-35672.1	550.0	38815.1
	0.0	1606.1	-0.7	-30879.4	178.7	18332.1
	0.0	1536.1	-2.1	16267.9	517.6	-95696.6
	0.0	1498.7	-0.6	21060.6	146.3	-116179.6
	0.0	1681.9	-3.9	-39933.7	944.5	58827.7
	0.0	1644.5	-2.4	-35140.9	573.2	38344.7
	0.0	2634.4	2.2	10948.2	-526.7	-182282.3
	0.0	2597.0	3.7	15741.0	-898.0	-202765.3
	0.0	2780.2	0.4	-45253.3	-99.8	-27758.0
	0.0	2742.8	1.9	-40460.6	-471.1	-48241.0
	0.0	2672.8	0.5	6686.7	-132.2	-162269.6
	0.0	2635.4	2.1	11479.4	-503.5	-182752.6
	0.0	2818.6	-1.2	-49514.9	294.7	-7745.3
	0.0	2781.2	0.3	-44722.1	-76.6	-28228.3

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4379.1	-0.6	157027.8	-115.4	169035.7
	0.0	-4541.7	1.2	163473.3	269.4	198192.6
	0.0	-2740.3	-2.6	89928.3	-572.6	-118428.5
	0.0	-2902.9	-0.8	96373.8	-187.8	-89271.6
	0.0	-4225.7	-2.4	151133.9	-525.1	141529.1
	0.0	-4388.3	-0.7	157579.5	-140.3	170686.0
	0.0	-2586.9	-4.5	84034.4	-982.4	-145935.1
	0.0	-2749.5	-2.7	90480.0	-597.6	-116778.3
	0.0	-3157.5	2.5	16399.4	549.7	-214327.1
	0.0	-3320.0	4.3	22844.9	934.5	-185170.2
	0.0	-1518.6	0.4	-50700.1	92.5	-501791.4
	0.0	-1681.2	2.2	-44254.6	477.3	-472634.5
	0.0	-3004.0	0.6	10505.5	140.0	-241833.8
	0.0	-3166.6	2.4	16951.1	524.8	-212676.9
	0.0	-1365.2	-1.5	-56594.0	-317.3	-529298.0
	0.0	-1527.8	0.3	-50148.4	67.5	-500141.1
210.	0.0	-1102.7	-0.5	153738.6	0.1	-403571.7
	0.0	-1247.9	1.2	160193.1	11.7	-407353.6
	0.0	357.6	-2.6	86566.8	-24.8	-359229.1

	0.0	212.5	-0.8	93021.2	-13.1	-363011.0
	0.0	-965.7	-2.4	147836.4	-14.7	-399992.9
	0.0	-1110.9	-0.7	154290.8	-3.1	-403774.8
	0.0	494.6	-4.5	80664.5	-39.5	-355650.3
	0.0	349.5	-2.7	87118.9	-27.9	-359432.2
	0.0	-62.4	2.5	16066.1	26.4	-552324.9
	0.0	-207.5	4.2	22520.6	38.0	-556106.8
	0.0	1398.0	0.4	-51105.7	1.6	-507982.3
	0.0	1252.8	2.2	-44651.3	13.2	-511764.2
	0.0	74.6	0.6	10163.9	11.7	-548746.1
	0.0	-70.5	2.4	16618.3	23.3	-552528.0
	0.0	1535.0	-1.4	-57008.0	-13.2	-504403.5
	0.0	1389.8	0.3	-50553.6	-1.6	-508185.4
420.	0.0	2097.4	-0.6	151065.5	115.5	-299913.2
	0.0	2004.9	1.2	157554.7	-245.4	-329308.6
	0.0	3019.5	-2.6	83552.1	521.6	1384.6
	0.0	2927.0	-0.8	90041.3	160.7	-28010.8
	0.0	2184.7	-2.4	145131.1	494.8	-272163.0
	0.0	2092.2	-0.7	151620.3	134.0	-301558.4
	0.0	3106.7	-4.5	77617.7	900.9	29134.8
	0.0	3014.2	-2.7	84106.9	540.1	-260.6
	0.0	3191.2	2.5	15797.2	-495.3	-229447.8
	0.0	3098.7	4.3	22286.4	-856.1	-258843.2
	0.0	4113.3	0.4	-51716.1	-89.2	71850.0
	0.0	4020.8	2.2	-45226.9	-450.0	42454.6
	0.0	3278.5	0.6	9862.9	-115.9	-201697.6
	0.0	3186.0	2.4	16352.1	-476.8	-231093.0
	0.0	4200.6	-1.4	-57650.5	290.2	99600.1
	0.0	4108.1	0.3	-51161.3	-70.7	70204.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2947.0	0.5	-12395.9	94.4	-221394.9
	0.0	-2800.0	2.1	-5060.0	460.4	-247756.9
	0.0	-1697.8	-3.3	48571.5	-723.8	-438731.1
	0.0	-1550.8	-1.6	55907.4	-357.8	-465093.1
	0.0	-3085.4	-1.3	-19143.3	-295.8	-196587.5
	0.0	-2938.3	0.4	-11807.4	70.2	-222949.5
	0.0	-1836.2	-5.0	41824.1	-1114.0	-413923.7
	0.0	-1689.2	-3.4	49159.9	-748.0	-440285.7
	0.0	-4431.3	3.2	-152538.6	706.9	218725.4
	0.0	-4284.3	4.8	-145202.7	1072.9	192363.4
	0.0	-3182.1	-0.6	-91571.3	-111.3	1389.2
	0.0	-3035.1	1.1	-84235.4	254.7	-24972.8
	0.0	-4569.7	1.4	-159286.0	316.7	243532.8
	0.0	-4422.6	3.1	-151950.1	682.7	217170.9
	0.0	-3320.5	-2.3	-98318.7	-501.5	26196.6
	0.0	-3173.5	-0.6	-90982.8	-135.5	-165.3
210.	0.0	17.7	0.5	-12258.3	-3.4	-529705.1
	0.0	148.2	2.1	-4911.2	18.2	-526319.8
	0.0	1125.2	-3.2	48776.1	-38.8	-494496.9
	0.0	1255.8	-1.6	56123.3	-17.2	-491111.7
	0.0	-105.2	-1.3	-19016.2	-29.7	-532896.1
	0.0	25.4	0.4	-11669.0	-8.1	-529510.8
	0.0	1002.4	-5.0	42018.3	-65.1	-497688.0
	0.0	1132.9	-3.3	49365.5	-43.5	-494302.7
	0.0	-1219.4	3.2	-149204.5	40.5	-372219.9
	0.0	-1088.9	4.8	-141857.3	62.2	-368834.6
	0.0	-111.8	-0.6	-88170.0	5.2	-337011.7
	0.0	18.7	1.1	-80822.8	26.8	-333626.5
	0.0	-1342.2	1.4	-155962.3	14.2	-375410.9
	0.0	-1211.7	3.1	-148615.1	35.8	-372025.6
	0.0	-234.7	-2.3	-94927.9	-21.1	-340202.7
	0.0	-104.2	-0.6	-87580.7	0.5	-336817.5
420.	0.0	3181.7	0.5	-12170.0	-101.4	-199993.7
	0.0	3261.9	2.1	-4782.0	-422.8	-173847.3
	0.0	3860.6	-3.3	49176.2	643.7	28202.1
	0.0	3940.8	-1.6	56564.1	322.4	54348.5
	0.0	3106.4	-1.3	-18965.3	234.4	-224595.0
	0.0	3186.6	0.4	-11577.4	-87.0	-198448.6
	0.0	3785.2	-5.0	42380.8	979.5	3600.8
	0.0	3865.4	-3.4	49768.8	658.2	29747.2
	0.0	1938.8	3.2	-146468.2	-623.2	-297692.1
	0.0	2019.1	4.8	-139080.2	-944.5	-271545.7
	0.0	2617.7	-0.6	-85122.0	122.0	-69496.3
	0.0	2697.9	1.1	-77734.1	-199.3	-43349.9
	0.0	1863.5	1.4	-153263.5	-287.4	-322293.4
	0.0	1943.7	3.1	-145875.6	-608.7	-296147.0
	0.0	2542.3	-2.3	-91917.4	457.8	-94097.6
	0.0	2622.5	-0.7	-84529.5	136.4	-67951.2

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3908.7	0.6	-28999.9	116.8	102188.6
	0.0	-3754.3	2.9	-22406.0	514.9	76326.9
	0.0	-3024.4	-4.6	35756.6	-807.4	-37357.2
	0.0	-2870.1	-2.3	42350.5	-409.2	-63218.9
	0.0	-4057.9	-1.8	-34900.2	-304.2	127299.7
	0.0	-3903.6	0.5	-28306.3	94.0	101438.0
	0.0	-3173.7	-7.0	29856.4	-1228.3	-12246.1
	0.0	-3019.3	-4.7	36450.3	-830.2	-38107.8
	0.0	-2174.5	4.5	-41830.2	785.8	84985.4
	0.0	-2020.2	6.8	-35236.3	1183.9	59123.7
	0.0	-1290.2	-0.8	22926.3	-138.4	-54560.4
	0.0	-1135.9	1.5	29520.2	259.8	-80422.1
	0.0	-2323.7	2.1	-47730.5	364.8	110096.5
	0.0	-2169.4	4.4	-41136.5	762.9	84234.8
	0.0	-1439.5	-3.2	17026.1	-559.3	-29449.3
	0.0	-1285.2	-0.9	23620.0	-161.2	-55311.0
210.	0.0	-677.1	0.6	-30358.3	-18.9	-381474.8
	0.0	-545.5	2.9	-23755.0	-97.0	-376420.9
	0.0	34.7	-4.6	34464.7	160.1	-346079.5
	0.0	166.3	-2.3	41068.0	82.0	-341025.6
	0.0	-805.0	-1.8	-36267.0	65.3	-386297.0
	0.0	-673.4	0.5	-29663.6	-12.9	-381243.1
	0.0	-93.2	-7.0	28556.1	244.3	-350901.7
	0.0	38.4	-4.8	35159.4	166.2	-345847.8
	0.0	-459.2	4.5	-38735.2	-158.0	-192275.1
	0.0	-327.6	6.8	-32131.9	-236.1	-187221.2
	0.0	252.5	-0.8	26087.8	21.1	-156879.8
	0.0	384.2	1.5	32691.1	-57.1	-151825.9
	0.0	-587.1	2.1	-44643.9	-73.8	-197097.3
	0.0	-455.5	4.4	-38040.5	-151.9	-192043.4
	0.0	124.6	-3.2	20179.1	105.2	-161702.0
	0.0	256.3	-0.9	26782.5	27.1	-156648.1
420.	0.0	2768.2	0.7	-31838.3	-155.8	-167501.5
	0.0	2826.5	3.0	-25199.1	-715.4	-141572.0
	0.0	2886.9	-4.7	33310.8	1138.1	-37274.8
	0.0	2945.2	-2.4	39950.1	578.6	-11345.4
	0.0	2709.0	-1.8	-37779.0	439.0	-192840.6
	0.0	2767.3	0.5	-31139.7	-120.6	-166911.1
	0.0	2827.8	-7.1	27370.2	1732.9	-62613.9
	0.0	2886.0	-4.8	34009.5	1173.4	-36684.5
	0.0	1340.3	4.6	-35795.5	-1112.0	-102174.7
	0.0	1398.6	6.9	-29156.3	-1671.6	-76245.2
	0.0	1459.0	-0.8	29353.6	181.9	28052.0
	0.0	1517.3	1.5	35992.9	-377.7	53981.4
	0.0	1281.2	2.1	-41736.2	-517.3	-127513.7
	0.0	1339.5	4.4	-35096.9	-1076.8	-101584.3
	0.0	1399.9	-3.2	23413.0	776.7	2712.9
	0.0	1458.2	-0.9	30052.3	217.1	28642.4

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1653.4	-0.7	18579.9	-146.8	170493.7
	0.0	-1753.2	1.4	13337.5	294.8	181733.3
	0.0	-848.7	-3.1	60040.6	-649.0	104991.9
	0.0	-948.5	-1.0	54798.2	-207.4	116231.5
	0.0	-1557.1	-3.0	23477.4	-614.2	159348.4
	0.0	-1657.0	-0.8	18235.0	-172.6	170588.0
	0.0	-752.4	-5.4	64938.1	-1116.4	93846.6
	0.0	-852.2	-3.3	59695.6	-674.8	105086.2
	0.0	-2002.4	3.0	47219.1	619.7	-150535.5
	0.0	-2102.2	5.1	41976.6	1061.3	-139295.9
	0.0	-1197.6	0.6	88679.8	117.5	-216037.3
	0.0	-1297.5	2.7	83437.3	559.1	-204797.7
	0.0	-1906.1	0.7	52116.6	152.3	-161680.8
	0.0	-2005.9	2.9	46874.1	593.9	-150441.2
	0.0	-1101.3	-1.7	93577.2	-349.9	-227182.6
	0.0	-1201.2	0.5	88334.8	91.7	-215943.0
195.	0.0	469.2	-0.7	19300.7	-7.0	44467.9
	0.0	452.2	1.4	14260.2	15.6	44466.9
	0.0	438.0	-3.1	58750.0	-39.3	52994.6
	0.0	421.1	-1.0	53709.5	-16.7	52993.5
	0.0	487.5	-3.0	24007.7	-32.7	44359.6
	0.0	470.5	-0.8	18967.2	-10.2	44358.5
	0.0	456.3	-5.4	63456.9	-65.1	52886.2
	0.0	439.4	-3.2	58416.4	-42.5	52885.1
	0.0	1126.4	3.0	48771.5	39.6	-235736.0
	0.0	1109.4	5.1	43731.1	62.2	-235737.0
	0.0	1095.2	0.6	88220.8	7.3	-227209.3
	0.0	1078.3	2.7	83180.3	29.8	-227210.4
	0.0	1144.6	0.7	53478.5	13.8	-235844.4
	0.0	1127.7	2.8	48438.0	36.4	-235845.4
	0.0	1113.5	-1.7	92927.8	-18.5	-227317.7
	0.0	1096.5	0.4	87887.3	4.1	-227318.8
390.	0.0	3209.2	-0.7	20088.1	132.5	393744.9
	0.0	3265.3	1.4	15232.2	-263.0	397728.3
	0.0	2434.5	-3.1	57662.3	568.5	322126.2
	0.0	2490.5	-1.0	52806.4	173.1	326109.7
	0.0	3158.6	-3.0	24620.9	547.1	390330.1
	0.0	3214.7	-0.8	19764.9	151.7	394313.5
	0.0	2383.9	-5.4	62195.0	983.2	318711.5
	0.0	2440.0	-3.2	57339.1	587.7	322694.9
	0.0	4291.4	3.0	50492.5	-538.6	291422.5
	0.0	4347.5	5.1	45636.6	-934.0	295405.9
	0.0	3516.7	0.6	88066.7	-102.5	219803.9
	0.0	3572.7	2.7	83210.8	-498.0	223787.3
	0.0	4240.9	0.7	55025.2	-123.9	288007.7
	0.0	4296.9	2.9	50169.3	-519.4	291991.2
	0.0	3466.1	-1.7	92599.4	312.1	216389.1
	0.0	3522.2	0.4	87743.5	-83.3	220372.5

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4728.6	-0.8	173483.1	-149.4	769850.2
	0.0	-4868.3	1.4	166520.3	267.2	791478.1
	0.0	-3567.9	-3.0	208835.1	-577.3	613316.0
	0.0	-3707.6	-0.8	201872.3	-160.8	634943.9
	0.0	-4593.5	-2.9	180110.1	-565.1	748681.0
	0.0	-4733.2	-0.8	173147.3	-148.6	770308.8
	0.0	-3432.8	-5.1	215462.1	-993.1	592146.8
	0.0	-3572.5	-2.9	208499.2	-576.5	613774.6
	0.0	-2456.0	2.7	92278.4	521.9	-9055.2
	0.0	-2595.7	4.8	85315.5	938.5	12572.7
	0.0	-1295.4	0.5	127630.3	94.0	-165589.4
	0.0	-1435.1	2.6	120667.5	510.5	-143961.5
	0.0	-2320.9	0.5	98905.3	106.2	-30224.4
	0.0	-2460.6	2.7	91942.5	522.7	-8596.5
	0.0	-1160.3	-1.7	134257.3	-321.8	-186758.6
	0.0	-1299.9	0.5	127294.5	94.8	-165130.7
215.	0.0	-1150.8	-0.8	174754.9	22.3	129890.2
	0.0	-1224.1	1.4	167971.7	-27.5	128950.8
	0.0	-679.8	-3.0	208185.0	64.2	145870.2
	0.0	-753.0	-0.8	201401.8	14.5	144930.8
	0.0	-1078.5	-2.9	181212.3	63.2	130709.8
	0.0	-1151.8	-0.8	174429.1	13.5	129770.4
	0.0	-607.5	-5.1	214642.4	105.1	146689.9
	0.0	-680.7	-2.9	207859.2	55.4	145750.4
	0.0	1131.3	2.6	94467.0	-47.4	-154160.5
	0.0	1058.1	4.8	87683.8	-97.1	-155099.9
	0.0	1602.4	0.5	127897.1	-5.4	-138180.5
	0.0	1529.1	2.6	121113.9	-55.2	-139119.9
	0.0	1203.6	0.5	100924.4	-6.5	-153340.9
	0.0	1130.4	2.7	94141.2	-56.2	-154280.3
	0.0	1674.7	-1.7	134354.5	35.5	-137360.8
	0.0	1601.4	0.5	127571.3	-14.2	-138300.2
430.	0.0	2749.6	-0.8	176760.5	195.6	297592.8
	0.0	2723.2	1.4	170128.4	-324.0	286274.4
	0.0	2701.0	-3.0	208409.2	710.4	356038.6
	0.0	2674.6	-0.8	201777.2	190.8	344720.2
	0.0	2777.7	-3.0	183075.4	696.1	308877.4
	0.0	2751.2	-0.8	176443.4	176.5	297559.0
	0.0	2729.1	-5.2	214724.1	1210.9	367323.2
	0.0	2702.6	-3.0	208092.1	691.3	356004.9
	0.0	4893.4	2.7	97052.3	-620.1	490464.8
	0.0	4867.0	4.9	90420.2	-1139.7	479146.4
	0.0	4844.8	0.5	128701.0	-105.2	548910.6
	0.0	4818.4	2.7	122069.0	-624.8	537592.3
	0.0	4921.5	0.5	103367.2	-119.6	501749.4
	0.0	4895.0	2.7	96735.2	-639.2	490431.0
	0.0	4872.9	-1.7	135015.9	395.3	560195.3
	0.0	4846.4	0.5	128383.9	-124.3	548876.9

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4996.9	-0.9	55164.9	-201.7	602180.1
	0.0	-5049.3	2.1	46485.4	409.9	603524.8
	0.0	-4624.3	-4.3	101698.1	-859.3	627535.7
	0.0	-4676.7	-1.3	93018.6	-247.7	628880.5
	0.0	-4945.0	-3.7	63347.0	-777.0	600403.2
	0.0	-4997.3	-0.7	54667.5	-165.3	601748.0
	0.0	-4572.4	-7.1	109880.2	-1434.6	625758.9
	0.0	-4624.7	-4.1	101200.7	-822.9	627103.6
	0.0	-3256.4	3.7	18574.5	740.0	237529.5
	0.0	-3308.7	6.7	9895.0	1351.6	238874.2
	0.0	-2883.8	0.3	65107.7	82.4	262885.1
	0.0	-2936.1	3.3	56428.2	694.0	264229.9
	0.0	-3204.4	0.9	26756.6	164.7	235752.6
	0.0	-3256.8	3.9	18077.1	776.4	237097.4
	0.0	-2831.8	-2.5	73289.8	-492.9	261108.3
	0.0	-2884.2	0.5	64610.3	118.8	262453.1
200.	0.0	-1213.0	-0.9	57476.4	-27.4	-20100.3
	0.0	-1236.2	2.1	48908.7	-14.5	-26112.0
	0.0	-1196.8	-4.3	102499.5	1.7	42406.0
	0.0	-1220.0	-1.3	93931.8	14.6	36394.3
	0.0	-1188.7	-3.7	65553.3	-41.1	-14443.2
	0.0	-1211.9	-0.7	56985.6	-28.2	-20455.0
	0.0	-1172.5	-7.1	110576.4	-12.0	48063.1
	0.0	-1195.7	-4.1	102008.7	0.9	42051.3
	0.0	354.4	3.7	21202.5	-4.5	-54023.2
	0.0	331.2	6.7	12634.8	8.3	-60035.0
	0.0	370.6	0.3	66225.6	24.6	8483.1
	0.0	347.4	3.3	57657.9	37.4	2471.3

	0.0	378.7	0.9	29279.3	-18.2	-48366.2
	0.0	355.5	3.9	20711.6	-5.4	-54377.9
	0.0	394.9	-2.5	74302.4	10.8	14140.1
	0.0	371.7	0.5	65734.7	23.7	8128.4
400.	0.0	2603.4	-0.9	59996.8	146.2	118784.6
	0.0	2598.9	2.1	51509.7	-439.1	110139.3
	0.0	2347.3	-4.3	103673.5	862.2	156142.9
	0.0	2342.7	-1.3	95186.4	277.0	147497.7
	0.0	2610.0	-3.7	67997.8	693.2	127393.4
	0.0	2605.5	-0.7	59510.7	108.0	118748.2
	0.0	2353.9	-7.1	111674.5	1409.3	164751.8
	0.0	2349.3	-4.1	103187.4	824.1	156106.6
	0.0	4030.0	3.7	23907.6	-748.6	383771.3
	0.0	4025.4	6.7	15420.5	-1333.9	375126.1
	0.0	3773.9	0.3	67584.2	-32.6	421129.7
	0.0	3769.3	3.3	59097.2	-617.8	412484.5
	0.0	4036.6	0.9	31908.5	-201.6	392380.2
	0.0	4032.0	3.9	23421.5	-786.8	383735.0
	0.0	3780.5	-2.5	75585.2	514.5	429738.6
	0.0	3775.9	0.5	67098.1	-70.7	421093.3

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4276.2	-0.3	8875.6	-73.3	408848.1
	0.0	-4303.4	2.6	1347.8	502.4	411857.0
	0.0	-4039.5	-4.5	31958.1	-906.7	422388.7
	0.0	-4066.6	-1.7	24430.3	-330.9	425397.6
	0.0	-4248.4	-2.9	15937.4	-604.1	405482.5
	0.0	-4275.6	0.0	8409.5	-28.3	408491.5
	0.0	-4011.7	-7.2	39019.9	-1437.5	419023.1
	0.0	-4038.8	-4.3	31492.1	-861.7	422032.1
	0.0	-2984.7	4.0	-4722.1	791.8	110739.9
	0.0	-3011.8	6.8	-12249.9	1367.6	113748.9
	0.0	-2747.9	-0.3	18360.5	-41.5	124280.5
	0.0	-2775.0	2.5	10832.6	534.2	127289.5
	0.0	-2956.9	1.4	2339.7	261.1	107374.4
	0.0	-2984.0	4.2	-5188.1	836.8	110383.4
	0.0	-2720.1	-2.9	25422.2	-572.3	120915.0
	0.0	-2747.3	-0.1	17894.4	3.5	123924.0
210.	0.0	-253.5	-0.3	11654.6	-17.0	-66751.8
	0.0	-268.5	2.6	4180.1	-35.8	-68048.5
	0.0	-245.5	-4.5	33453.9	45.1	-28338.9
	0.0	-260.6	-1.7	25979.4	26.3	-29635.6
	0.0	-237.3	-2.9	18666.1	-2.6	-65612.5
	0.0	-252.3	0.0	11191.6	-21.3	-66909.2
	0.0	-229.3	-7.1	40465.4	59.6	-27199.6
	0.0	-244.4	-4.3	32991.0	40.8	-28496.3
	0.0	904.5	3.9	-1845.5	-39.2	-108442.5
	0.0	889.5	6.8	-9319.9	-58.0	-109739.1
	0.0	912.5	-0.3	19953.9	22.9	-70029.6
	0.0	897.4	2.5	12479.4	4.2	-71326.2
	0.0	920.7	1.4	5166.1	-24.7	-107303.1
	0.0	905.7	4.2	-2308.4	-43.5	-108599.8
	0.0	928.7	-2.9	26965.4	37.4	-68890.2
	0.0	913.7	-0.1	19490.9	18.6	-70186.9
420.	0.0	3739.3	-0.3	14480.1	38.2	300226.7
	0.0	3729.6	2.6	7029.0	-576.3	296443.2
	0.0	3550.6	-4.6	35083.8	999.7	319261.1
	0.0	3540.9	-1.7	27632.7	385.2	315477.6
	0.0	3750.4	-2.9	21469.6	598.9	304127.2
	0.0	3740.7	0.0	14018.5	-15.6	300343.7
	0.0	3561.7	-7.2	42073.2	1560.4	323161.6
	0.0	3552.0	-4.3	34622.1	945.9	319378.2
	0.0	4839.7	4.0	1023.7	-872.7	494289.7
	0.0	4830.0	6.8	-6427.4	-1487.3	490506.3
	0.0	4650.9	-0.3	21627.3	88.8	513324.1
	0.0	4641.3	2.5	14176.2	-525.7	509540.7
	0.0	4850.7	1.4	8013.1	-312.1	498190.2
	0.0	4841.1	4.2	562.0	-926.6	494406.8
	0.0	4662.0	-2.9	28616.7	649.4	517224.6
	0.0	4652.3	-0.1	21165.6	34.9	513441.2

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5474.3	0.2	-11510.7	26.8	556497.8
	0.0	-5492.0	2.3	-19634.5	564.9	563962.5
	0.0	-5165.6	-3.7	-15801.5	-929.7	557655.6
	0.0	-5183.3	-1.6	-23925.3	-391.7	565120.3
	0.0	-5455.1	-1.7	-3856.5	-465.0	548861.1
	0.0	-5472.9	0.4	-11980.3	73.0	556325.8
	0.0	-5146.4	-5.6	-8147.3	-1421.6	550019.0
	0.0	-5164.2	-3.5	-16271.1	-883.5	557483.6
	0.0	-4056.2	3.3	-22057.6	822.9	193082.1
	0.0	-4073.9	5.4	-30181.5	1360.9	200546.7
	0.0	-3747.5	-0.6	-26348.4	-133.7	194239.9
	0.0	-3765.2	1.5	-34472.2	404.4	201704.5
	0.0	-4037.0	1.4	-14403.5	331.1	185445.4
	0.0	-4054.7	3.5	-22527.3	869.1	192910.1
	0.0	-3728.3	-2.5	-18694.2	-625.5	186603.2
	0.0	-3746.0	-0.4	-26818.0	-87.5	194067.9
255.	0.0	-738.2	0.2	-8097.6	-21.4	-231388.6
	0.0	-758.1	2.2	-16235.2	-11.1	-228466.3
	0.0	-656.0	-3.6	-13759.2	3.6	-181386.8
	0.0	-675.8	-1.6	-21896.8	13.8	-178464.6
	0.0	-717.0	-1.7	-430.6	-28.0	-234111.2
	0.0	-736.9	0.4	-8568.2	-17.8	-231188.9
	0.0	-634.8	-5.5	-6092.2	-3.1	-184109.4
	0.0	-654.6	-3.5	-14229.8	7.1	-181187.1
	0.0	732.7	3.2	-18655.6	-9.8	-231189.8
	0.0	712.8	5.3	-26793.2	0.4	-228267.6
	0.0	814.9	-0.6	-24317.2	15.1	-181188.1
	0.0	795.1	1.5	-32454.8	25.4	-178265.8
	0.0	753.9	1.4	-10988.6	-16.5	-233912.4
	0.0	734.1	3.4	-19126.2	-6.3	-230990.2
	0.0	836.2	-2.5	-16650.2	8.4	-183910.6
	0.0	816.3	-0.4	-24787.8	18.7	-180988.4
510.	0.0	3828.2	0.2	-4723.1	-72.4	165301.4
	0.0	3792.4	2.3	-12922.5	-588.4	161449.6
	0.0	3656.3	-3.7	-11807.3	937.1	205074.3
	0.0	3620.5	-1.6	-20006.7	421.0	201222.5
	0.0	3864.8	-1.7	3002.0	405.2	169650.0
	0.0	3829.0	0.4	-5197.4	-110.9	165798.2
	0.0	3692.9	-5.6	-4082.2	1414.6	209422.9
	0.0	3657.1	-3.5	-12281.6	898.6	205571.1
	0.0	5607.3	3.3	-15354.5	-843.7	575361.8
	0.0	5571.5	5.4	-23554.0	-1359.8	571510.0
	0.0	5435.4	-0.6	-22438.7	165.8	615134.8
	0.0	5399.7	1.5	-30638.1	-350.3	611282.9
	0.0	5643.9	1.4	-7629.5	-366.2	579710.4
	0.0	5608.2	3.5	-15828.9	-882.2	575858.6
	0.0	5472.1	-2.5	-14713.6	643.3	619483.3
	0.0	5436.3	-0.4	-22913.1	127.2	615631.5

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4426.0	1.0	-25753.4	167.1	486867.2
	0.0	-4433.9	4.4	-34939.2	787.2	494932.6
	0.0	-4183.4	-6.6	-55015.0	-1201.9	515619.0
	0.0	-4191.2	-3.3	-64200.7	-581.7	523684.4
	0.0	-4416.3	-2.1	-17096.5	-415.6	478960.5
	0.0	-4424.1	1.2	-26282.2	204.6	487025.9
	0.0	-4173.7	-9.8	-46358.0	-1784.5	507712.2

	0.0	-4181.5	-6.4	-55543.7	-1164.4	515777.6
	0.0	-2921.1	6.1	-73973.4	1102.7	337254.9
	0.0	-2929.0	9.5	-83159.1	1722.8	345320.3
	0.0	-2678.5	-1.6	-103234.9	-266.3	366006.6
	0.0	-2686.3	1.8	-112420.6	353.9	374072.1
	0.0	-2911.4	2.9	-65316.4	520.0	329348.2
	0.0	-2919.2	6.3	-74502.1	1140.1	337413.6
	0.0	-2668.7	-4.7	-94577.9	-849.0	358099.9
	0.0	-2676.6	-1.4	-103763.7	-228.8	366165.3
180.	0.0	-1259.0	1.0	-23413.7	-18.5	-23769.1
	0.0	-1287.5	4.4	-32673.6	-3.1	-18841.3
	0.0	-1245.5	-6.6	-53754.0	-9.3	28799.6
	0.0	-1274.0	-3.3	-63014.0	6.1	33727.4
	0.0	-1229.6	-2.1	-14687.0	-30.8	-28273.5
	0.0	-1258.0	1.2	-23946.9	-15.5	-23345.7
	0.0	-1216.0	-9.8	-45027.3	-21.6	24295.2
	0.0	-1244.5	-6.4	-54287.2	-6.3	29223.0
	0.0	531.6	6.1	-71778.7	4.2	122722.3
	0.0	503.1	9.4	-81038.6	19.5	127650.1
	0.0	545.2	-1.6	-102119.0	13.4	175290.9
	0.0	516.7	1.8	-111378.9	28.7	180218.8
	0.0	561.1	2.9	-63051.9	-8.2	118217.9
	0.0	532.6	6.3	-72311.9	7.2	123145.7
	0.0	574.7	-4.7	-93392.2	1.0	170786.6
	0.0	546.2	-1.4	-102652.2	16.4	175714.4
360.	0.0	1818.8	1.0	-21142.9	-204.2	28104.3
	0.0	1759.6	4.4	-30504.3	-793.1	25301.1
	0.0	1534.7	-6.6	-52651.4	1182.5	57429.8
	0.0	1475.5	-3.3	-62012.8	593.6	54626.6
	0.0	1877.6	-2.1	-12320.6	353.3	31387.1
	0.0	1818.4	1.2	-21682.1	-235.6	28583.8
	0.0	1593.5	-9.8	-43829.2	1740.0	60712.6
	0.0	1534.2	-6.4	-53190.6	1151.1	57909.4
	0.0	3904.4	6.1	-69795.4	-1093.7	524050.0
	0.0	3845.2	9.5	-79156.8	-1682.6	521246.8
	0.0	3620.3	-1.6	-101303.9	293.0	553375.5
	0.0	3561.1	1.8	-110665.3	-295.9	550572.3
	0.0	3963.2	2.9	-60973.1	-536.2	527332.8
	0.0	3904.0	6.3	-70334.5	-1125.1	524529.6
	0.0	3679.1	-4.7	-92481.6	850.5	556658.3
	0.0	3619.8	-1.4	-101843.0	261.6	553855.1

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4063.8	1.1	-94559.5	209.5	302278.0
	0.0	-4102.6	4.0	-101496.5	731.7	312277.1
	0.0	-4038.6	-5.8	-112355.8	-1073.9	327572.5
	0.0	-4077.4	-3.0	-119292.7	-551.8	337571.5
	0.0	-4024.0	-1.7	-87984.1	-294.7	292334.1
	0.0	-4062.8	1.2	-94921.1	227.5	302333.1
	0.0	-3998.8	-8.6	-105780.3	-1578.2	317628.5
	0.0	-4037.6	-5.8	-112717.3	-1056.0	327627.6
	0.0	-1659.1	5.5	-203019.9	1005.0	236360.6
	0.0	-1697.9	8.3	-209956.8	1527.1	246359.6
	0.0	-1633.9	-1.5	-220816.1	-278.5	261655.1
	0.0	-1672.7	1.4	-227753.1	243.6	271654.1
	0.0	-1619.3	2.7	-196444.4	500.8	226416.6
	0.0	-1658.1	5.5	-203381.4	1022.9	236415.7
	0.0	-1594.1	-4.2	-214240.7	-782.7	251711.1
	0.0	-1632.9	-1.4	-221177.6	-260.6	261710.1
165.	0.0	-1320.9	1.1	-92624.5	24.6	-140811.9
	0.0	-1398.1	3.9	-99675.7	78.9	-140230.7
	0.0	-1645.4	-5.8	-111555.4	-114.5	-139182.6
	0.0	-1722.6	-3.0	-118606.7	-60.2	-138601.4
	0.0	-1244.7	-1.6	-85941.4	-22.1	-141327.1
	0.0	-1321.9	1.2	-92992.7	32.3	-140745.9
	0.0	-1569.2	-8.6	-104872.4	-161.2	-139697.8
	0.0	-1646.4	-5.7	-111923.6	-106.9	-139116.6
	0.0	1266.5	5.5	-201548.4	102.4	206676.5
	0.0	1189.3	8.3	-208599.6	156.7	207257.7
	0.0	942.0	-1.5	-220479.4	-36.8	208305.8
	0.0	864.8	1.4	-227530.6	17.5	208887.0
	0.0	1342.7	2.7	-194865.4	55.7	206161.3
	0.0	1265.5	5.5	-201916.6	110.0	206742.5
	0.0	1018.2	-4.2	-213796.4	-83.5	207790.6
	0.0	941.0	-1.4	-220847.6	-29.2	208371.8
330.	0.0	1346.5	1.1	-90918.6	-159.7	-137922.4
	0.0	1219.6	3.9	-98101.6	-571.8	-154030.9
	0.0	592.2	-5.8	-111031.3	842.1	-224223.9
	0.0	465.3	-3.0	-118214.2	429.9	-240332.4
	0.0	1469.6	-1.7	-84111.5	250.0	-122133.0
	0.0	1342.7	1.2	-91294.4	-162.1	-138241.5
	0.0	715.3	-8.6	-104224.1	1251.7	-208434.4
	0.0	588.4	-5.7	-111407.1	839.6	-224542.9
	0.0	3953.1	5.5	-200575.8	-797.7	641362.1
	0.0	3826.2	8.3	-207758.8	-1209.9	625253.6
	0.0	3198.8	-1.5	-220688.5	204.0	555060.6
	0.0	3071.9	1.4	-227871.4	-208.1	538952.1
	0.0	4076.2	2.7	-193768.7	-388.0	657151.5
	0.0	3949.3	5.5	-200951.6	-800.2	641043.0
	0.0	3321.9	-4.2	-213881.3	613.7	570850.1
	0.0	3195.0	-1.4	-221064.3	201.6	554741.6

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4319.6	0.7	-27142.5	130.9	161323.1
	0.0	-4284.6	3.0	-35661.7	538.3	163772.0
	0.0	-3659.6	-4.7	-75302.5	-828.1	117463.5
	0.0	-3624.6	-2.4	-83821.8	-420.7	119912.5
	0.0	-4348.9	-1.7	-19105.1	-295.0	158460.6
	0.0	-4313.9	0.6	-27624.4	112.4	160909.5
	0.0	-3688.9	-7.1	-67265.2	-1253.9	114601.1
	0.0	-3653.9	-4.8	-75784.4	-846.5	117050.0
	0.0	-2815.0	4.6	-9167.0	802.9	257809.3
	0.0	-2780.0	6.9	-17686.2	1210.3	260258.2
	0.0	-2155.0	-0.8	-57327.0	-156.1	213949.8
	0.0	-2120.0	1.5	-65846.3	251.3	216398.7
	0.0	-2844.3	2.1	-1129.6	377.0	254946.9
	0.0	-2809.3	4.4	-9648.9	784.4	257395.8
	0.0	-2184.3	-3.2	-49289.7	-582.0	211087.4
	0.0	-2149.3	-0.9	-57808.9	-174.6	213536.3
210.	0.0	-948.2	0.7	-25167.2	-15.0	-392146.9
	0.0	-990.8	3.0	-33882.7	-90.7	-390214.9
	0.0	-936.0	-4.7	-74961.9	154.5	-363690.9
	0.0	-978.6	-2.4	-83677.3	78.9	-361758.9
	0.0	-904.4	-1.7	-16944.8	67.8	-393754.8
	0.0	-947.0	0.6	-25660.3	-7.8	-391822.7
	0.0	-892.2	-7.1	-66739.5	237.3	-365298.7
	0.0	-934.9	-4.8	-75455.0	161.7	-363366.7
	0.0	82.8	4.6	-8262.6	-153.3	-17773.3
	0.0	40.2	6.9	-16978.1	-228.9	-15841.3
	0.0	94.9	-0.8	-58057.3	16.2	10682.7
	0.0	52.3	1.5	-66772.8	-59.4	12614.7
	0.0	126.5	2.1	-40.3	-70.5	-19381.1
	0.0	83.9	4.4	-8755.7	-146.1	-17449.1
	0.0	138.7	-3.2	-49834.9	99.0	9074.9
	0.0	96.1	-0.9	-58550.4	23.4	11006.9
420.	0.0	2541.1	0.7	-23292.8	-161.9	-228761.1
	0.0	2404.4	3.0	-32239.3	-725.5	-245381.5
	0.0	1789.2	-4.8	-74921.6	1147.2	-276239.1
	0.0	1652.5	-2.4	-83868.1	583.6	-292859.4
	0.0	2673.3	-1.8	-14852.5	435.0	-212144.9

	0.0	2536.6	0.6	-23799.0	-128.6	-228765.3
	0.0	1921.3	-7.2	-66481.3	1744.1	-259622.8
	0.0	1784.7	-4.9	-75427.8	1180.5	-276243.2
	0.0	2316.1	4.6	-7391.4	-1119.5	246366.6
	0.0	2179.4	7.0	-16338.0	-1683.1	229746.2
	0.0	1564.1	-0.8	-59020.2	189.6	198888.6
	0.0	1427.5	1.5	-67966.8	-374.0	182268.3
	0.0	2448.3	2.2	1048.9	-522.6	262982.8
	0.0	2311.6	4.5	-7897.7	-1086.2	246362.4
	0.0	1696.3	-3.3	-50579.9	786.5	215504.9
	0.0	1559.6	-1.0	-59526.5	222.9	198884.5

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2399.9	831.0	287.8	-257.3	59351.1	-144309.9
	-2315.3	793.9	439.7	555.7	85358.2	-138071.9
	-3233.9	885.9	-860.4	-1173.8	-138668.4	-153624.3
	-3149.4	848.7	-708.5	-360.8	-112661.2	-147386.3
	-2479.0	870.7	140.8	-1119.1	34181.6	-150969.6
	-2394.5	833.5	292.7	-306.1	60188.8	-144731.6
	-3313.1	925.5	-1007.4	-2035.6	-163837.8	-160284.0
	-3228.6	888.4	-855.5	-1222.6	-137830.7	-154046.0
	-3689.9	-1150.8	542.3	1125.9	103025.7	190437.5
	-3605.3	-1188.0	694.1	1938.9	129032.8	196675.5
	-4523.9	-1096.0	-605.9	209.4	-94993.8	181123.2
	-4439.4	-1133.2	-454.1	1022.4	-68986.6	187361.1
	-3769.1	-1111.2	395.3	264.1	77856.3	183777.8
	-3684.5	-1148.3	547.1	1077.2	103863.4	190015.8
	-4603.1	-1056.4	-752.9	-652.4	-120163.2	174463.5
	-4518.6	-1093.5	-601.1	160.6	-94156.0	180701.4
160.	-2117.1	831.0	287.8	-257.3	13296.2	-11345.0
	-2032.6	793.9	439.7	555.7	15010.4	-11049.6
	-2951.2	885.9	-860.4	-1173.8	-1011.4	-11887.6
	-2866.6	848.7	-708.5	-360.8	702.8	-11592.1
	-2196.3	870.7	140.8	-1119.1	11646.3	-11659.1
	-2111.7	833.5	292.7	-306.1	13360.5	-11363.7
	-3030.4	925.5	-1007.4	-2035.6	-2661.3	-12201.7
	-2945.8	888.4	-855.5	-1222.6	-947.1	-11906.3
	-3407.1	-1150.8	542.3	1125.9	16257.3	6304.1
	-3322.6	-1188.0	694.1	1938.9	17971.5	6599.5
	-4241.2	-1096.0	-605.9	209.4	1949.7	5761.5
	-4156.6	-1133.2	-454.1	1022.4	3663.9	6057.0
	-3486.3	-1111.2	395.3	264.1	14607.4	5990.0
	-3401.8	-1148.3	547.1	1077.2	16321.6	6285.4
	-4320.4	-1056.4	-752.9	-652.4	299.8	5447.4
	-4235.8	-1093.5	-601.1	160.6	2014.0	5742.8
320.	-1834.4	831.0	287.8	-257.3	-32758.7	121619.8
	-1749.8	793.9	439.7	555.7	-55337.4	115972.7
	-2668.4	885.9	-860.4	-1173.8	136645.6	129849.3
	-2583.9	848.7	-708.5	-360.8	114066.8	124202.1
	-1913.5	870.7	140.8	-1119.1	-10889.0	127651.2
	-1829.0	833.5	292.7	-306.1	-33467.8	122004.1
	-2747.6	925.5	-1007.4	-2035.6	158515.2	135880.7
	-2663.1	888.4	-855.5	-1222.6	135936.5	130233.5
	-3124.4	-1150.8	542.3	1125.9	-70511.2	-177829.4
	-3039.8	-1188.0	694.1	1938.9	-93089.9	-183476.5
	-3958.5	-1096.0	-605.9	209.4	98893.1	-169599.9
	-3873.9	-1133.2	-454.1	1022.4	76314.4	-175247.1
	-3203.6	-1111.2	395.3	264.1	-48641.5	-171798.0
	-3119.0	-1148.3	547.1	1077.2	-71220.3	-177445.1
	-4037.6	-1056.4	-752.9	-652.4	120762.8	-163568.5
	-3953.1	-1093.5	-601.1	160.6	98184.0	-169215.7

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12762.7	1133.9	602.2	-428.0	117733.5	-217344.0
	-12631.1	1069.3	781.1	748.2	149701.3	-206556.4
	-14070.2	1238.6	-1070.6	-1659.9	-185467.8	-234758.6
	-13938.6	1173.9	-891.7	-483.7	-153500.0	-223971.1
	-12887.7	1202.5	432.8	-1634.3	87456.3	-228807.5
	-12756.2	1137.9	611.6	-458.1	119424.1	-218020.0
	-14195.2	1307.2	-1240.1	-2866.2	-215745.1	-246222.2
	-14063.6	1242.6	-1061.2	-1690.0	-183777.3	-235434.7
	-12289.6	-2313.3	921.4	1556.0	174363.2	363859.8
	-12158.1	-2377.9	1100.3	2732.2	206331.0	374647.3
	-13597.1	-2208.6	-751.4	324.0	-128838.1	346445.1
	-13465.5	-2273.2	-572.5	1500.3	-96870.3	357232.6
	-12414.7	-2244.6	751.9	349.7	144086.0	352396.2
	-12283.1	-2309.3	930.8	1525.9	176053.8	363183.8
	-13722.1	-2139.9	-920.9	-882.3	-159115.4	334981.6
	-13590.6	-2204.6	-742.0	294.0	-127147.6	345769.1
160.	-12402.7	1133.9	602.2	-428.0	21380.1	-35926.5
	-12271.1	1069.3	781.1	748.2	24727.3	-35476.4
	-13710.2	1238.6	-1070.6	-1659.9	-14171.3	-36589.7
	-13578.6	1173.9	-891.7	-483.7	-10824.0	-36139.6
	-12527.7	1202.5	432.8	-1634.3	18214.6	-36406.6
	-12396.2	1137.9	611.6	-458.1	21561.9	-35956.4
	-13835.2	1307.2	-1240.1	-2866.2	-17336.7	-37069.7
	-13703.6	1242.6	-1061.2	-1690.0	-13989.4	-36619.6
	-11929.6	-2313.3	921.4	1556.0	26939.5	-6267.0
	-11798.1	-2377.9	1100.3	2732.2	30286.8	-5816.8
	-13237.1	-2208.6	-751.4	324.0	-8611.8	-6930.1
	-13105.5	-2273.2	-572.5	1500.3	-5264.5	-6480.0
	-12054.7	-2244.6	751.9	349.7	23774.0	-6747.0
	-11923.1	-2309.3	930.8	1525.9	27121.3	-6296.9
	-13362.1	-2139.9	-920.9	-882.3	-11777.3	-7410.2
	-13230.6	-2204.6	-742.0	294.0	-8430.0	-6960.0
320.	-12042.7	1133.9	602.2	-428.0	-74973.5	145490.9
	-11911.1	1069.3	781.1	748.2	-100246.7	135603.6
	-13350.2	1238.6	-1070.6	-1659.9	157125.4	161579.2
	-13218.6	1173.9	-891.7	-483.7	131852.2	151692.0
	-12167.7	1202.5	432.8	-1634.3	-51027.2	155994.4
	-12036.2	1137.9	611.6	-458.1	-76300.4	146107.1
	-13475.2	1307.2	-1240.1	-2866.2	181071.7	172082.7
	-13343.6	1242.6	-1061.2	-1690.0	155798.5	162195.5
	-11569.6	-2313.3	921.4	1556.0	-120484.3	-376393.8
	-11438.1	-2377.9	1100.3	2732.2	-145757.6	-386281.0
	-12877.1	-2208.6	-751.4	324.0	111614.5	-360305.4
	-12745.5	-2273.2	-572.5	1500.3	86341.3	-370192.6
	-11694.7	-2244.6	751.9	349.7	-96538.0	-365890.2
	-11563.1	-2309.3	930.8	1525.9	-121811.2	-375777.5
	-13002.1	-2139.9	-920.9	-882.3	135560.9	-349801.9
	-12870.6	-2204.6	-742.0	294.0	110287.7	-359689.1

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14896.9	1819.4	397.4	-399.1	106403.5	-296212.6
	-14899.0	1755.3	469.1	787.4	122979.5	-285431.9
	-14907.1	1930.6	-458.1	-1626.8	-108058.3	-314770.9
	-14909.2	1866.5	-386.5	-440.3	-91482.3	-303990.2
	-14894.8	1886.8	331.0	-1529.9	91020.8	-307542.0
	-14896.9	1822.7	402.7	-343.4	107596.8	-296761.3
	-14905.1	1997.9	-524.5	-2757.6	-123441.0	-326100.2
	-14907.1	1933.8	-452.8	-1571.1	-106865.0	-315319.5
	-15025.7	-1762.4	512.8	1438.4	132654.0	306058.0
	-15027.7	-1826.5	584.5	2624.9	149230.1	316838.7
	-15035.9	-1651.3	-342.7	210.7	-81807.7	287499.7
	-15038.0	-1715.4	-271.0	1397.2	-65231.7	298280.4
	-15023.6	-1695.1	446.4	307.6	117271.3	294728.7
	-15025.6	-1759.2	518.1	1494.2	133847.4	305509.4
	-15033.8	-1583.9	-409.1	-920.1	-97190.4	276170.4
	-15035.9	-1648.0	-337.4	266.5	-80614.4	286951.1

160.	-14536.9	1819.4	397.4	-399.1	42822.0	-5107.0
	-14539.0	1755.3	469.1	787.4	47930.4	-4583.0
	-14547.1	1930.6	-458.1	-1626.8	-34757.7	-5881.6
	-14549.2	1866.5	-386.5	-440.3	-29649.3	-5357.6
	-14534.8	1886.8	331.0	-1529.9	38062.0	-5659.5
	-14536.9	1822.7	402.7	-343.4	43170.4	-5135.5
	-14545.1	1997.9	-524.5	-2757.6	-39517.7	-6434.1
	-14547.1	1933.8	-452.8	-1571.1	-34409.3	-5910.2
	-14665.7	-1762.4	512.8	1438.4	50606.1	24068.6
	-14667.7	-1826.5	584.5	2624.9	55714.5	24592.6
	-14675.9	-1651.3	-342.7	210.7	-26973.6	23293.9
	-14678.0	-1715.4	-271.0	1397.2	-21865.2	23817.9
	-14663.6	-1695.1	446.4	307.6	45846.1	23516.1
	-14665.6	-1759.2	518.1	1494.2	50954.5	24040.1
	-14673.8	-1583.9	-409.1	-920.1	-31733.6	22741.4
	-14675.9	-1648.0	-337.4	266.5	-26625.2	23265.4
320.	-14176.9	1819.4	397.4	-399.1	-20760.0	285998.6
	-14179.0	1755.3	469.1	787.4	-27119.2	276265.9
	-14187.1	1930.6	-458.1	-1626.8	38543.3	303007.8
	-14189.2	1866.5	-386.5	-440.3	32184.1	293275.0
	-14174.8	1886.8	331.0	-1529.9	-14897.3	296222.9
	-14176.9	1822.7	402.7	-343.4	-21256.5	286490.2
	-14185.1	1997.9	-524.5	-2757.6	44406.0	313232.1
	-14187.1	1933.8	-452.8	-1571.1	38046.7	303499.3
	-14305.7	-1762.4	512.8	1438.4	-31442.3	-257920.9
	-14307.7	-1826.5	584.5	2624.9	-37801.5	-267653.7
	-14315.9	-1651.3	-342.7	210.7	27861.0	-240911.8
	-14318.0	-1715.4	-271.0	1397.2	21501.8	-250644.5
	-14303.6	-1695.1	446.4	307.6	-25579.7	-247696.6
	-14305.6	-1759.2	518.1	1494.2	-31938.9	-257429.4
	-14313.8	-1583.9	-409.1	-920.1	33723.6	-230687.5
	-14315.9	-1648.0	-337.4	266.5	27364.4	-240420.2

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13812.7	1713.4	357.2	-218.7	106809.1	-288592.1
	-13811.2	1650.4	388.8	994.4	115274.3	-278019.7
	-13812.2	1816.4	-290.7	-1830.0	-82394.5	-305885.1
	-13810.7	1753.4	-259.2	-616.9	-73929.3	-295312.6
	-13814.5	1779.0	328.4	-1340.0	99022.4	-299596.3
	-13813.0	1715.9	359.9	-126.9	107487.6	-289023.8
	-13814.0	1882.0	-319.5	-2951.3	-90181.2	-316889.2
	-13812.5	1819.0	-288.0	-1738.2	-81716.0	-306316.8
	-13756.3	-1892.4	404.0	1597.7	119320.8	316572.6
	-13754.8	-1955.4	435.6	2810.7	127786.0	327145.0
	-13755.8	-1789.3	-243.9	-13.6	-69882.8	299279.6
	-13754.3	-1852.3	-212.4	1199.4	-61417.6	309852.1
	-13758.1	-1826.8	375.2	476.4	111534.1	305568.4
	-13756.6	-1889.8	406.7	1689.5	119999.3	316140.9
	-13757.6	-1723.7	-272.8	-1134.9	-77669.5	288275.5
	-13756.1	-1786.7	-241.2	78.1	-69204.3	298847.9
160.	-13452.7	1713.4	357.2	-218.7	49652.1	-14453.6
	-13451.2	1650.4	388.8	994.4	53069.0	-13962.7
	-13452.2	1816.4	-290.7	-1830.0	-35881.2	-15253.6
	-13450.7	1753.4	-259.2	-616.9	-32464.4	-14762.7
	-13454.5	1779.0	328.4	-1340.0	46479.6	-14963.9
	-13453.0	1715.9	359.9	-126.9	49896.4	-14473.0
	-13454.0	1882.0	-319.5	-2951.3	-39053.8	-15763.9
	-13452.5	1819.0	-288.0	-1738.2	-35636.9	-15273.0
	-13396.3	-1892.4	404.0	1597.7	54680.6	13793.7
	-13394.8	-1955.4	435.6	2810.7	58097.5	14284.6
	-13395.8	-1789.3	-243.9	-13.6	-30852.7	12993.8
	-13394.3	-1852.3	-212.4	1199.4	-27435.9	13484.7
	-13398.1	-1826.8	375.2	476.4	51508.1	13283.4
	-13396.6	-1889.8	406.7	1689.5	54924.9	13774.3
	-13397.6	-1723.7	-272.8	-1134.9	-34025.3	12483.5
	-13396.1	-1786.7	-241.2	78.1	-30608.4	12974.4
320.	-13092.7	1713.4	357.2	-218.7	-7505.2	259684.9
	-13091.2	1650.4	388.8	994.4	-9136.6	250094.2
	-13092.2	1816.4	-290.7	-1830.0	10632.2	275377.9
	-13090.7	1753.4	-259.2	-616.9	9000.8	265787.2
	-13094.5	1779.0	328.4	-1340.0	-6063.5	269668.4
	-13093.0	1715.9	359.9	-126.9	-7695.0	260077.8
	-13094.0	1882.0	-319.5	-2951.3	12073.8	285361.4
	-13092.5	1819.0	-288.0	-1738.2	10442.4	275770.8
	-13036.3	-1892.4	404.0	1597.7	-9959.8	-288985.1
	-13034.8	-1955.4	435.6	2810.7	-11591.3	-298575.7
	-13035.8	-1789.3	-243.9	-13.6	8177.6	-273292.1
	-13034.3	-1852.3	-212.4	1199.4	6546.1	-282882.7
	-13038.1	-1826.8	375.2	476.4	-8518.2	-279001.6
	-13036.6	-1889.8	406.7	1689.5	-10149.7	-288592.2
	-13037.6	-1723.7	-272.8	-1134.9	9619.2	-263308.6
	-13036.1	-1786.7	-241.2	78.1	7987.7	-272899.2

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16933.1	1352.6	350.6	-8.4	107270.7	-252999.0
	-16926.6	1291.5	355.2	1205.0	108729.9	-242650.2
	-16943.0	1455.7	-228.9	-2025.6	-68902.2	-270457.2
	-16936.5	1394.5	-224.3	-812.2	-67443.0	-260108.4
	-16939.8	1416.0	346.1	-1114.9	105868.0	-263714.9
	-16933.3	1354.8	350.7	98.5	107327.1	-253366.1
	-16949.7	1519.0	-233.4	-3132.2	-70304.9	-281173.0
	-16943.2	1457.8	-228.7	-1918.8	-68845.8	-270824.2
	-16560.0	-2182.6	357.0	1780.1	109371.7	345434.0
	-16553.6	-2243.7	361.6	2993.5	110830.8	355782.8
	-16569.9	-2079.6	-222.5	-237.2	-66801.2	327975.9
	-16563.5	-2140.7	-217.9	976.2	-65342.1	338324.6
	-16566.7	-2119.2	352.5	673.5	107968.9	334718.2
	-16560.3	-2180.4	357.2	1886.9	109428.0	345066.9
	-16576.6	-2016.2	-226.9	-1343.8	-68204.0	317260.0
	-16570.2	-2077.4	-222.3	-130.4	-66744.9	327608.8
160.	-16573.1	1352.6	350.6	-8.4	51180.7	-36576.9
	-16566.6	1291.5	355.2	1205.0	51899.6	-36011.9
	-16583.0	1455.7	-228.9	-2025.6	-32278.1	-37552.1
	-16576.5	1394.5	-224.3	-812.2	-31559.1	-36987.0
	-16579.8	1416.0	346.1	-1114.9	50491.5	-37161.3
	-16573.3	1354.8	350.7	98.5	51210.4	-36596.3
	-16589.7	1519.0	-233.4	-3132.2	-32967.3	-38136.5
	-16583.2	1457.8	-228.7	-1918.8	-32248.4	-37571.4
	-16200.0	-2182.6	357.0	1780.1	52254.3	-3777.2
	-16193.6	-2243.7	361.6	2993.5	52973.2	-3212.2
	-16209.9	-2079.6	-222.5	-237.2	-31204.5	-4752.4
	-16203.5	-2140.7	-217.9	976.2	-30485.6	-4187.3
	-16206.7	-2119.2	352.5	673.5	51565.0	-4361.6
	-16200.3	-2180.4	357.2	1886.9	52283.9	-3796.6
	-16216.6	-2016.2	-226.9	-1343.8	-31893.8	-5336.8
	-16210.2	-2077.4	-222.3	-130.4	-31174.8	-4771.7
320.	-16213.1	1352.6	350.6	-8.4	-4909.3	179845.2
	-16206.6	1291.5	355.2	1205.0	-4930.6	170626.5
	-16223.0	1455.7	-228.9	-2025.6	4346.0	195353.0
	-16216.5	1394.5	-224.3	-812.2	4324.8	186134.4
	-16219.8	1416.0	346.1	-1114.9	-4885.1	189392.2
	-16213.3	1354.8	350.7	98.5	-4906.3	180173.5
	-16229.7	1519.0	-233.4	-3132.2	4370.3	204900.1
	-16223.2	1457.8	-228.7	-1918.8	4349.0	195681.4
	-15840.0	-2182.6	357.0	1780.1	-4863.1	-352988.4
	-15833.6	-2243.7	361.6	2993.5	-4884.4	-362207.1
	-15849.9	-2079.6	-222.5	-237.2	4392.2	-337480.6
	-15843.5	-2140.7	-217.9	976.2	4371.0	-346699.3
	-15846.7	-2119.2	352.5	673.5	-4838.9	-343441.4
	-15840.3	-2180.4	357.2	1886.9	-4860.1	-352660.1

	-15856.6	-2016.2	-226.9	-1343.8	4416.5	-327933.6
	-15850.2	-2077.4	-222.3	-130.4	4395.2	-337152.2

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15421.1	2259.0	355.4	253.9	105111.1	-348467.4
	-15432.9	2196.7	328.5	1444.9	98245.0	-337967.2
	-15401.1	2362.7	-206.8	-2244.2	-59028.6	-365916.1
	-15413.0	2300.4	-233.8	-1053.2	-65894.7	-355415.8
	-15408.6	2323.8	379.5	-853.2	111296.7	-359383.1
	-15420.4	2261.5	352.6	337.9	104430.6	-348882.9
	-15388.6	2427.5	-182.7	-3351.3	-52843.0	-376831.8
	-15400.5	2365.2	-209.7	-2160.2	-59709.1	-366331.5
	-16079.8	-1313.1	315.9	2020.7	95190.9	253521.3
	-16091.6	-1375.4	289.0	3211.7	88324.8	264021.6
	-16059.8	-1209.4	-246.3	-477.4	-68948.8	236072.6
	-16071.7	-1271.7	-273.2	713.6	-75814.9	246572.9
	-16067.3	-1248.3	340.0	913.6	101376.5	242605.6
	-16079.1	-1310.6	313.1	2104.7	94510.4	253105.9
	-16047.3	-1144.6	-222.2	-1584.5	-62763.2	225157.0
	-16059.2	-1206.9	-249.1	-393.4	-69629.3	235657.2
160.	-15061.1	2259.0	355.4	253.9	48250.4	12971.8
	-15072.9	2196.7	328.5	1444.9	45690.6	13501.0
	-15041.1	2362.7	-206.8	-2244.2	-25934.6	12116.8
	-15053.0	2300.4	-233.8	-1053.2	-28494.4	12645.9
	-15048.6	2323.8	379.5	-853.2	50581.4	12422.4
	-15060.4	2261.5	352.6	337.9	48021.6	12951.5
	-15028.6	2427.5	-182.7	-3351.3	-23603.7	11567.3
	-15040.5	2365.2	-209.7	-2160.2	-26163.5	12096.5
	-15719.8	-1313.1	315.9	2020.7	44647.9	43431.6
	-15731.6	-1375.4	289.0	3211.7	42088.1	43960.7
	-15699.8	-1209.4	-246.3	-477.4	-29537.1	42576.5
	-15711.7	-1271.7	-273.2	713.6	-32096.9	43105.7
	-15707.3	-1248.3	340.0	913.6	46978.9	42882.1
	-15719.1	-1310.6	313.1	2104.7	44419.1	43411.3
	-15687.3	-1144.6	-222.2	-1584.5	-27206.2	42027.0
	-15699.2	-1206.9	-249.1	-393.4	-29766.0	42556.2
320.	-14701.1	2259.0	355.4	253.9	-8610.7	374411.1
	-14712.9	2196.7	328.5	1444.9	-6864.2	364969.1
	-14681.1	2362.7	-206.8	-2244.2	7159.8	390149.6
	-14693.0	2300.4	-233.8	-1053.2	8906.3	380707.7
	-14688.6	2323.8	379.5	-853.2	-10134.3	384227.8
	-14700.4	2261.5	352.6	337.9	-8387.9	374785.9
	-14668.6	2427.5	-182.7	-3351.3	5636.2	399966.4
	-14680.5	2365.2	-209.7	-2160.2	7382.7	390524.5
	-15359.8	-1313.1	315.9	2020.7	-5895.5	-166658.2
	-15371.6	-1375.4	289.0	3211.7	-4149.0	-176100.1
	-15339.8	-1209.4	-246.3	-477.4	9875.0	-150919.6
	-15351.7	-1271.7	-273.2	713.6	11621.5	-160361.6
	-15347.3	-1248.3	340.0	913.6	-7419.2	-156841.4
	-15359.1	-1310.6	313.1	2104.7	-5672.7	-166283.3
	-15327.3	-1144.6	-222.2	-1584.5	8351.4	-141102.9
	-15339.2	-1206.9	-249.1	-393.4	10097.9	-150544.8

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11749.0	1792.3	400.2	412.1	104977.4	-302867.8
	-11750.8	1727.5	338.1	1567.7	91022.1	-292073.6
	-11765.0	1891.0	-258.1	-2373.9	-60140.3	-319480.4
	-11766.8	1826.2	-320.1	-1218.4	-74095.6	-308686.2
	-11747.0	1860.1	457.3	-696.8	117843.6	-314172.2
	-11748.8	1795.4	395.3	458.7	103888.3	-303378.0
	-11763.1	1958.9	-200.9	-3482.9	-47274.1	-330784.8
	-11764.9	1894.1	-263.0	-2327.3	-61229.4	-319990.5
	-11831.4	-1841.0	297.5	2179.2	82478.0	302543.3
	-11833.2	-1905.8	235.4	3334.7	68522.7	313337.5
	-11847.4	-1742.3	-360.7	-606.9	-82639.8	285930.7
	-11849.2	-1807.0	-422.8	548.6	-96595.1	296724.9
	-11829.4	-1773.1	354.6	1070.2	95344.2	291238.9
	-11831.2	-1837.9	292.6	2225.8	81388.9	302033.2
	-11845.5	-1674.4	-303.6	-1715.9	-69773.6	274626.4
	-11847.3	-1739.2	-365.6	-560.3	-83728.8	285420.6
160.	-11389.0	1792.3	400.2	412.1	40953.2	-16099.4
	-11390.8	1727.5	338.1	1567.7	36925.3	-15671.1
	-11405.0	1891.0	-258.1	-2373.9	-18852.0	-16916.9
	-11406.8	1826.2	-320.1	-1218.4	-22879.9	-16488.6
	-11387.0	1860.1	457.3	-696.8	44676.0	-16550.2
	-11388.8	1795.4	395.3	458.7	40648.2	-16121.9
	-11403.1	1958.9	-200.9	-3482.9	-15129.1	-17367.7
	-11404.9	1894.1	-263.0	-2327.3	-19157.0	-16939.4
	-11471.4	-1841.0	297.5	2179.2	34885.1	7987.5
	-11473.2	-1905.8	235.4	3334.7	30857.2	8415.8
	-11487.4	-1742.3	-360.7	-606.9	-24920.1	7169.9
	-11489.2	-1807.0	-422.8	548.6	-28947.9	7598.3
	-11469.4	-1773.1	354.6	1070.2	38608.0	7536.6
	-11471.2	-1837.9	292.6	2225.8	34580.1	7965.0
	-11485.5	-1674.4	-303.6	-1715.9	-21197.2	6719.1
	-11487.3	-1739.2	-365.6	-560.3	-25225.1	7147.4
320.	-11029.0	1792.3	400.2	412.1	-23071.8	270668.9
	-11030.8	1727.5	338.1	1567.7	-17172.3	260731.3
	-11045.0	1891.0	-258.1	-2373.9	22437.1	285646.7
	-11046.8	1826.2	-320.1	-1218.4	28336.6	275709.2
	-11027.0	1860.1	457.3	-696.8	-28492.3	281071.6
	-11028.8	1795.4	395.3	458.7	-22592.8	271134.0
	-11043.1	1958.9	-200.9	-3482.9	17016.6	296049.5
	-11044.9	1894.1	-263.0	-2327.3	22916.2	286111.9
	-11111.4	-1841.0	297.5	2179.2	-12708.5	-286568.6
	-11113.2	-1905.8	235.4	3334.7	-6809.0	-296506.1
	-11127.4	-1742.3	-360.7	-606.9	32800.4	-271590.7
	-11129.2	-1807.0	-422.8	548.6	38699.9	-281528.2
	-11109.4	-1773.1	354.6	1070.2	-18129.0	-276165.8
	-11111.2	-1837.9	292.6	2225.8	-12229.4	-286103.4
	-11125.5	-1674.4	-303.6	-1715.9	27380.0	-261188.0
	-11127.3	-1739.2	-365.6	-560.3	33279.5	-271125.5

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9690.5	2057.9	598.2	379.1	118828.7	-329358.4
	-9796.2	1992.5	458.7	1523.7	93670.6	-318550.1
	-10642.8	2165.0	-499.8	-2389.7	-83772.4	-347225.7
	-10748.6	2099.6	-639.3	-1245.1	-108930.6	-336417.4
	-9590.9	2126.8	729.6	-785.4	142511.0	-340762.2
	-9696.7	2061.5	590.1	359.2	117352.8	-329953.9
	-10543.3	2233.9	-368.4	-3554.2	-60090.2	-358629.5
	-10649.0	2168.6	-508.0	-2409.6	-85248.3	-347821.2
	-9864.3	-1464.6	337.4	2260.0	72373.0	257667.9
	-9970.1	-1529.9	197.8	3404.6	47214.9	268476.2
	-10816.6	-1357.5	-760.6	-508.8	-130228.1	239800.6
	-10922.4	-1422.9	-900.2	635.8	-155386.2	250608.9
	-9764.7	-1395.6	468.8	1095.5	96055.3	246264.1
	-9870.5	-1461.0	329.2	2240.1	70897.2	257072.4
	-10717.1	-1288.5	-629.3	-1673.3	-106545.9	228396.7
	-10822.8	-1353.9	-768.8	-528.7	-131704.0	239205.0
160.	-9330.5	2057.9	598.2	379.1	23111.1	-95.8
	-9436.2	1992.5	458.7	1523.7	20282.0	254.9
	-10282.8	2165.0	-499.8	-2389.7	-3807.0	-832.2
	-10388.6	2099.6	-639.3	-1245.1	-6636.1	-481.5
	-9230.9	2126.8	729.6	-785.4	25771.4	-467.5
	-9336.7	2061.5	590.1	359.2	22942.3	-116.8
	-10183.3	2233.9	-368.4	-3554.2	-1146.7	-1203.9
	-10289.0	2168.6	-508.0	-2409.6	-3975.7	-853.2
	-9504.3	-1464.6	337.4	2260.0	18392.3	23337.5

	-9610.1	-1529.9	197.8	3404.6	15563.3	23688.3
	-10456.6	-1357.5	-760.6	-508.8	-8525.7	22601.1
	-10562.4	-1422.9	-900.2	635.8	-11354.8	22951.8
	-9404.7	-1395.6	468.8	1095.5	21052.6	22965.9
	-9510.5	-1461.0	329.2	2240.1	18223.6	23316.6
	-10357.1	-1288.5	-629.3	-1673.3	-5865.4	22229.4
	-10462.8	-1353.9	-768.8	-528.7	-8694.5	22580.2
320.	-8970.5	2057.9	598.2	379.1	-72606.8	329166.6
	-9076.2	1992.5	458.7	1523.7	-53106.7	319059.7
	-9922.8	2165.0	-499.8	-2389.7	76158.6	345561.4
	-10028.6	2099.6	-639.3	-1245.1	95658.6	335454.5
	-8870.9	2126.8	729.6	-785.4	-90968.4	339827.1
	-8976.7	2061.5	590.1	359.2	-71468.3	329720.2
	-9823.3	2233.9	-368.4	-3554.2	57796.9	356221.9
	-9929.0	2168.6	-508.0	-2409.6	77297.0	346115.0
	-9144.3	-1464.6	337.4	2260.0	-35588.5	-210992.9
	-9250.1	-1529.9	197.8	3404.6	-16088.5	-221099.8
	-10096.6	-1357.5	-760.6	-508.8	113176.8	-194598.2
	-10202.4	-1422.9	-900.2	635.8	132676.8	-204705.1
	-9044.7	-1395.6	468.8	1095.5	-53950.2	-200332.5
	-9150.5	-1461.0	329.2	2240.1	-34450.1	-210439.3
	-9997.1	-1288.5	-629.3	-1673.3	94815.2	-183937.7
	-10102.8	-1353.9	-768.8	-528.7	114315.2	-194044.6

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-3922.2	1532.3	438.0	363.7	94745.3	-266909.0
	-4029.4	1477.1	237.7	1486.0	59409.5	-257217.9
	-4715.1	1629.9	-592.0	-2259.0	-89340.8	-283784.2
	-4822.2	1574.7	-792.3	-1136.7	-124676.6	-274093.2
	-3821.1	1590.8	632.1	-828.5	128966.9	-277176.2
	-3928.3	1535.6	431.8	293.8	93631.1	-267485.2
	-4613.9	1688.4	-397.9	-3451.1	-55119.2	-294051.5
	-4721.1	1633.2	-598.2	-2328.8	-90455.0	-284360.4
	-2513.8	-1309.6	96.7	2183.2	34360.3	240367.4
	-2621.0	-1364.8	-103.7	3305.5	-975.5	250058.5
	-3306.7	-1212.0	-933.4	-439.4	-149725.8	223492.2
	-3413.8	-1267.2	-1133.7	682.9	-185061.6	233183.2
	-2412.7	-1251.1	290.7	991.1	68581.8	230100.1
	-2519.8	-1306.3	90.4	2113.4	33246.0	239791.2
	-3205.5	-1153.5	-739.3	-1631.6	-115504.2	213224.9
	-3312.7	-1208.7	-939.6	-509.3	-150840.0	222915.9
160.	-3562.2	1532.3	438.0	363.7	24661.2	-21743.7
	-3669.4	1477.1	237.7	1486.0	21375.8	-20884.5
	-4355.1	1629.9	-592.0	-2259.0	5376.4	-22999.4
	-4462.2	1574.7	-792.3	-1136.7	2091.0	-22140.2
	-3461.1	1590.8	632.1	-828.5	27829.2	-22650.8
	-3568.3	1535.6	431.8	293.8	24543.7	-21791.6
	-4253.9	1688.4	-397.9	-3451.1	8544.4	-23906.5
	-4361.1	1633.2	-598.2	-2328.8	5258.9	-23047.3
	-2153.8	-1309.6	96.7	2183.2	18895.3	30835.0
	-2261.0	-1364.8	-103.7	3305.5	15609.8	31694.2
	-2946.7	-1212.0	-933.4	-439.4	-389.5	29579.3
	-3053.8	-1267.2	-1133.7	682.9	-3675.0	30438.5
	-2052.7	-1251.1	290.7	991.1	22063.2	29927.9
	-2159.8	-1306.3	90.4	2113.4	18777.8	30787.1
	-2845.5	-1153.5	-739.3	-1631.6	2778.4	28672.2
	-2952.7	-1208.7	-939.6	-509.3	-507.1	29531.4
320.	-3202.2	1532.3	438.0	363.7	-45423.0	223421.3
	-3309.4	1477.1	237.7	1486.0	-16658.1	215448.7
	-3995.1	1629.9	-592.0	-2259.0	100093.7	237785.6
	-4102.2	1574.7	-792.3	-1136.7	128858.6	229812.9
	-3101.1	1590.8	632.1	-828.5	-73308.6	231874.4
	-3208.3	1535.6	431.8	293.8	-44543.7	223901.8
	-3893.9	1688.4	-397.9	-3451.1	72208.1	246238.7
	-4001.1	1633.2	-598.2	-2328.8	100972.9	238266.1

	-1793.8	-1309.6	96.7	2183.2	3430.2	-178697.7
	-1901.0	-1364.8	-103.7	3305.5	32195.0	-186670.3
	-2586.7	-1212.0	-933.4	-439.4	148946.9	-164333.4
	-2693.8	-1267.2	-1133.7	682.9	177711.7	-172306.0
	-1692.7	-1251.1	290.7	991.1	-24455.5	-170244.5
	-1799.8	-1306.3	90.4	2113.4	4309.4	-178217.2
	-2485.5	-1153.5	-739.3	-1631.6	121061.2	-155880.3
	-2592.7	-1208.7	-939.6	-509.3	149826.1	-163852.9

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7103.4	863.6	421.4	-263.7	72296.1	-148873.6
	-7127.2	860.8	600.1	556.4	101260.4	-148410.4
	-6923.8	869.5	-963.1	-1197.6	-151717.8	-149853.1
	-6947.5	866.7	-784.4	-377.5	-122753.5	-149389.9
	-7080.3	866.6	248.5	-1132.7	44275.5	-149366.0
	-7104.1	863.8	427.2	-312.6	73239.8	-148902.9
	-6900.7	872.4	-1136.0	-2066.6	-179738.4	-150345.5
	-6924.4	869.7	-957.3	-1246.5	-150774.1	-149882.4
	-8897.5	-1090.5	705.7	1144.5	118427.8	179299.2
	-8921.3	-1093.3	884.4	1964.6	147392.1	179762.4
	-8717.9	-1084.6	-678.8	210.6	-105586.1	178319.7
	-8741.7	-1087.4	-500.1	1030.6	-76621.8	178782.9
	-8874.4	-1087.5	532.8	275.5	90407.1	178806.8
	-8898.2	-1090.3	711.5	1095.6	119371.4	179269.9
	-8694.8	-1081.7	-851.7	-658.4	-133606.8	177827.3
	-8718.6	-1084.5	-672.9	161.6	-104642.5	178290.4
160.	-6820.6	863.6	421.4	-263.7	4879.2	-10694.1
	-6844.4	860.8	600.1	556.4	5248.6	-10675.5
	-6641.0	869.5	-963.1	-1197.6	2379.4	-10737.0
	-6664.8	866.7	-784.4	-377.5	2748.9	-10718.4
	-6797.5	866.6	248.5	-1132.7	4520.0	-10713.6
	-6821.3	863.8	427.2	-312.6	4889.4	-10695.1
	-6617.9	872.4	-1136.0	-2066.6	2020.2	-10756.5
	-6641.7	869.7	-957.3	-1246.5	2389.7	-10738.0
	-8614.8	-1090.5	705.7	1144.5	5516.5	4819.9
	-8638.5	-1093.3	884.4	1964.6	5886.0	4838.5
	-8435.1	-1084.6	-678.8	210.6	3016.7	4777.0
	-8458.9	-1087.4	-500.1	1030.6	3386.2	4795.6
	-8591.7	-1087.5	532.8	275.5	5157.3	4800.4
	-8615.4	-1090.3	711.5	1095.6	5526.7	4818.9
	-8412.0	-1081.7	-851.7	-658.4	2657.5	4757.5
	-8435.8	-1084.5	-672.9	161.6	3027.0	4776.0
320.	-6537.9	863.6	421.4	-263.7	-62537.8	127485.4
	-6561.7	860.8	600.1	556.4	-90763.1	127059.4
	-6358.3	869.5	-963.1	-1197.6	156476.6	128379.1
	-6382.1	866.7	-784.4	-377.5	128251.2	127953.1
	-6514.8	866.6	248.5	-1132.7	-35235.6	127938.7
	-6538.6	863.8	427.2	-312.6	-63460.9	127512.7
	-6335.2	872.4	-1136.0	-2066.6	183778.8	128832.4
	-6359.0	869.7	-957.3	-1246.5	155553.5	128406.4
	-8332.0	-1090.5	705.7	1144.5	-107394.8	-169659.4
	-8355.8	-1093.3	884.4	1964.6	-135620.2	-170085.4
	-8152.4	-1084.6	-678.8	210.6	111619.6	-168765.7
	-8176.2	-1087.4	-500.1	1030.6	83394.2	-169191.7
	-8308.9	-1087.5	532.8	275.5	-80092.6	-169206.0
	-8332.7	-1090.3	711.5	1095.6	-108318.0	-169632.1
	-8129.3	-1081.7	-851.7	-658.4	138921.8	-168312.4
	-8153.1	-1084.5	-672.9	161.6	110696.4	-168738.4

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9137.9	1382.7	761.2	-354.8	130776.8	-241993.5
	-9164.5	1378.5	988.1	817.1	167964.1	-241261.8
	-8845.8	1391.8	-1460.1	-1749.8	-231979.6	-243552.2
	-8872.3	1387.6	-1233.2	-577.9	-194792.3	-242820.5

	-9113.1	1387.2	546.4	-1603.7	95557.0	-242771.0
	-9139.7	1383.0	773.3	-431.7	132744.3	-242039.3
	-8821.0	1396.3	-1674.9	-2998.7	-267199.4	-244329.7
	-8847.5	1392.1	-1448.0	-1826.8	-230012.1	-243598.0
	-7547.0	-1608.5	1114.9	1682.2	188722.6	280866.0
	-7573.5	-1612.7	1341.8	2854.1	225909.9	281597.7
	-7254.8	-1599.4	-1106.4	287.1	-174033.8	279307.3
	-7281.3	-1603.6	-879.5	1459.0	-136846.5	280039.0
	-7522.2	-1604.0	900.1	433.3	153502.7	280088.4
	-7548.7	-1608.2	1126.9	1605.2	190690.0	280820.1
	-7230.0	-1594.9	-1321.2	-961.8	-209253.7	278529.7
	-7256.5	-1599.1	-1094.3	210.1	-172066.4	279261.4
160.	-8777.9	1382.7	761.2	-354.8	8977.7	-20762.4
	-8804.5	1378.5	988.1	817.1	9862.1	-20707.0
	-8485.8	1391.8	-1460.1	-1749.8	1628.7	-20864.1
	-8512.3	1387.6	-1233.2	-577.9	2513.1	-20808.8
	-8753.1	1387.2	546.4	-1603.7	8137.1	-20821.8
	-8779.7	1383.0	773.3	-431.7	9021.4	-20766.4
	-8461.0	1396.3	-1674.9	-2998.7	788.0	-20923.5
	-8487.5	1392.1	-1448.0	-1826.8	1672.4	-20868.2
	-7187.0	-1608.5	1114.9	1682.2	10334.7	23508.5
	-7213.5	-1612.7	1341.8	2854.1	11219.1	23563.9
	-6894.8	-1599.4	-1106.4	287.1	2985.7	23406.8
	-6921.3	-1603.6	-879.5	1459.0	3870.0	23462.2
	-7162.2	-1604.0	900.1	433.3	9494.0	23449.1
	-7188.7	-1608.2	1126.9	1605.2	10378.4	23504.5
	-6870.0	-1594.9	-1321.2	-961.8	2145.0	23347.4
	-6896.5	-1599.1	-1094.3	210.1	3029.4	23402.8
320.	-8417.9	1382.7	761.2	-354.8	-112821.4	200468.6
	-8444.5	1378.5	988.1	817.1	-148240.0	199847.7
	-8125.8	1391.8	-1460.1	-1749.8	235237.0	201823.9
	-8152.3	1387.6	-1233.2	-577.9	199818.4	201202.9
	-8393.1	1387.2	546.4	-1603.7	-79282.8	201127.4
	-8419.7	1383.0	773.3	-431.7	-114701.4	200506.4
	-8101.0	1396.3	-1674.9	-2998.7	268775.6	202482.7
	-8127.5	1392.1	-1448.0	-1826.8	233357.0	201861.7
	-6827.0	-1608.5	1114.9	1682.2	-168053.2	-233848.9
	-6853.5	-1612.7	1341.8	2854.1	-203471.8	-234469.9
	-6534.8	-1599.4	-1106.4	287.1	180005.1	-232493.7
	-6561.3	-1603.6	-879.5	1459.0	144586.5	-233114.6
	-6802.2	-1604.0	900.1	433.3	-134514.7	-233190.1
	-6828.7	-1608.2	1126.9	1605.2	-169933.3	-233811.1
	-6510.0	-1594.9	-1321.2	-961.8	213543.7	-231834.9
	-6536.5	-1599.1	-1094.3	210.1	178125.1	-232455.9

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7710.7	1543.3	743.6	285.1	128053.1	-271337.7
	-7689.0	1539.1	562.5	1425.4	98365.3	-270615.3
	-7487.5	1548.5	-791.5	-2263.8	-122001.2	-272247.8
	-7465.7	1544.3	-972.6	-1123.6	-151688.9	-271525.4
	-7731.0	1547.5	914.2	-931.1	156007.8	-272062.7
	-7709.3	1543.3	733.0	209.2	126320.1	-271340.3
	-7507.8	1552.7	-621.0	-3480.0	-94046.5	-272972.8
	-7486.0	1548.5	-802.1	-2339.8	-123734.2	-272250.4
	-9441.9	-1509.4	461.9	2208.3	81899.3	256173.4
	-9420.1	-1513.6	280.7	3348.6	52211.6	256895.8
	-9218.6	-1504.2	-1073.3	-340.6	-168155.0	255263.3
	-9196.9	-1508.4	-1254.4	799.7	-197842.7	255985.7
	-9462.2	-1505.1	632.4	992.1	109854.1	255448.4
	-9440.4	-1509.4	451.3	2132.4	80166.3	256170.8
	-9238.9	-1500.0	-902.8	-1556.8	-140200.2	254538.3
	-9217.2	-1504.2	-1083.9	-416.5	-169887.9	255260.7
160.	-7350.7	1543.3	743.6	285.1	9070.8	-24406.6
	-7329.0	1539.1	562.5	1425.4	8362.0	-24358.3
	-7127.5	1548.5	-791.5	-2263.8	4639.3	-24489.1
	-7105.7	1544.3	-972.6	-1123.6	3930.6	-24440.8
	-7371.0	1547.5	914.2	-931.1	9742.0	-24455.4
	-7349.3	1543.3	733.0	209.2	9033.3	-24407.1
	-7147.8	1552.7	-621.0	-3480.0	5310.5	-24538.0
	-7126.0	1548.5	-802.1	-2339.8	4601.8	-24489.6
	-9081.9	-1509.4	461.9	2208.3	8003.2	14675.1
	-9060.1	-1513.6	280.7	3348.6	7294.5	14723.4
	-8858.6	-1504.2	-1073.3	-340.6	3571.8	14592.6
	-8836.9	-1508.4	-1254.4	799.7	2863.0	14640.9
	-9102.2	-1505.1	632.4	992.1	8674.5	14626.2
	-9080.4	-1509.4	451.3	2132.4	7965.7	14674.6
	-8878.9	-1500.0	-902.8	-1556.8	4243.0	14543.7
	-8857.2	-1504.2	-1083.9	-416.5	3534.2	14592.1
320.	-6990.7	1543.3	743.6	285.1	-109911.6	222524.4
	-6969.0	1539.1	562.5	1425.4	-81641.3	221898.7
	-6767.5	1548.5	-791.5	-2263.8	131279.9	223269.6
	-6745.7	1544.3	-972.6	-1123.6	159550.2	222643.9
	-7011.0	1547.5	914.2	-931.1	-136523.9	223151.8
	-6989.3	1543.3	733.0	209.2	-108253.6	222526.1
	-6787.8	1552.7	-621.0	-3480.0	104667.6	223896.9
	-6766.0	1548.5	-802.1	-2339.8	132937.9	223271.2
	-8721.9	-1509.4	461.9	2208.3	-65892.9	-226823.3
	-8700.1	-1513.6	280.7	3348.6	-37622.7	-227449.0
	-8498.6	-1504.2	-1073.3	-340.6	175298.6	-226078.2
	-8476.9	-1508.4	-1254.4	799.7	203568.8	-226703.9
	-8742.2	-1505.1	632.4	992.1	-92505.2	-226196.0
	-8720.4	-1509.4	451.3	2132.4	-64235.0	-226821.7
	-8518.9	-1500.0	-902.8	-1556.8	148686.3	-225450.8
	-8497.2	-1504.2	-1083.9	-416.5	176956.5	-226076.5

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9480.8	1571.0	663.7	341.5	115574.7	-268921.4
	-9450.0	1567.0	418.9	1481.0	75329.1	-268219.8
	-9323.0	1576.1	-649.3	-2292.8	-99719.1	-269792.4
	-9292.2	1572.1	-894.2	-1153.4	-139964.7	-269090.7
	-9510.6	1575.1	900.6	-864.6	154523.1	-269623.8
	-9479.8	1571.0	655.8	274.8	114277.5	-268922.2
	-9352.8	1580.1	-412.4	-3499.0	-60770.7	-270494.8
	-9322.0	1576.1	-657.3	-2359.5	-101016.3	-269793.1
	-7513.5	-1236.0	275.9	2226.8	51727.7	229027.3
	-7482.7	-1240.0	31.0	3366.2	11482.1	229728.9
	-7355.7	-1230.9	-1037.2	-407.6	-163566.1	228156.3
	-7324.9	-1235.0	-1282.0	731.9	-203811.7	228858.0
	-7543.2	-1232.0	512.8	1020.7	90676.1	228324.9
	-7512.4	-1236.0	268.0	2160.1	50430.5	229026.5
	-7385.5	-1226.9	-800.3	-1613.7	-124617.7	227453.9
	-7354.7	-1230.9	-1045.1	-474.2	-164863.3	228155.6
160.	-9120.8	1571.0	663.7	341.5	9386.2	-17555.8
	-9090.0	1567.0	418.9	1481.0	8311.1	-17495.8
	-8963.0	1576.1	-649.3	-2292.8	4176.2	-17618.1
	-8932.2	1572.1	-894.2	-1153.4	3101.0	-17558.0
	-9150.6	1575.1	900.6	-864.6	10429.0	-17614.7
	-9119.8	1571.0	655.8	274.8	9353.8	-17554.7
	-8992.8	1580.1	-412.4	-3499.0	5219.0	-17676.9
	-8962.0	1576.1	-657.3	-2359.5	4143.8	-17616.9
	-7153.5	-1236.0	275.9	2226.8	7589.8	31268.0
	-7122.7	-1240.0	31.0	3366.2	6514.6	31328.0
	-6995.7	-1230.9	-1037.2	-407.6	2379.8	31205.7
	-6964.9	-1235.0	-1282.0	731.9	1304.6	31265.7
	-7183.2	-1232.0	512.8	1020.7	8632.6	31209.1
	-7152.4	-1236.0	268.0	2160.1	7557.4	31269.1
	-7025.5	-1226.9	-800.3	-1613.7	3422.6	31146.8
	-6994.7	-1230.9	-1045.1	-474.2	2347.4	31206.8
320.	-8760.8	1571.0	663.7	341.5	-96802.3	233809.8
	-8730.0	1567.0	418.9	1481.0	-58707.0	233228.2

	-8603.0	1576.1	-649.3	-2292.8	108071.6	234556.3
	-8572.2	1572.1	-894.2	-1153.4	146166.8	233974.7
	-8790.6	1575.1	900.6	-864.6	-133665.1	234394.4
	-8759.8	1571.0	655.8	274.8	-95569.9	233812.8
	-8632.8	1580.1	-412.4	-3499.0	71208.7	235140.9
	-8602.0	1576.1	-657.3	-2359.5	109304.0	234559.3
	-6793.5	-1236.0	275.9	2226.8	-36548.1	-166491.3
	-6762.7	-1240.0	31.0	3366.2	1547.2	-167073.0
	-6635.7	-1230.9	-1037.2	-407.6	168325.7	-165744.9
	-6604.9	-1235.0	-1282.0	731.9	206421.0	-166326.5
	-6823.2	-1232.0	512.8	1020.7	-73411.0	-165906.7
	-6792.4	-1236.0	268.0	2160.1	-35315.7	-166488.4
	-6665.5	-1226.9	-800.3	-1613.7	131462.9	-165160.2
	-6634.7	-1230.9	-1045.1	-474.2	169558.1	-165741.9

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-3151.1	877.7	676.3	-269.9	97129.1	-149982.0
	-3213.5	915.9	824.8	543.0	122854.6	-156428.8
	-2492.1	822.9	-446.5	-1199.0	-98855.8	-140646.4
	-2554.5	861.1	-298.0	-386.1	-73130.4	-147093.3
	-3093.2	836.9	532.5	-1131.8	72219.0	-143098.2
	-3155.7	875.1	681.0	-318.9	97944.5	-149545.0
	-2434.2	782.1	-590.4	-2060.9	-123765.9	-133762.6
	-2496.7	820.3	-441.9	-1248.0	-98040.5	-140209.5
	-4636.7	-957.6	896.5	1146.4	135063.3	161466.1
	-4699.2	-919.4	1045.0	1959.3	160788.8	155019.2
	-3977.7	-1012.4	-226.3	217.3	-60921.6	170801.6
	-4040.2	-974.2	-77.8	1030.2	-35196.2	164354.8
	-4578.9	-998.5	752.7	284.5	110153.2	168349.9
	-4641.3	-960.2	901.2	1097.4	135878.7	161903.0
	-3919.9	-1053.3	-370.2	-644.6	-85831.7	177685.4
	-3982.3	-1015.0	-221.7	168.3	-60106.3	171238.6
160.	-2868.4	877.7	676.3	-269.9	-11086.8	-9549.6
	-2930.8	915.9	824.8	543.0	-9119.4	-9878.4
	-2209.4	822.9	-446.5	-1199.0	-27410.4	-8981.7
	-2271.8	861.1	-298.0	-386.1	-25443.0	-9310.5
	-2810.5	836.9	532.5	-1131.8	-12982.0	-9199.2
	-2872.9	875.1	681.0	-318.9	-11014.6	-9528.0
	-2151.5	782.1	-590.4	-2060.9	-29305.6	-8631.3
	-2213.9	820.3	-441.9	-1248.0	-27338.2	-8960.1
	-4354.0	-957.6	896.5	1146.4	-8384.3	8245.2
	-4416.4	-919.4	1045.0	1959.3	-6416.8	7916.4
	-3695.0	-1012.4	-226.3	217.3	-24707.8	8813.1
	-3757.4	-974.2	-77.8	1030.2	-22740.4	8484.3
	-4296.1	-998.5	752.7	284.5	-10279.5	8595.6
	-4358.6	-960.2	901.2	1097.4	-8312.0	8266.8
	-3637.1	-1053.3	-370.2	-644.6	-26603.0	9163.5
	-3699.6	-1015.0	-221.7	168.3	-24635.6	8834.7
320.	-2585.6	877.7	676.3	-269.9	-119302.8	130882.9
	-2648.0	915.9	824.8	543.0	-141093.4	136672.1
	-1926.6	822.9	-446.5	-1199.0	44035.1	122683.0
	-1989.1	861.1	-298.0	-386.1	22244.5	128472.2
	-2527.7	836.9	532.5	-1131.8	-98183.1	124699.9
	-2590.2	875.1	681.0	-318.9	-119973.7	130489.1
	-1868.8	782.1	-590.4	-2060.9	65154.8	116500.0
	-1931.2	820.3	-441.9	-1248.0	43364.2	122289.2
	-4071.3	-957.6	896.5	1146.4	-151831.9	-144975.6
	-4133.7	-919.4	1045.0	1959.3	-173622.5	-139186.4
	-3412.3	-1012.4	-226.3	217.3	11506.0	-153175.5
	-3474.7	-974.2	-77.8	1030.2	-10284.6	-147386.3
	-4013.4	-998.5	752.7	284.5	-130712.2	-151158.6
	-4075.8	-960.2	901.2	1097.4	-152502.8	-145369.4
	-3354.4	-1053.3	-370.2	-644.6	32625.7	-159358.5
	-3416.8	-1015.0	-221.7	168.3	10835.1	-153569.3

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10035.2	1191.3	969.8	-397.4	146516.1	-225069.8
	-10138.5	1257.9	1143.3	775.5	178018.3	-236225.0
	-9021.8	1086.8	-653.8	-1667.4	-152556.0	-207607.7
	-9125.1	1153.4	-480.4	-494.6	-121053.7	-218762.9
	-9936.8	1120.7	805.5	-1607.1	116671.6	-213249.7
	-10040.1	1187.3	978.9	-434.2	148173.9	-224404.9
	-8923.4	1016.2	-818.2	-2877.1	-182400.4	-195787.6
	-9026.7	1082.8	-644.7	-1704.3	-150898.1	-206942.8
	-9938.7	-2006.4	1194.6	1555.7	187660.6	316244.9
	-10042.0	-1939.8	1368.0	2728.6	219162.8	305089.7
	-8925.3	-2110.9	-429.1	285.7	-111411.5	333707.0
	-9028.6	-2044.3	-255.6	1458.5	-79909.2	322551.8
	-9840.3	-2076.9	1030.2	346.0	157816.2	328065.0
	-9943.6	-2010.3	1203.7	1518.9	189318.4	316909.8
	-8826.9	-2181.5	-593.4	-924.0	-141255.9	345527.1
	-8930.2	-2114.9	-420.0	248.8	-109753.6	334371.9
160.	-9675.2	1191.3	969.8	-397.4	-8653.0	-34463.0
	-9778.5	1257.9	1143.3	775.5	-4902.9	-34963.4
	-8661.8	1086.8	-653.8	-1667.4	-47941.2	-33724.8
	-8765.1	1153.4	-480.4	-494.6	-44191.1	-34225.2
	-9576.8	1120.7	805.5	-1607.1	-12203.0	-33931.7
	-9680.1	1187.3	978.9	-434.2	-8453.0	-34432.2
	-8563.4	1016.2	-818.2	-2877.1	-51491.2	-33193.5
	-8666.7	1082.8	-644.7	-1704.3	-47741.2	-33693.9
	-9578.7	-2006.4	1194.6	1555.7	-3471.2	-4774.6
	-9682.0	-1939.8	1368.0	2728.6	278.9	-5275.1
	-8565.3	-2110.9	-429.1	285.7	-42759.4	-4036.4
	-8668.6	-2044.3	-255.6	1458.5	-39009.3	-4536.8
	-9480.3	-2076.9	1030.2	346.0	-7021.3	-4243.4
	-9583.6	-2010.3	1203.7	1518.9	-3271.2	-4743.8
	-8466.9	-2181.5	-593.4	-924.0	-46309.5	-3505.2
	-8570.2	-2114.9	-420.0	248.8	-42559.4	-4005.6
320.	-9315.2	1191.3	969.8	-397.4	-163822.0	156143.8
	-9418.5	1257.9	1143.3	775.5	-187824.2	166298.2
	-8301.8	1086.8	-653.8	-1667.4	56673.7	140158.2
	-8405.1	1153.4	-480.4	-494.6	32671.5	150312.6
	-9216.8	1120.7	805.5	-1607.1	-141077.8	145386.2
	-9320.1	1187.3	978.9	-434.2	-165080.0	155540.6
	-8203.4	1016.2	-818.2	-2877.1	79418.0	129400.6
	-8306.7	1082.8	-644.7	-1704.3	55415.8	139555.0
	-9218.7	-2006.4	1194.6	1555.7	-194603.0	-325794.2
	-9322.0	-1939.8	1368.0	2728.6	-218605.2	-315639.8
	-8205.3	-2110.9	-429.1	285.7	25892.8	-341779.9
	-8308.6	-2044.3	-255.6	1458.5	1890.6	-331625.5
	-9120.3	-2076.9	1030.2	346.0	-171858.7	-336551.8
	-9223.6	-2010.3	1203.7	1518.9	-195860.9	-326397.4
	-8106.9	-2181.5	-593.4	-924.0	48637.0	-352537.5
	-8210.2	-2114.9	-420.0	248.8	24634.9	-342383.1

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10938.0	1788.1	365.3	-417.2	79331.0	-293822.8
	-10935.4	1853.9	433.5	765.8	95578.7	-304933.1
	-10931.4	1677.2	-458.0	-1640.0	-132154.6	-275187.8
	-10928.8	1742.9	-389.8	-456.9	-115906.9	-286298.1
	-10940.6	1719.4	302.0	-1541.9	64213.3	-282208.3
	-10938.0	1785.1	370.2	-358.9	80461.1	-293318.6
	-10934.0	1608.5	-521.4	-2764.7	-147272.3	-263573.4
	-10931.3	1674.2	-453.2	-1581.7	-131024.5	-274683.7
	-11069.6	-1529.7	459.5	1420.3	102139.2	266507.9
	-11067.0	-1464.0	527.7	2603.3	118387.0	255397.6
	-11063.0	-1640.7	-363.9	197.5	-109346.4	285142.8
	-11060.3	-1574.9	-295.7	1380.6	-93098.6	274032.6
	-11072.2	-1598.5	396.1	295.6	87021.6	278122.4

	-11069.6	-1532.7	464.3	1478.6	103269.4	267012.1
	-11065.5	-1709.4	-427.2	-927.2	-124464.0	296757.3
	-11062.9	-1643.6	-359.0	255.8	-108216.2	285647.0
160.	-10578.0	1788.1	365.3	-417.2	20877.4	-7726.6
	-10575.4	1853.9	433.5	765.8	26211.4	-8316.8
	-10571.4	1677.2	-458.0	-1640.0	-58869.0	-6838.4
	-10568.8	1742.9	-389.8	-456.9	-53535.0	-7428.7
	-10580.6	1719.4	302.0	-1541.9	15897.0	-7108.1
	-10578.0	1785.1	370.2	-358.9	21231.0	-7698.3
	-10574.0	1608.5	-521.4	-2764.7	-63849.4	-6219.9
	-10571.3	1674.2	-453.2	-1581.7	-58515.4	-6810.2
	-10709.6	-1529.7	459.5	1420.3	28622.6	21748.9
	-10707.0	-1464.0	527.7	2603.3	33956.6	21158.6
	-10703.0	-1640.7	-363.9	197.5	-51123.8	22637.1
	-10700.3	-1574.9	-295.7	1380.6	-45789.8	22046.8
	-10712.2	-1598.5	396.1	295.6	23642.2	22367.4
	-10709.6	-1532.7	464.3	1478.6	28976.2	21777.1
	-10705.5	-1709.4	-427.2	-927.2	-56104.2	23255.6
	-10702.9	-1643.6	-359.0	255.8	-50770.2	22665.3
320.	-10218.0	1788.1	365.3	-417.2	-37576.6	278369.7
	-10215.4	1853.9	433.5	765.8	-43156.3	288299.5
	-10211.4	1677.2	-458.0	-1640.0	14417.0	261511.0
	-10208.8	1742.9	-389.8	-456.9	8837.2	271440.8
	-10220.6	1719.4	302.0	-1541.9	-32419.7	267992.2
	-10218.0	1785.1	370.2	-358.9	-37999.5	277922.0
	-10214.0	1608.5	-521.4	-2764.7	19573.8	251133.5
	-10211.3	1674.2	-453.2	-1581.7	13994.1	261063.3
	-10349.6	-1529.7	459.5	1420.3	-44894.5	-223010.1
	-10347.0	-1464.0	527.7	2603.3	-50474.2	-213080.3
	-10343.0	-1640.7	-363.9	197.5	7099.1	-239868.8
	-10340.3	-1574.9	-295.7	1380.6	1519.3	-229939.0
	-10352.2	-1598.5	396.1	295.6	-39737.6	-233387.5
	-10349.6	-1532.7	464.3	1478.6	-45317.4	-223457.8
	-10345.5	-1709.4	-427.2	-927.2	12255.9	-250246.3
	-10342.9	-1643.6	-359.0	255.8	6676.2	-240316.5

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10134.4	1692.7	235.2	-228.0	65160.5	-286197.8
	-10135.9	1757.6	265.4	979.3	73499.9	-297132.0
	-10134.6	1587.8	-397.6	-1839.8	-122587.6	-268541.7
	-10136.2	1652.7	-367.4	-632.4	-114248.1	-279475.9
	-10132.5	1625.5	207.5	-1349.0	57478.0	-274886.5
	-10134.1	1690.4	237.7	-141.6	65817.5	-285820.7
	-10132.7	1520.6	-425.3	-2960.7	-130270.0	-257230.4
	-10134.3	1585.5	-395.0	-1753.4	-121930.5	-268164.6
	-10082.9	-1657.5	278.4	1602.3	77232.4	278378.7
	-10084.5	-1592.6	308.6	2809.7	85571.9	267444.5
	-10083.1	-1762.3	-354.4	-9.4	-110515.6	296034.8
	-10084.7	-1697.4	-324.1	1197.9	-102176.1	285100.5
	-10081.0	-1724.6	250.7	481.4	69550.0	289690.0
	-10082.6	-1659.7	281.0	1688.8	77889.5	278755.8
	-10081.3	-1829.5	-382.0	-1130.3	-118198.0	307346.1
	-10082.8	-1764.6	-351.8	77.0	-109858.6	296411.8
160.	-9774.4	1692.7	235.2	-228.0	27533.1	-15373.5
	-9775.9	1757.6	265.4	979.3	31034.1	-15923.1
	-9774.6	1587.8	-397.6	-1839.8	-58970.6	-14494.9
	-9776.2	1652.7	-367.4	-632.4	-55469.7	-15044.4
	-9772.5	1625.5	207.5	-1349.0	24278.4	-14805.8
	-9774.1	1690.4	237.7	-141.6	27779.4	-15355.3
	-9772.7	1520.6	-425.3	-2960.7	-62225.3	-13927.1
	-9774.3	1585.5	-395.0	-1753.4	-58724.3	-14476.7
	-9722.9	-1657.5	278.4	1602.3	32686.9	13185.6
	-9724.5	-1592.6	308.6	2809.7	36187.9	12636.0
	-9723.1	-1762.3	-354.4	-9.4	-53816.8	14064.2
	-9724.7	-1697.4	-324.1	1197.9	-50315.8	13514.7
	-9721.0	-1724.6	250.7	481.4	29432.3	13753.3
	-9722.6	-1659.7	281.0	1688.8	32933.3	13203.8
	-9721.3	-1829.5	-382.0	-1130.3	-57071.5	14632.0
	-9722.8	-1764.6	-351.8	77.0	-53570.5	14082.4
320.	-9414.4	1692.7	235.2	-228.0	-10094.5	255450.8
	-9415.9	1757.6	265.4	979.3	-11432.0	265285.9
	-9414.6	1587.8	-397.6	-1839.8	4646.5	239552.0
	-9416.2	1652.7	-367.4	-632.4	3309.0	249387.1
	-9412.5	1625.5	207.5	-1349.0	-8921.4	245274.9
	-9414.1	1690.4	237.7	-141.6	-10258.9	255110.0
	-9412.7	1520.6	-425.3	-2960.7	5819.6	229376.1
	-9414.3	1585.5	-395.0	-1753.4	4482.1	239211.2
	-9362.9	-1657.5	278.4	1602.3	-11858.8	-252007.5
	-9364.5	-1592.6	308.6	2809.7	-13196.3	-242172.4
	-9363.1	-1762.3	-354.4	-9.4	2882.2	-267906.3
	-9364.7	-1697.4	-324.1	1197.9	1544.7	-258071.2
	-9361.0	-1724.6	250.7	481.4	-10685.7	-262183.3
	-9362.6	-1659.7	281.0	1688.8	-12023.2	-252348.2
	-9361.3	-1829.5	-382.0	-1130.3	4055.3	-278082.1
	-9362.8	-1764.6	-351.8	77.0	2717.8	-268247.0

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12408.3	1410.9	213.3	-12.4	62986.1	-258416.7
	-12415.0	1473.9	217.9	1194.9	64439.4	-269120.3
	-12398.6	1305.2	-357.0	-2020.5	-112289.0	-240421.0
	-12405.2	1368.2	-352.5	-813.2	-110835.7	-251124.5
	-12401.4	1346.1	208.9	-1114.5	61590.3	-247390.9
	-12408.1	1409.0	213.5	92.8	63043.6	-258094.4
	-12391.7	1240.4	-361.4	-3122.6	-113684.8	-229395.1
	-12398.4	1303.3	-356.9	-1915.3	-112231.5	-240098.7
	-12061.4	-1873.0	219.5	1775.1	64978.1	300124.1
	-12068.1	-1810.1	224.1	2982.4	66431.4	289420.5
	-12051.7	-1978.7	-350.8	-233.1	-110297.0	318119.8
	-12058.4	-1915.8	-346.2	974.2	-108843.7	307416.2
	-12054.6	-1937.9	215.1	673.0	63582.2	311149.9
	-12061.2	-1874.9	219.7	1880.3	65035.5	300446.3
	-12044.9	-2043.6	-355.2	-1335.2	-111692.8	329145.6
	-12051.5	-1980.6	-350.6	-127.9	-110239.5	318442.1
160.	-12048.3	1410.9	213.3	-12.4	28858.8	-32671.6
	-12055.0	1473.9	217.9	1194.9	29580.8	-33304.2
	-12038.6	1305.2	-357.0	-2020.5	-55165.1	-31586.7
	-12045.2	1368.2	-352.5	-813.2	-54443.0	-32219.3
	-12041.4	1346.1	208.9	-1114.5	28166.9	-32021.0
	-12048.1	1409.0	213.5	92.8	28889.0	-32653.6
	-12031.7	1240.4	-361.4	-3122.6	-55856.9	-30936.1
	-12038.4	1303.3	-356.9	-1915.3	-55134.8	-31568.7
	-11701.4	-1873.0	219.5	1775.1	29855.7	439.8
	-11708.1	-1810.1	224.1	2982.4	30577.8	-192.8
	-11691.7	-1978.7	-350.8	-233.1	-54168.1	1524.7
	-11698.4	-1915.8	-346.2	974.2	-53446.0	892.1
	-11694.6	-1937.9	215.1	673.0	29163.9	1090.3
	-11701.2	-1874.9	219.7	1880.3	29886.0	457.8
	-11684.9	-2043.6	-355.2	-1335.2	-54859.9	2175.2
	-11691.5	-1980.6	-350.6	-127.9	-54137.8	1542.7
320.	-11688.3	1410.9	213.3	-12.4	-5268.7	193073.4
	-11695.0	1473.9	217.9	1194.9	-5277.8	202511.8
	-11678.6	1305.2	-357.0	-2020.5	1958.8	177247.5
	-11685.2	1368.2	-352.5	-813.2	1949.6	186685.9
	-11681.4	1346.1	208.9	-1114.5	-5256.5	183348.8
	-11688.1	1409.0	213.5	92.8	-5265.7	192787.2
	-11671.7	1240.4	-361.4	-3122.6	1971.0	167522.9
	-11678.4	1303.3	-356.9	-1915.3	1961.8	176961.3
	-11341.4	-1873.0	219.5	1775.1	-5266.5	-299244.6
	-11348.1	-1810.1	224.1	2982.4	-5275.6	-289806.2
	-11331.7	-1978.7	-350.8	-233.1	1961.0	-315070.5

	-11338.4	-1915.8	-346.2	974.2	1951.8	-305632.1
	-11334.6	-1937.9	215.1	673.0	-5254.3	-308969.2
	-11341.2	-1874.9	219.7	1880.3	-5263.5	-299530.8
	-11324.9	-2043.6	-355.2	-1335.2	1973.1	-324795.2
	-11331.5	-1980.6	-350.6	-127.9	1964.0	-315356.7

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11195.4	2095.5	246.4	250.2	66233.0	-329926.3
	-11183.2	2159.6	220.9	1435.5	59496.9	-340773.9
	-11215.9	1987.7	-302.9	-2231.9	-96693.1	-311707.1
	-11203.7	2051.8	-328.5	-1046.5	-103429.2	-322554.7
	-11208.4	2028.9	269.3	-855.9	72320.4	-318670.1
	-11196.1	2093.0	243.8	329.4	65584.3	-329517.7
	-11228.9	1921.2	-280.0	-3338.0	-90605.7	-300450.9
	-11216.6	1985.3	-305.5	-2152.6	-97341.8	-311298.5
	-11808.0	-1223.6	208.6	2031.0	56088.3	231870.5
	-11795.7	-1159.4	183.1	3216.4	49352.2	221022.9
	-11828.4	-1331.3	-340.7	-451.0	-106837.7	250089.7
	-11816.2	-1267.2	-366.2	734.3	-113573.8	239242.1
	-11820.9	-1290.1	231.6	924.9	62175.7	243126.7
	-11808.7	-1226.0	206.0	2110.3	55439.6	232279.1
	-11841.4	-1397.8	-317.8	-1557.1	-100750.4	261345.9
	-11829.2	-1333.7	-343.3	-371.8	-107486.5	250498.3
160.	-10835.4	2095.5	246.4	250.2	26808.6	5347.6
	-10823.2	2159.6	220.9	1435.5	24160.9	4757.0
	-10855.9	1987.7	-302.9	-2231.9	-48225.6	6324.0
	-10843.7	2051.8	-328.5	-1046.5	-50873.3	5733.5
	-10848.4	2028.9	269.3	-855.9	29226.6	5959.8
	-10836.1	2093.0	243.8	329.4	26578.9	5369.2
	-10868.9	1921.2	-280.0	-3338.0	-45807.5	6936.2
	-10856.6	1985.3	-305.5	-2152.6	-48455.3	6345.6
	-11448.0	-1223.6	208.6	2031.0	22707.5	36101.8
	-11435.7	-1159.4	183.1	3216.4	20059.8	35511.2
	-11468.4	-1331.3	-340.7	-451.0	-52326.6	37078.2
	-11456.2	-1267.2	-366.2	734.3	-54974.4	36487.6
	-11460.9	-1290.1	231.6	924.9	25125.6	36713.9
	-11448.7	-1226.0	206.0	2110.3	22477.8	36123.3
	-11481.4	-1397.8	-317.8	-1557.1	-49908.6	37690.4
	-11469.2	-1333.7	-343.3	-371.8	-52556.3	37099.8
320.	-10475.4	2095.5	246.4	250.2	-12616.2	340621.5
	-10463.2	2159.6	220.9	1435.5	-11175.6	350288.0
	-10495.9	1987.7	-302.9	-2231.9	242.3	324355.2
	-10483.7	2051.8	-328.5	-1046.5	1683.0	334021.7
	-10488.4	2028.9	269.3	-855.9	-13867.5	330589.6
	-10476.1	2093.0	243.8	329.4	-12426.9	340256.0
	-10508.9	1921.2	-280.0	-3338.0	-1009.0	314323.3
	-10496.6	1985.3	-305.5	-2152.6	431.7	323989.7
	-11088.0	-1223.6	208.6	2031.0	-10673.7	-159667.0
	-11075.7	-1159.4	183.1	3216.4	-9233.0	-150000.5
	-11108.4	-1331.3	-340.7	-451.0	2184.9	-175933.2
	-11096.2	-1267.2	-366.2	734.3	3625.6	-166266.8
	-11100.9	-1290.1	231.6	924.9	-11925.0	-169698.9
	-11088.7	-1226.0	206.0	2110.3	-10484.3	-160032.4
	-11121.4	-1397.8	-317.8	-1557.1	933.6	-185965.2
	-11109.2	-1333.7	-343.3	-371.8	2374.2	-176298.7

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8646.8	1735.0	385.1	431.3	80385.0	-293324.2
	-8645.5	1801.5	326.1	1585.6	66715.1	-304454.7
	-8634.1	1630.4	-249.3	-2345.8	-82588.1	-275705.5
	-8632.8	1697.0	-308.2	-1191.5	-96258.0	-286836.1
	-8648.4	1665.2	439.5	-671.6	93021.9	-281645.6
	-8647.1	1731.7	380.6	482.7	79352.0	-292776.1
	-8635.7	1560.6	-194.9	-3448.8	-69951.2	-264026.9
	-8634.4	1627.2	-253.8	-2294.4	-83621.2	-275157.5
	-8716.0	-1642.6	306.4	2181.7	61613.5	271537.3
	-8714.6	-1576.0	247.5	3336.0	47943.6	260406.7
	-8703.2	-1747.1	-328.0	-595.4	-101359.6	289156.0
	-8701.9	-1680.6	-386.9	558.9	-115029.5	278025.4
	-8717.6	-1712.4	360.8	1078.7	74250.4	283215.9
	-8716.2	-1645.8	301.9	2233.0	60580.5	272085.3
	-8704.9	-1816.9	-273.5	-1698.4	-88722.7	300834.5
	-8703.5	-1750.4	-332.5	-544.1	-102392.6	289704.0
160.	-8286.8	1735.0	385.1	431.3	18773.9	-15725.8
	-8285.5	1801.5	326.1	1585.6	14535.6	-16210.5
	-8274.1	1630.4	-249.3	-2345.8	-42700.4	-14834.1
	-8272.8	1697.0	-308.2	-1191.5	-46938.7	-15318.9
	-8288.4	1665.2	439.5	-671.6	22701.5	-15215.2
	-8287.1	1731.7	380.6	482.7	18463.2	-15699.9
	-8275.7	1560.6	-194.9	-3448.8	-38772.8	-14323.5
	-8274.4	1627.2	-253.8	-2294.4	-43011.1	-14808.3
	-8356.0	-1642.6	306.4	2181.7	12587.9	8727.4
	-8354.6	-1576.0	247.5	3336.0	8349.6	8242.7
	-8343.2	-1747.1	-328.0	-595.4	-48886.4	9619.1
	-8341.9	-1680.6	-386.9	558.9	-53124.6	9134.3
	-8357.6	-1712.4	360.8	1078.7	16515.5	9238.0
	-8356.2	-1645.8	301.9	2233.0	12277.2	8753.3
	-8344.9	-1816.9	-273.5	-1698.4	-44958.8	10129.7
	-8343.5	-1750.4	-332.5	-544.1	-49197.1	9644.9
320.	-7926.8	1735.0	385.1	431.3	-42837.9	261872.7
	-7925.5	1801.5	326.1	1585.6	-37644.5	272033.7
	-7914.1	1630.4	-249.3	-2345.8	-2812.0	246037.1
	-7912.8	1697.0	-308.2	-1191.5	2381.4	256198.2
	-7928.4	1665.2	439.5	-671.6	-47619.6	251215.3
	-7927.1	1731.7	380.6	482.7	-42426.3	261376.4
	-7915.7	1560.6	-194.9	-3448.8	-7593.7	235379.7
	-7914.4	1627.2	-253.8	-2294.4	-2400.3	245540.8
	-7996.0	-1642.6	306.4	2181.7	-36438.4	-254082.3
	-7994.6	-1576.0	247.5	3336.0	-31245.1	-243921.3
	-7983.2	-1747.1	-328.0	-595.4	3587.5	-269917.9
	-7981.9	-1680.6	-386.9	558.9	8780.9	-259756.8
	-7997.6	-1712.4	360.8	1078.7	-41220.2	-264739.7
	-7996.2	-1645.8	301.9	2233.0	-36026.8	-254578.7
	-7984.9	-1816.9	-273.5	-1698.4	-1194.2	-280575.3
	-7983.5	-1750.4	-332.5	-544.1	3999.2	-270414.2

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8847.8	1917.8	907.0	392.0	136212.0	-311466.5
	-8766.2	1985.2	771.7	1532.9	111401.9	-322635.9
	-8112.4	1804.0	-159.8	-2313.9	-63924.8	-292460.2
	-8030.8	1871.3	-295.1	-1173.0	-88734.8	-303629.7
	-8924.8	1846.4	1034.4	-779.3	159583.1	-299609.9
	-8843.2	1913.7	899.1	361.6	134773.0	-310779.4
	-8189.4	1732.5	-32.3	-3485.2	-40553.7	-280603.7
	-8107.8	1799.9	-167.6	-2344.3	-65363.7	-291773.2
	-8706.9	-1362.1	746.5	2223.7	106277.1	237033.6
	-8625.3	-1294.7	611.2	3364.6	81467.1	225864.1
	-7971.5	-1475.9	-320.3	-482.1	-93859.6	256039.8
	-7889.9	-1408.6	-455.5	658.8	-118669.7	244870.3
	-8783.9	-1433.5	873.9	1052.4	129648.2	248890.1
	-8702.3	-1366.2	738.6	2193.3	104838.2	237720.6
	-8048.5	-1547.4	-192.8	-1653.5	-70488.5	267896.4
	-7966.9	-1480.0	-328.1	-512.6	-95298.6	256726.9
160.	-8487.8	1917.8	907.0	392.0	-8900.2	-4613.8
	-8406.2	1985.2	771.7	1532.9	-12063.7	-5009.4
	-7752.4	1804.0	-159.8	-2313.9	-38363.1	-3821.1
	-7670.8	1871.3	-295.1	-1173.0	-41526.7	-4216.7
	-8564.8	1846.4	1034.4	-779.3	-5920.7	-4192.5
	-8483.2	1913.7	899.1	361.6	-9084.3	-4588.1

	-7829.4	1732.5	-32.3	-3485.2	-35383.6	-3399.8
	-7747.8	1799.9	-167.6	-2344.3	-38547.2	-3795.4
	-8346.9	-1362.1	746.5	2223.7	-13155.5	19101.5
	-8265.3	-1294.7	611.2	3364.6	-16319.0	18705.9
	-7611.5	-1475.9	-320.3	-482.1	-42618.4	19894.2
	-7529.9	-1408.6	-455.5	658.8	-45781.9	19498.6
	-8423.9	-1433.5	873.9	1052.4	-10176.0	19522.8
	-8342.3	-1366.2	738.6	2193.3	-13339.5	19127.2
	-7688.5	-1547.4	-192.8	-1653.5	-39638.9	20315.5
	-7606.9	-1480.0	-328.1	-512.6	-42802.5	19919.9
320.	-8127.8	1917.8	907.0	392.0	-154012.5	302239.0
	-8046.2	1985.2	771.7	1532.9	-135529.5	312617.2
	-7392.4	1804.0	-159.8	-2313.9	-12801.3	284817.9
	-7310.8	1871.3	-295.1	-1173.0	5681.6	295196.2
	-8204.8	1846.4	1034.4	-779.3	-171424.7	291225.0
	-8123.2	1913.7	899.1	361.6	-152941.7	301603.3
	-7469.4	1732.5	-32.3	-3485.2	-30213.5	273804.0
	-7387.8	1799.9	-167.6	-2344.3	-11730.5	284182.3
	-7986.9	-1362.1	746.5	2223.7	-132588.2	-198830.5
	-7905.3	-1294.7	611.2	3364.6	-114105.2	-188452.3
	-7251.5	-1475.9	-320.3	-482.1	8623.0	-216251.5
	-7169.9	-1408.6	-455.5	658.8	27106.0	-205873.3
	-8063.9	-1433.5	873.9	1052.4	-150000.4	-209844.4
	-7982.3	-1366.2	738.6	2193.3	-131517.4	-199466.2
	-7328.5	-1547.4	-192.8	-1653.5	-8789.2	-227265.4
	-7246.9	-1480.0	-328.1	-512.6	9693.8	-216887.2

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5309.4	1491.4	989.7	317.7	144208.8	-260663.6
	-5231.0	1547.9	795.1	1440.9	109332.8	-270644.7
	-4676.0	1389.3	-10.6	-2285.3	-37646.4	-242864.3
	-4597.6	1445.8	-205.2	-1162.2	-72522.4	-252845.4
	-5382.4	1431.0	1178.2	-874.0	177988.2	-249988.0
	-5304.0	1487.5	983.6	249.2	143112.2	-259969.1
	-4749.0	1328.9	177.9	-3477.0	-3867.0	-232188.7
	-4670.6	1385.4	-16.6	-2353.9	-38743.0	-242169.8
	-3656.5	-1126.4	711.8	2231.5	94782.9	210507.1
	-3578.1	-1069.9	517.2	3354.7	59906.9	200526.0
	-3023.1	-1228.5	-288.5	-371.5	-87072.2	228306.5
	-2944.7	-1172.0	-483.1	751.6	-121948.3	218325.4
	-3729.6	-1186.8	900.3	1039.8	128562.3	221182.7
	-3651.2	-1130.3	705.7	2163.0	93686.3	211201.6
	-3096.1	-1289.0	-100.0	-1563.2	-53292.9	238982.1
	-3017.7	-1232.5	-294.5	-440.1	-88168.9	229001.0
160.	-4949.4	1491.4	989.7	317.7	-14138.6	-22033.2
	-4871.0	1547.9	795.1	1440.9	-17882.7	-22974.6
	-4316.0	1389.3	-10.6	-2285.3	-35948.9	-20575.3
	-4237.6	1445.8	-205.2	-1162.2	-39692.9	-21516.7
	-5022.4	1431.0	1178.2	-874.0	-10526.9	-21027.3
	-4944.0	1487.5	983.6	249.2	-14271.0	-21968.7
	-4389.0	1328.9	177.9	-3477.0	-32337.2	-19569.3
	-4310.6	1385.4	-16.6	-2353.9	-36081.2	-20510.7
	-3296.5	-1126.4	711.8	2231.5	-19100.5	30284.9
	-3218.1	-1069.9	517.2	3354.7	-22844.6	29343.5
	-2663.1	-1228.5	-288.5	-371.5	-40910.8	31742.9
	-2584.7	-1172.0	-483.1	751.6	-44654.8	30801.5
	-3369.6	-1186.8	900.3	1039.8	-15488.8	31290.8
	-3291.2	-1130.3	705.7	2163.0	-19232.8	30349.5
	-2736.1	-1289.0	-100.0	-1563.2	-37299.0	32748.8
	-2657.7	-1232.5	-294.5	-440.1	-41043.1	31807.4
320.	-4589.4	1491.4	989.7	317.7	-172486.2	216597.3
	-4511.0	1547.9	795.1	1440.9	-145098.3	224695.6
	-3956.0	1389.3	-10.6	-2285.3	-34251.3	201713.6
	-3877.6	1445.8	-205.2	-1162.2	-6863.3	209811.9
	-4662.4	1431.0	1178.2	-874.0	-199042.2	207933.6
	-4584.0	1487.5	983.6	249.2	-171654.2	216031.9
	-4029.0	1328.9	177.9	-3477.0	-60807.2	193049.8
	-3950.6	1385.4	-16.6	-2353.9	-33419.3	201148.2
	-2936.5	-1126.4	711.8	2231.5	-132984.1	-149937.1
	-2858.1	-1069.9	517.2	3354.7	-105596.2	-141838.8
	-2303.1	-1228.5	-288.5	-371.5	5250.8	-164820.9
	-2224.7	-1172.0	-483.1	751.6	32638.8	-156722.5
	-3009.6	-1186.8	900.3	1039.8	-159540.1	-158600.8
	-2931.2	-1130.3	705.7	2163.0	-132152.1	-150502.5
	-2376.1	-1289.0	-100.0	-1563.2	-21305.1	-173484.6
	-2297.7	-1232.5	-294.5	-440.1	6082.9	-165386.3

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	22.8	0.0	4.7	0.0	0.0	0.0
	22.0	0.0	2.9	0.0	0.0	0.0
	-9.5	0.0	-5.6	0.0	0.0	0.0
	-10.2	0.0	-7.4	0.0	0.0	0.0
	27.1	0.0	1.6	0.0	0.0	0.0
	26.4	0.0	-0.2	0.0	0.0	0.0
	-5.2	0.0	-8.7	0.0	0.0	0.0
	-5.9	0.0	-10.5	0.0	0.0	0.0
	38.4	0.0	9.3	0.0	0.0	0.0
	37.7	0.0	7.5	0.0	0.0	0.0
	6.2	0.0	-1.0	0.0	0.0	0.0
	5.4	0.0	-2.8	0.0	0.0	0.0
	42.8	0.0	6.1	0.0	0.0	0.0
	42.0	0.0	4.4	0.0	0.0	0.0
	10.5	0.0	-4.1	0.0	0.0	0.0
	9.7	0.0	-5.9	0.0	0.0	0.0
88.	22.8	-393.7	4.7	0.0	-410.3	-17226.6
	22.0	-393.7	2.9	0.0	-254.5	-17226.6
	-9.5	-393.7	-5.6	0.0	489.3	-17226.6
	-10.2	-393.7	-7.4	0.0	645.2	-17226.6
	27.1	-393.7	1.6	0.0	-136.7	-17226.6
	26.4	-393.7	-0.2	0.0	19.1	-17226.6
	-5.2	-393.7	-8.7	0.0	763.0	-17226.6
	-5.9	-393.7	-10.5	0.0	918.8	-17226.6
	38.4	-393.7	9.3	0.0	-810.9	-17226.6
	37.7	-393.7	7.5	0.0	-655.1	-17226.6
	6.2	-393.7	-1.0	0.0	88.8	-17226.6
	5.4	-393.7	-2.8	0.0	244.6	-17226.6
	42.8	-393.7	6.1	0.0	-537.3	-17226.6
	42.0	-393.7	4.4	0.0	-381.4	-17226.6
	10.5	-393.7	-4.1	0.0	362.4	-17226.6
	9.7	-393.7	-5.9	0.0	518.2	-17226.6
175.	22.8	-787.5	4.7	0.0	-820.7	-68906.2
	22.0	-787.5	2.9	0.0	-509.0	-68906.2
	-9.5	-787.5	-5.6	0.0	978.7	-68906.2
	-10.2	-787.5	-7.4	0.0	1290.3	-68906.2
	27.1	-787.5	1.6	0.0	-273.4	-68906.2
	26.4	-787.5	-0.2	0.0	38.2	-68906.2
	-5.2	-787.5	-8.7	0.0	1525.9	-68906.2
	-5.9	-787.5	-10.5	0.0	1837.6	-68906.2
	38.4	-787.5	9.3	0.0	-1621.8	-68906.2
	37.7	-787.5	7.5	0.0	-1310.1	-68906.2
	6.2	-787.5	-1.0	0.0	177.6	-68906.2
	5.4	-787.5	-2.8	0.0	489.2	-68906.2
	42.8	-787.5	6.1	0.0	-1074.5	-68906.2
	42.0	-787.5	4.4	0.0	-762.9	-68906.2
	10.5	-787.5	-4.1	0.0	724.8	-68906.2
	9.7	-787.5	-5.9	0.0	1036.5	-68906.2

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	49.2	0.0	-6.8	0.0	0.0	0.0

	49.2	0.0	-9.5	0.0	0.0	0.0
	27.5	0.0	15.9	0.0	0.0	0.0
	27.5	0.0	13.2	0.0	0.0	0.0
	49.9	0.0	-11.6	0.0	0.0	0.0
	49.9	0.0	-14.3	0.0	0.0	0.0
	28.2	0.0	11.1	0.0	0.0	0.0
	28.2	0.0	8.4	0.0	0.0	0.0
	-5.6	0.0	-7.9	0.0	0.0	0.0
	-5.6	0.0	-10.5	0.0	0.0	0.0
	-27.4	0.0	14.8	0.0	0.0	0.0
	-27.4	0.0	12.2	0.0	0.0	0.0
	-4.9	0.0	-12.7	0.0	0.0	0.0
	-4.9	0.0	-15.3	0.0	0.0	0.0
	-26.7	0.0	10.0	0.0	0.0	0.0
	-26.7	0.0	7.4	0.0	0.0	0.0
88.	49.2	-393.8	-6.8	0.0	598.9	-17226.6
	49.2	-393.8	-9.5	0.0	830.2	-17226.6
	27.5	-393.8	15.9	0.0	-1390.1	-17226.6
	27.5	-393.8	13.2	0.0	-1158.8	-17226.6
	49.9	-393.8	-11.6	0.0	1019.3	-17226.6
	49.9	-393.8	-14.3	0.0	1250.5	-17226.6
	28.2	-393.8	11.1	0.0	-969.7	-17226.6
	28.2	-393.8	8.4	0.0	-738.4	-17226.6
	-5.6	-393.8	-7.9	0.0	691.0	-17226.6
	-5.6	-393.8	-10.5	0.0	922.3	-17226.6
	-27.4	-393.8	14.8	0.0	-1298.0	-17226.6
	-27.4	-393.8	12.2	0.0	-1066.7	-17226.6
	-4.9	-393.8	-12.7	0.0	1111.3	-17226.6
	-4.9	-393.8	-15.3	0.0	1342.6	-17226.6
	-26.7	-393.8	10.0	0.0	-877.7	-17226.6
	-26.7	-393.8	7.4	0.0	-646.4	-17226.6
175.	49.2	-787.5	-6.8	0.0	1197.8	-68906.3
	49.2	-787.5	-9.5	0.0	1660.4	-68906.3
	27.5	-787.5	15.9	0.0	-2780.1	-68906.3
	27.5	-787.5	13.2	0.0	-2317.6	-68906.3
	49.9	-787.5	-11.6	0.0	2038.5	-68906.3
	49.9	-787.5	-14.3	0.0	2501.1	-68906.3
	28.2	-787.5	11.1	0.0	-1939.5	-68906.3
	28.2	-787.5	8.4	0.0	-1476.9	-68906.3
	-5.6	-787.5	-7.9	0.0	1382.0	-68906.3
	-5.6	-787.5	-10.5	0.0	1844.6	-68906.3
	-27.4	-787.5	14.8	0.0	-2596.0	-68906.3
	-27.4	-787.5	12.2	0.0	-2133.4	-68906.3
	-4.9	-787.5	-12.7	0.0	2222.7	-68906.3
	-4.9	-787.5	-15.3	0.0	2685.2	-68906.3
	-26.7	-787.5	10.0	0.0	-1755.3	-68906.3
	-26.7	-787.5	7.4	0.0	-1292.8	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	8.7	151.6	4.3	-6044.9	1366.5	116005.4
	-18.6	175.3	3.1	-5332.7	1057.6	111259.5
	310.1	115.6	-5.4	-27049.9	-1280.8	123712.0
	282.8	139.3	-6.6	-26337.7	-1589.7	118966.1
	-8.1	126.3	2.9	-6622.9	837.8	121057.6
	-35.4	150.0	1.8	-5910.7	528.8	116311.7
	293.3	90.3	-6.8	-27627.9	-1809.6	128764.2
	266.0	114.0	-7.9	-26915.7	-2118.5	124018.3
	-380.6	1622.0	5.5	-6111.0	1618.8	-175694.1
	-407.9	1645.7	4.4	-5398.9	1309.9	-180440.0
	-79.3	1586.1	-4.2	-27116.0	-1028.5	-167987.5
	-106.6	1609.8	-5.3	-26403.9	-1337.5	-172733.4
	-397.5	1596.8	4.2	-6689.0	1090.1	-170641.9
	-424.7	1620.5	3.1	-5976.8	781.1	-175387.8
	-96.1	1560.8	-5.5	-27694.0	-1557.3	-162935.3
	-123.4	1584.5	-6.6	-26981.8	-1866.2	-167681.2

195.	8.7	-1165.3	4.3	-6044.9	532.3	31443.8
	-18.6	-1141.6	3.1	-5332.7	444.2	31317.8
	310.1	-1201.3	-5.4	-27049.9	-221.7	32138.2
	282.8	-1177.6	-6.6	-26337.7	-309.9	32012.1
	-8.1	-1190.5	2.9	-6622.9	262.6	31572.5
	-35.4	-1166.9	1.8	-5910.7	174.4	31446.5
	293.3	-1226.5	-6.8	-27627.9	-491.5	32266.8
	266.0	-1202.8	-7.9	-26915.7	-579.7	32140.8
	-380.6	305.2	5.5	-6111.0	537.5	26487.8
	-407.9	328.9	4.4	-5398.9	449.4	26361.8
	-79.3	269.2	-4.2	-27116.0	-216.5	27182.2
	-106.6	292.9	-5.3	-26403.9	-304.7	27056.1
	-397.5	279.9	4.2	-6689.0	267.8	26616.5
	-424.7	303.6	3.1	-5976.8	179.6	26490.5
	-96.1	244.0	-5.5	-27694.0	-486.3	27310.9
	-123.4	267.7	-6.6	-26981.8	-574.5	27184.8
390.	8.7	-3360.9	4.3	-6044.9	-301.5	-395578.5
	-18.6	-3337.2	3.1	-5332.7	-168.9	-391084.7
	310.1	-3396.8	-5.4	-27049.9	837.7	-401900.3
	282.8	-3373.2	-6.6	-26337.7	970.3	-397406.5
	-8.1	-3386.1	2.9	-6622.9	-312.3	-400373.3
	-35.4	-3362.4	1.8	-5910.7	-179.7	-395879.5
	293.3	-3422.1	-6.8	-27627.9	826.9	-406695.1
	266.0	-3398.4	-7.9	-26915.7	959.5	-402201.3
	-380.6	-1890.4	5.5	-6111.0	-544.1	-113791.0
	-407.9	-1866.7	4.4	-5398.9	-411.5	-109297.2
	-79.3	-1926.4	-4.2	-27116.0	595.2	-120112.8
	-106.6	-1902.7	-5.3	-26403.9	727.8	-115619.0
	-397.5	-1915.6	4.2	-6689.0	-554.9	-118585.8
	-424.7	-1892.0	3.1	-5976.8	-422.3	-114092.0
	-96.1	-1951.6	-5.5	-27694.0	584.4	-124907.6
	-123.4	-1927.9	-6.6	-26981.8	717.0	-120413.8

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-772.4	6330.2	7.6	30381.3	1407.4	-282579.0
	-827.4	6352.5	6.2	33265.4	1021.8	-287291.6
	267.4	6282.3	-6.9	-42647.6	-1744.0	-272334.8
	212.3	6304.6	-8.3	-39763.6	-2129.6	-277047.4
	-859.2	6306.7	7.5	27781.0	770.5	-277620.5
	-914.3	6329.1	6.1	30665.0	384.9	-282333.1
	180.6	6258.8	-7.0	-45248.0	-2380.9	-267376.3
	125.5	6281.1	-8.4	-42363.9	-2766.5	-272088.9
	-789.5	7588.4	8.2	36005.4	2705.8	-558921.5
	-844.5	7610.7	6.8	38889.4	2320.2	-563634.2
	250.3	7540.5	-6.3	-37023.5	-445.6	-548677.3
	195.2	7562.8	-7.7	-34139.5	-831.2	-553390.0
	-876.3	7564.9	8.0	33405.0	2068.9	-553963.0
	-931.4	7587.3	6.6	36289.1	1683.3	-558675.7
	163.5	7517.0	-6.5	-39623.9	-1082.5	-543718.9
	108.4	7539.3	-7.9	-36739.9	-1468.1	-548431.5
215.	-772.4	-837.9	7.6	30381.3	-231.1	307845.0
	-827.4	-815.6	6.2	33265.4	-318.2	307933.3
	267.4	-885.8	-6.9	-42647.6	-267.5	307781.0
	212.3	-863.5	-8.3	-39763.6	-354.6	307869.3
	-859.2	-861.4	7.5	27781.0	-842.0	307758.9
	-914.3	-839.0	6.1	30665.0	-929.1	307847.2
	180.6	-909.3	-7.0	-45248.0	-878.4	307694.9
	125.5	-887.0	-8.4	-42363.9	-965.5	307783.2
	-789.5	420.3	8.2	36005.4	954.6	302012.7
	-844.5	442.6	6.8	38889.4	867.5	302101.1
	250.3	372.4	-6.3	-37023.5	918.3	301948.7
	195.2	394.7	-7.7	-34139.5	831.2	302037.1
	-876.3	396.8	8.0	33405.0	343.7	301926.6
	-931.4	419.2	6.6	36289.1	256.6	302014.9
	163.5	348.9	-6.5	-39623.9	307.3	301862.6

	108.4	371.2	-7.9	-36739.9	220.2	301951.0
430.	-772.4	-8006.0	7.6	30381.3	-1872.2	-642873.2
	-827.4	-7983.7	6.2	33265.4	-1660.7	-637983.9
	267.4	-8053.9	-6.9	-42647.6	1211.6	-653244.1
	212.3	-8031.6	-8.3	-39763.6	1423.0	-648354.7
	-859.2	-8029.5	7.5	27781.0	-2457.0	-648004.0
	-914.3	-8007.1	6.1	30665.0	-2245.6	-643114.6
	180.6	-8077.4	-7.0	-45248.0	626.7	-658374.8
	125.5	-8055.1	-8.4	-42363.9	838.1	-653485.5
	-789.5	-6747.8	8.2	36005.4	-799.1	-378195.2
	-844.5	-6725.5	6.8	38889.4	-587.7	-373305.9
	250.3	-6795.7	-6.3	-37023.5	2284.7	-388566.0
	195.2	-6773.4	-7.7	-34139.5	2496.1	-383676.7
	-876.3	-6771.3	8.0	33405.0	-1384.0	-383325.9
	-931.4	-6748.9	6.6	36289.1	-1172.6	-378436.6
	163.5	-6819.2	-6.5	-39623.9	1699.8	-393696.8
	108.4	-6796.9	-7.9	-36739.9	1911.2	-388807.5

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1543.3	6171.0	0.6	9630.0	-1467.4	-356876.2
	-1603.7	6195.3	-3.1	6154.8	-2442.5	-361719.6
	780.5	6133.2	5.2	-4112.9	2832.7	-350234.7
	720.1	6157.6	1.5	-7588.1	1857.6	-355078.1
	-1661.4	6145.4	3.8	12892.3	-921.5	-351782.7
	-1721.8	6169.8	0.0	9417.1	-1896.6	-356626.1
	662.4	6107.6	8.4	-850.6	3378.6	-345141.1
	602.0	6132.0	4.7	-4325.9	2403.5	-349984.5
	-1257.9	7557.9	-4.1	4571.8	-2231.8	-636117.7
	-1318.4	7582.3	-7.9	1096.6	-3206.9	-640961.1
	1065.9	7520.1	0.5	-9171.2	2068.3	-629476.2
	1005.5	7544.5	-3.2	-12646.4	1093.2	-634319.6
	-1376.0	7532.3	-1.0	7834.1	-1686.0	-631024.2
	-1436.5	7556.7	-4.7	4358.8	-2661.1	-635867.6
	947.8	7494.6	3.6	-5908.9	2614.1	-624382.6
	887.3	7519.0	-0.1	-9384.1	1639.0	-629226.0
200.	-1543.3	-497.0	0.6	9630.0	-1591.2	210517.0
	-1603.7	-472.7	-3.1	6154.8	-1821.9	210552.6
	780.5	-534.8	5.2	-4112.9	1788.1	209598.2
	720.1	-510.4	1.5	-7588.1	1557.3	209633.8
	-1661.4	-522.6	3.8	12892.3	-1675.0	210501.1
	-1721.8	-498.2	0.0	9417.1	-1905.7	210536.7
	662.4	-560.4	8.4	-850.6	1704.3	209582.4
	602.0	-536.0	4.7	-4325.9	1473.5	209617.9
	-1257.9	889.9	-4.1	4571.8	-1404.8	208663.5
	-1318.4	914.3	-7.9	1096.6	-1635.5	208699.1
	1065.9	852.1	0.5	-9171.2	1974.5	207744.7
	1005.5	876.5	-3.2	-12646.4	1743.7	207780.3
	-1376.0	864.3	-1.0	7834.1	-1488.6	208647.7
	-1436.5	888.7	-4.7	4358.8	-1719.4	208683.2
	947.8	826.6	3.6	-5908.9	1890.6	207728.9
	887.3	851.0	-0.1	-9384.1	1659.9	207764.4
400.	-1543.3	-7165.0	0.6	9630.0	-1716.8	-555693.9
	-1603.7	-7140.7	-3.1	6154.8	-1203.2	-550779.4
	780.5	-7202.8	5.2	-4112.9	745.2	-564164.8
	720.1	-7178.4	1.5	-7588.1	1258.8	-559250.2
	-1661.4	-7190.6	3.8	12892.3	-2430.3	-560819.2
	-1721.8	-7166.2	0.0	9417.1	-1916.7	-555904.6
	662.4	-7228.4	8.4	-850.6	31.7	-569290.0
	602.0	-7204.0	4.7	-4325.9	545.3	-564375.5
	-1257.9	-5778.1	-4.1	4571.8	-579.6	-280159.4
	-1318.4	-5753.7	-7.9	1096.6	-65.9	-275244.8
	1065.9	-5815.9	0.5	-9171.2	1882.4	-288630.3
	1005.5	-5791.5	-3.2	-12646.4	2396.1	-283715.7
	-1376.0	-5803.7	-1.0	7834.1	-1293.1	-285284.7
	-1436.5	-5779.3	-4.7	4358.8	-779.4	-280370.1
	947.8	-5841.4	3.6	-5908.9	1168.9	-293755.5
	887.3	-5817.0	-0.1	-9384.1	1682.6	-288841.0

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1998.5	5927.6	1.3	2085.3	-1492.7	-296009.2
	-1988.6	5950.5	-2.0	-3021.3	-2192.1	-300685.2
	829.5	5889.4	4.4	6558.8	2569.7	-288786.8
	839.4	5912.3	1.1	1452.2	1870.4	-293462.9
	-2090.3	5903.9	3.8	6789.2	-1084.9	-291150.9
	-2080.3	5926.8	0.5	1682.6	-1784.3	-295827.0
	737.7	5865.7	7.0	11262.7	2977.5	-283928.5
	747.6	5888.6	3.7	6156.1	2278.1	-288604.6
	-1455.4	7258.2	-3.1	-5427.6	-2171.9	-569144.6
	-1445.5	7281.1	-6.4	-10534.2	-2871.2	-573820.7
	1372.5	7220.0	0.1	-954.1	1890.6	-561922.3
	1382.5	7242.9	-3.2	-6060.7	1191.2	-566598.3
	-1547.2	7234.4	-0.6	-723.7	-1764.1	-564286.3
	-1537.2	7257.3	-3.9	-5830.4	-2463.5	-568962.4
	1280.8	7196.2	2.6	3749.8	2298.4	-557064.0
	1290.7	7219.1	-0.7	-1356.9	1599.0	-561740.1
210.	-1998.5	-1073.8	1.3	2085.3	-1760.8	213646.1
	-1988.6	-1050.9	-2.0	-3021.3	-1765.3	213777.8
	829.5	-1112.0	4.4	6558.8	1640.6	212848.4
	839.4	-1089.1	1.1	1452.2	1636.2	212980.0
	-2090.3	-1097.5	3.8	6789.2	-1882.3	213516.9
	-2080.3	-1074.6	0.5	1682.6	-1886.7	213648.5
	737.7	-1135.7	7.0	11262.7	1519.1	212719.1
	747.6	-1112.8	3.7	6156.1	1514.7	212850.8
	-1455.4	256.8	-3.1	-5427.6	-1529.7	219922.8
	-1445.5	279.7	-6.4	-10534.2	-1534.1	220054.4
	1372.5	218.6	0.1	-954.1	1871.8	219125.0
	1382.5	241.5	-3.2	-6060.7	1867.4	219256.7
	-1547.2	233.0	-0.6	-723.7	-1651.1	219793.6
	-1537.2	255.9	-3.9	-5830.4	-1655.5	219925.2
	1280.8	194.8	2.6	3749.8	1750.3	218995.8
	1290.7	217.7	-0.7	-1356.9	1745.9	219127.4
420.	-1998.5	-8075.2	1.3	2085.3	-2030.8	-746994.4
	-1988.6	-8052.3	-2.0	-3021.3	-1340.2	-742055.1
	829.5	-8113.4	4.4	6558.8	713.2	-755808.6
	839.4	-8090.5	1.1	1452.2	1403.8	-750869.3
	-2090.3	-8098.9	3.8	6789.2	-2681.4	-752111.2
	-2080.3	-8076.0	0.5	1682.6	-1990.9	-747171.8
	737.7	-8137.1	7.0	11262.7	62.5	-760925.4
	747.6	-8114.2	3.7	6156.1	753.1	-755986.0
	-1455.4	-6744.6	-3.1	-5427.6	-889.3	-461305.6
	-1445.5	-6721.7	-6.4	-10534.2	-198.7	-456366.3
	1372.5	-6782.8	0.1	-954.1	1854.7	-470119.8
	1382.5	-6759.9	-3.2	-6060.7	2545.3	-465180.5
	-1547.2	-6768.4	-0.6	-723.7	-1539.9	-466422.4
	-1537.2	-6745.5	-3.9	-5830.4	-849.4	-461483.0
	1280.8	-6806.6	2.6	3749.8	1204.1	-475236.6
	1290.7	-6783.7	-0.7	-1356.9	1894.6	-470297.2

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2422.1	8137.9	-0.8	-2800.3	-2017.3	-567149.4
	-2308.5	8154.3	-3.5	-7928.2	-2540.2	-571428.7
	225.0	8109.6	4.8	10881.2	2733.7	-560455.4
	338.6	8126.0	2.2	5753.3	2210.9	-564734.7
	-2476.8	8120.9	0.9	1927.8	-1561.4	-562719.1
	-2363.2	8137.3	-1.7	-3200.1	-2084.2	-566998.4
	170.3	8092.6	6.6	15609.4	3189.6	-556025.2
	283.9	8109.0	3.9	10481.5	2666.8	-560304.5
	-1358.5	9095.4	-4.0	-10267.1	-2664.2	-814294.2
	-1244.9	9111.8	-6.6	-15395.0	-3187.0	-818573.5

	1288.6	9067.1	1.7	3414.5	2086.8	-807600.3
	1402.2	9083.5	-1.0	-1713.4	1564.0	-811879.6
	-1413.3	9078.4	-2.2	-5538.9	-2208.3	-809864.0
	-1299.6	9094.8	-4.8	-10666.8	-2731.1	-814143.3
	1233.8	9050.1	3.5	8142.6	2542.7	-803170.1
	1347.4	9066.5	0.8	3014.7	2019.9	-807449.4
255.	-2422.1	-363.8	-0.8	-2800.3	-1805.5	424048.2
	-2308.5	-347.4	-3.5	-7928.2	-1651.7	423958.9
	225.0	-392.1	4.8	10881.2	1505.6	423526.2
	338.6	-375.7	2.2	5753.3	1659.4	423437.0
	-2476.8	-380.8	0.9	1927.8	-1802.7	424133.3
	-2363.2	-364.4	-1.7	-3200.1	-1648.9	424044.0
	170.3	-409.1	6.6	15609.4	1508.4	423611.3
	283.9	-392.7	3.9	10481.5	1662.2	423522.0
	-1358.5	593.7	-4.0	-10267.1	-1656.4	421067.7
	-1244.9	610.1	-6.6	-15395.0	-1502.6	420978.4
	1288.6	565.4	1.7	3414.5	1654.7	420545.7
	1402.2	581.8	-1.0	-1713.4	1808.5	420456.4
	-1413.3	576.7	-2.2	-5538.9	-1653.6	421152.7
	-1299.6	593.1	-4.8	-10666.8	-1499.8	421063.4
	1233.8	548.4	3.5	8142.6	1657.5	420630.7
	1347.4	564.8	0.8	3014.7	1811.3	420541.5
510.	-2422.1	-8865.5	-0.8	-2800.3	-1596.2	-752691.2
	-2308.5	-8849.1	-3.5	-7928.2	-765.7	-748590.5
	225.0	-8893.8	4.8	10881.2	280.0	-760422.0
	338.6	-8877.4	2.2	5753.3	1110.5	-756321.3
	-2476.8	-8882.5	0.9	1927.8	-2046.4	-756951.3
	-2363.2	-8866.1	-1.7	-3200.1	-1216.0	-752850.6
	170.3	-8910.8	6.6	15609.4	-170.2	-764682.1
	283.9	-8894.4	3.9	10481.5	660.2	-760581.4
	-1358.5	-7908.0	-4.0	-10267.1	-651.2	-511507.5
	-1244.9	-7891.6	-6.6	-15395.0	179.3	-507406.8
	1288.6	-7936.3	1.7	3414.5	1225.0	-519238.3
	1402.2	-7919.9	-1.0	-1713.4	2055.5	-515137.6
	-1413.3	-7925.0	-2.2	-5538.9	-1101.5	-515767.6
	-1299.6	-7908.6	-4.8	-10666.8	-271.0	-511666.9
	1233.8	-7953.3	3.5	8142.6	774.7	-523498.4
	1347.4	-7936.9	0.8	3014.7	1605.2	-519397.7

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2065.7	5835.6	-1.7	-11400.7	-1844.5	-378280.6
	-1888.9	5863.9	-5.6	-14782.1	-2205.1	-383621.8
	-71.6	5787.3	7.0	18030.7	2518.8	-370271.9
	105.2	5815.6	3.1	14649.3	2158.2	-375613.1
	-2089.1	5806.0	1.9	-8196.2	-1187.8	-372723.9
	-1912.3	5834.3	-2.1	-11577.6	-1548.3	-378065.1
	-95.1	5757.8	10.5	21235.2	3175.6	-364715.3
	81.7	5786.1	6.6	17853.8	2815.0	-370056.5
	-635.2	7451.8	-6.2	-16152.2	-2666.4	-678166.1
	-458.4	7480.0	-10.2	-19533.7	-3027.0	-683507.3
	1358.9	7403.5	2.4	13279.2	1696.9	-670157.5
	1535.7	7431.8	-1.5	9897.7	1336.3	-675498.7
	-658.6	7422.2	-2.7	-12947.7	-2009.6	-672609.5
	-481.8	7450.5	-6.6	-16329.2	-2370.2	-677950.7
	1335.4	7374.0	6.0	16483.7	2353.7	-664600.8
	1512.2	7402.3	2.0	13102.2	1993.1	-669942.0
180.	-2065.7	-165.6	-1.7	-11400.7	-1542.9	132018.4
	-1888.9	-137.3	-5.6	-14782.1	-1197.1	131767.5
	-71.6	-213.9	7.0	18030.7	1264.9	131337.0
	105.2	-185.6	3.1	14649.3	1610.7	131086.1
	-2089.1	-195.2	1.9	-8196.2	-1525.3	132259.5
	-1912.3	-166.9	-2.1	-11577.6	-1179.4	132008.6
	-95.1	-243.4	10.5	21235.2	1282.5	131578.1
	81.7	-215.1	6.6	17853.8	1628.4	131327.2
	-635.2	1450.6	-6.2	-16152.2	-1544.6	123045.4
	-458.4	1478.8	-10.2	-19533.7	-1198.7	122794.5
	1358.9	1402.3	2.4	13279.2	1263.2	122364.0
	1535.7	1430.6	-1.5	9897.7	1609.1	122113.1
	-658.6	1421.0	-2.7	-12947.7	-1527.0	123286.5
	-481.8	1449.3	-6.6	-16329.2	-1181.1	123035.6
	1335.4	1372.8	6.0	16483.7	1280.8	122605.1
	1512.2	1401.1	2.0	13102.2	1626.7	122354.2
360.	-2065.7	-6166.8	-1.7	-11400.7	-1246.9	-437906.1
	-1888.9	-6138.5	-5.6	-14782.1	-194.6	-433066.6
	-71.6	-6215.1	7.0	18030.7	15.3	-447262.6
	105.2	-6186.8	3.1	14649.3	1067.6	-442423.2
	-2089.1	-6196.4	1.9	-8196.2	-1868.5	-442980.6
	-1912.3	-6168.1	-2.1	-11577.6	-816.2	-438141.1
	-95.1	-6244.6	10.5	21235.2	-606.2	-452337.1
	81.7	-6216.3	6.6	17853.8	446.0	-447497.7
	-635.2	-4550.6	-6.2	-16152.2	-427.1	-155966.5
	-458.4	-4522.4	-10.2	-19533.7	625.2	-151127.1
	1358.9	-4598.9	2.4	13279.2	835.1	-165323.1
	1535.7	-4570.6	-1.5	9897.7	1887.4	-160483.6
	-658.6	-4580.2	-2.7	-12947.7	-1048.6	-161041.1
	-481.8	-4551.9	-6.6	-16329.2	3.6	-156201.6
	1335.4	-4628.4	6.0	16483.7	213.6	-170397.6
	1512.2	-4600.1	2.0	13102.2	1265.9	-165558.1

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1333.7	4862.2	-12.1	-34466.1	-1650.9	-167240.4
	-1207.8	4892.3	-13.5	-31948.0	-1754.1	-172338.5
	-394.2	4829.9	13.5	40461.4	2381.1	-161612.6
	-268.2	4860.0	12.1	42979.5	2277.8	-166710.8
	-1348.1	4830.7	-12.7	-36682.1	-1163.4	-161912.2
	-1222.2	4860.8	-14.1	-34164.0	-1266.7	-167010.3
	-408.6	4798.5	12.9	38245.5	2868.5	-156284.4
	-282.6	4828.5	11.5	40763.6	2765.2	-161382.6
	-188.1	6560.8	-10.6	-28854.3	-2598.1	-442538.3
	-62.2	6590.9	-11.9	-26336.3	-2701.3	-447636.4
	751.5	6528.5	15.0	46073.2	1433.9	-436910.5
	877.4	6558.6	13.7	48591.3	1330.6	-442008.7
	-202.5	6529.3	-11.2	-31070.3	-2110.7	-437210.1
	-76.6	6559.4	-12.5	-28552.2	-2213.9	-442308.2
	737.1	6497.1	14.4	43857.3	1921.3	-431582.3
	863.0	6527.1	13.1	46375.4	1818.0	-436680.5
165.	-1333.7	-638.9	-12.1	-34466.1	351.3	181180.4
	-1207.8	-608.8	-13.5	-31948.0	471.1	181045.2
	-394.2	-671.2	13.5	40461.4	159.1	181482.9
	-268.2	-641.1	12.1	42979.5	278.9	181347.7
	-1348.1	-670.4	-12.7	-36682.1	936.9	181319.6
	-1222.2	-640.3	-14.1	-34164.0	1056.7	181184.5
	-408.6	-702.6	12.9	38245.5	744.6	181622.1
	-282.6	-672.6	11.5	40763.6	864.4	181487.0
	-188.1	1059.7	-10.6	-28854.3	-850.1	186149.0
	-62.2	1089.8	-11.9	-26336.3	-730.3	186013.9
	751.5	1027.4	15.0	46073.2	-1042.3	186451.5
	877.4	1057.5	13.7	48591.3	-922.5	186316.4
	-202.5	1028.2	-11.2	-31070.3	-264.5	186288.3
	-76.6	1058.3	-12.5	-28552.2	-144.7	186153.1
	737.1	996.0	14.4	43857.3	-456.7	186590.8
	863.0	1026.0	13.1	46375.4	-336.9	186455.6
330.	-1333.7	-6140.0	-12.1	-34466.1	2352.7	-378079.5
	-1207.8	-6109.9	-13.5	-31948.0	2695.6	-373251.7
	-394.2	-6172.3	13.5	40461.4	-2062.2	-383104.0
	-268.2	-6142.2	12.1	42979.5	-1719.3	-378276.2
	-1348.1	-6171.5	-12.7	-36682.1	3036.4	-383129.2
	-1222.2	-6141.4	-14.1	-34164.0	3379.3	-378301.4
	-408.6	-6203.7	12.9	38245.5	-1378.4	-388153.7
	-282.6	-6173.7	11.5	40763.6	-1035.6	-383325.8

	-188.1	-4441.4	-10.6	-28854.3	897.1	-92844.3
	-62.2	-4411.3	-11.9	-26336.3	1240.0	-88016.5
	751.5	-4473.7	15.0	46073.2	-3517.7	-97868.8
	877.4	-4443.6	13.7	48591.3	-3174.8	-93040.9
	-202.5	-4472.9	-11.2	-31070.3	1580.9	-97894.0
	-76.6	-4442.8	-12.5	-28552.2	1923.7	-93066.1
	737.1	-4505.1	14.4	43857.3	-2834.0	-102918.5
	863.0	-4475.1	13.1	46375.4	-2491.1	-98090.6

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-838.5	405.4	-6.9	8049.0	-1312.2	8998.2
	-763.2	432.2	-6.6	6963.1	-1067.7	4164.8
	-500.4	361.2	9.5	20578.4	920.3	17409.8
	-425.0	388.0	9.8	19492.4	1164.9	12576.3
	-871.9	377.1	-8.3	9215.6	-1370.8	14103.8
	-796.6	403.9	-8.0	8129.6	-1126.2	9270.4
	-533.8	332.9	8.1	21745.0	861.8	22515.3
	-458.4	359.7	8.4	20659.0	1106.3	17681.9
	301.5	2042.3	-4.9	5098.0	-406.4	-284482.2
	376.9	2069.1	-4.6	4012.0	-161.9	-289315.7
	639.7	1998.1	11.4	17627.4	1826.2	-276070.7
	715.0	2024.9	11.7	16541.4	2070.7	-280904.1
	268.1	2014.0	-6.3	6264.6	-464.9	-279376.7
	343.5	2040.8	-6.0	5178.6	-220.4	-284210.1
	606.3	1969.8	10.0	18794.0	1767.6	-270965.2
	681.6	1996.6	10.3	17708.0	2012.2	-275798.6
210.	-838.5	-539.6	-6.9	8049.0	127.7	-5099.8
	-763.2	-512.8	-6.6	6963.1	308.8	-4307.1
	-500.4	-583.8	9.5	20578.4	-1080.1	-5968.3
	-425.0	-557.0	9.8	19492.4	-899.0	-5175.6
	-871.9	-567.9	-8.3	9215.6	362.6	-5934.9
	-796.6	-541.1	-8.0	8129.6	543.7	-5142.2
	-533.8	-612.1	8.1	21745.0	-845.2	-6803.4
	-458.4	-585.3	8.4	20659.0	-664.1	-6010.6
	301.5	1097.3	-4.9	5098.0	631.4	45168.0
	376.9	1124.1	-4.6	4012.0	812.5	45960.8
	639.7	1053.1	11.4	17627.4	-576.4	44299.6
	715.0	1079.9	11.7	16541.4	-395.3	45092.3
	268.1	1069.0	-6.3	6264.6	866.4	44333.0
	343.5	1095.8	-6.0	5178.6	1047.4	45125.7
	606.3	1024.8	10.0	18794.0	-341.4	43464.5
	681.6	1051.6	10.3	17708.0	-160.4	44257.2
420.	-838.5	-1484.6	-6.9	8049.0	1567.1	-217648.8
	-763.2	-1457.8	-6.6	6963.1	1684.7	-211230.0
	-500.4	-1528.8	9.5	20578.4	-3080.0	-227795.3
	-425.0	-1502.0	9.8	19492.4	-2962.5	-221376.5
	-871.9	-1512.9	-8.3	9215.6	2095.5	-224424.5
	-796.6	-1486.1	-8.0	8129.6	2213.1	-218005.7
	-533.8	-1557.1	8.1	21745.0	-2551.6	-234571.0
	-458.4	-1530.3	8.4	20659.0	-2434.1	-228152.2
	301.5	152.3	-4.9	5098.0	1668.8	176367.3
	376.9	179.1	-4.6	4012.0	1786.4	182786.2
	639.7	108.1	11.4	17627.4	-2978.4	166220.8
	715.0	134.9	11.7	16541.4	-2860.8	172639.6
	268.1	124.0	-6.3	6264.6	2197.2	169591.7
	343.5	150.8	-6.0	5178.6	2314.8	176010.5
	606.3	79.8	10.0	18794.0	-2450.0	159445.1
	681.6	106.6	10.3	17708.0	-2332.4	165864.0

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12.8	1682.9	-6.8	5610.9	-1105.1	26712.6
	-0.9	1574.6	-9.2	4709.6	-1609.1	50003.5
	-202.7	2552.8	12.1	6140.9	2450.5	-163694.5
	-190.8	2444.5	9.8	5239.7	1946.5	-140403.6
	-53.7	1787.3	0.6	6590.1	285.5	4264.9
	-41.8	1679.1	-1.8	5688.8	-218.6	27555.9
	-243.6	2657.2	19.5	7120.1	3841.0	-186142.1
	-231.7	2549.0	17.1	6218.8	3337.0	-162851.2
	59.2	1502.4	-14.2	-2138.9	-2740.6	64399.1
	71.1	1394.2	-16.5	-3040.2	-3244.7	87690.1
	-130.7	2372.3	4.7	-1608.9	815.0	-126007.9
	-118.8	2264.1	2.4	-2510.1	310.9	-102717.0
	18.3	1606.8	-6.8	-1159.7	-1350.1	41951.5
	30.2	1498.6	-9.1	-2061.0	-1854.1	65242.4
	-171.6	2476.8	12.1	-629.7	2205.5	-148455.6
	-159.7	2368.5	9.8	-1530.9	1701.4	-125164.7
175.	-12.8	-862.1	-6.8	5610.9	89.3	98533.9
	-0.9	-970.3	-9.2	4709.6	-7.9	102881.7
	-202.7	7.9	12.1	6140.9	335.1	60362.1
	-190.8	-100.4	9.8	5239.7	237.8	64709.9
	-53.7	-757.6	0.6	6590.1	189.0	94361.0
	-41.8	-865.9	-1.8	5688.8	91.7	98708.8
	-243.6	112.3	19.5	7120.1	434.8	56189.3
	-231.7	4.0	17.1	6218.8	337.5	60537.1
	59.2	-1042.5	-14.2	-2138.9	-261.7	104639.1
	71.1	-1150.8	-16.5	-3040.2	-358.9	108986.9
	-130.7	-172.6	4.7	-1608.9	-15.9	66467.4
	-118.8	-280.9	2.4	-2510.1	-113.2	70815.1
	18.3	-938.1	-6.8	-1159.7	-162.0	100466.3
	30.2	-1046.3	-9.1	-2061.0	-259.3	104814.0
	-171.6	-68.2	12.1	-629.7	83.8	62294.5
	-159.7	-176.4	9.8	-1530.9	-13.5	66642.3
350.	-12.8	-3407.0	-6.8	5610.9	1283.9	-275008.9
	-0.9	-3515.2	-9.2	4709.6	1593.5	-289604.3
	-202.7	-2537.1	12.1	6140.9	-1780.6	-160945.2
	-190.8	-2645.3	9.8	5239.7	-1471.0	-175540.6
	-53.7	-3302.6	0.6	6590.1	92.7	-260907.0
	-41.8	-3410.8	-1.8	5688.8	402.3	-275502.3
	-243.6	-2432.7	19.5	7120.1	-2971.8	-146843.3
	-231.7	-2540.9	17.1	6218.8	-2662.2	-161438.6
	59.2	-3587.5	-14.2	-2138.9	2217.5	-300485.1
	71.1	-3695.7	-16.5	-3040.2	2527.0	-315080.4
	-130.7	-2717.5	4.7	-1608.9	-847.0	-186421.4
	-118.8	-2825.8	2.4	-2510.1	-537.5	-201016.7
	18.3	-3483.0	-6.8	-1159.7	1026.3	-286383.1
	30.2	-3591.3	-9.1	-2061.0	1335.8	-300978.5
	-171.6	-2613.1	12.1	-629.7	-2038.2	-172319.4
	-159.7	-2721.4	9.8	-1530.9	-1728.7	-186914.8

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-59.2	1564.1	-7.7	32501.3	-2094.3	42492.4
	-93.2	1433.9	-10.0	31820.5	-2440.7	69937.5
	61.7	2883.6	24.6	32003.8	5212.9	-241628.1
	27.7	2753.4	22.4	31323.0	4866.5	-214183.0
	-47.9	1687.3	3.4	33251.5	285.4	16523.7
	-81.9	1557.1	1.2	32570.7	-61.0	43968.8
	73.0	3006.8	35.8	32754.0	7592.5	-267596.8
	39.0	2876.6	33.5	32073.2	7246.2	-240151.7
	-65.7	1303.3	-29.4	68746.7	-6420.2	93693.3
	-99.7	1173.1	-31.6	68065.9	-6766.6	121138.4
	55.2	2622.8	2.9	68249.2	886.9	-190427.2
	21.2	2492.6	0.7	67568.4	540.5	-162982.1
	-54.3	1426.6	-18.3	69496.9	-4040.6	67724.6
	-88.3	1296.4	-20.5	68816.1	-4386.9	95169.6
	66.6	2746.1	14.1	68999.4	3266.6	-216395.9
	32.6	2615.9	11.9	68318.6	2920.2	-188950.9
175.	-59.2	-980.9	-7.7	32501.3	-739.9	93524.1
	-93.2	-1111.1	-10.0	31820.5	-698.0	98182.2
	61.7	338.6	24.6	32003.8	908.7	40314.7

	27.7	208.4	22.4	31323.0	950.6	44972.8
	-47.9	-857.6	3.4	33251.5	-312.8	89127.2
	-81.9	-987.8	1.2	32570.7	-271.0	93785.3
	73.0	461.9	35.8	32754.0	1335.8	35917.8
	39.0	331.7	33.5	32073.2	1377.6	40575.9
	-65.7	-1241.6	-29.4	68746.7	-1271.2	99090.7
	-99.7	-1371.8	-31.6	68065.9	-1229.4	103748.8
	55.2	77.9	2.9	68249.2	377.4	45881.3
	21.2	-52.3	0.7	67568.4	419.2	50539.4
	-54.3	-1118.4	-18.3	69496.9	-844.2	94693.8
	-88.3	-1248.6	-20.5	68816.1	-802.4	99351.9
	66.6	201.1	14.1	68999.4	804.4	41484.3
	32.6	70.9	11.9	68318.6	846.2	46142.4
350.	-59.2	-3525.8	-7.7	32501.3	614.8	-300808.3
	-93.2	-3656.0	-10.0	31820.5	1044.8	-318937.2
	61.7	-2206.3	24.6	32003.8	-3395.6	-123106.5
	27.7	-2336.5	22.4	31323.0	-2965.6	-141235.4
	-47.9	-3402.5	3.4	33251.5	-910.8	-283633.4
	-81.9	-3532.7	1.2	32570.7	-480.8	-301762.3
	73.0	-2083.0	35.8	32754.0	-4921.2	-105931.6
	39.0	-2213.2	33.5	32073.2	-4491.2	-124060.5
	-65.7	-3786.6	-29.4	68746.7	3878.0	-340876.1
	-99.7	-3916.8	-31.6	68065.9	4308.0	-359005.0
	55.2	-2467.1	2.9	68249.2	-132.4	-163174.3
	21.2	-2597.3	0.7	67568.4	297.6	-181303.2
	-54.3	-3663.3	-18.3	69496.9	2352.4	-323701.2
	-88.3	-3793.5	-20.5	68816.1	2782.4	-341830.1
	66.6	-2343.8	14.1	68999.4	-1658.0	-145999.4
	32.6	-2474.0	11.9	68318.6	-1228.0	-164128.3

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10.2	1637.5	20.3	-57918.7	4486.2	46215.6
	10.7	1746.6	16.7	-58364.3	3902.5	23111.5
	-2.4	2601.9	-12.1	-54944.8	-3375.4	-164947.8
	18.5	2711.0	-15.7	-55390.4	-3959.0	-188051.8
	-2.5	1534.8	33.0	-57413.5	7233.7	67959.7
	18.4	1643.9	29.4	-57859.1	6650.0	44855.6
	5.3	2499.2	0.6	-54439.6	-627.9	-143203.6
	26.2	2608.3	-2.9	-54885.2	-1211.6	-166307.7
	-74.7	1873.0	-0.5	-19362.6	427.9	634.6
	-53.7	1982.1	-4.1	-19808.2	-155.8	-22469.5
	-66.8	2837.4	-32.9	-16388.7	-7433.6	-210528.8
	-45.9	2946.5	-36.4	-16834.3	-8017.3	-233632.9
	-67.0	1770.3	12.2	-18857.3	3175.4	22378.7
	-46.1	1879.4	8.7	-19303.0	2591.7	-725.4
	-59.2	2734.7	-20.1	-15883.4	-4686.2	-188784.6
	-38.3	2843.8	-23.7	-16329.1	-5269.9	-211888.7
175.	-10.2	-1042.6	20.3	-57918.7	941.4	98272.4
	10.7	-933.5	16.7	-58364.3	982.8	94252.9
	-2.4	-78.2	-12.1	-54944.8	-1256.2	55877.4
	18.5	30.9	-15.7	-55390.4	-1214.8	51858.0
	-2.5	-1145.3	33.0	-57413.5	1459.5	102043.9
	18.4	-1036.2	29.4	-57859.1	1501.0	98024.5
	5.3	-180.9	0.6	-54439.6	-738.0	59648.9
	26.2	-71.8	-2.9	-54885.2	-696.6	55629.5
	-74.7	-807.1	-0.5	-19362.6	515.3	93903.7
	-53.7	-698.0	-4.1	-19808.2	556.8	89884.3
	-66.8	157.3	-32.9	-16388.7	-1682.2	51508.7
	-45.9	266.4	-36.4	-16834.3	-1640.8	47489.3
	-67.0	-909.8	12.2	-18857.3	1033.5	97675.2
	-46.1	-800.7	8.7	-19303.0	1074.9	93655.8
	-59.2	54.6	-20.1	-15883.4	-1164.1	55280.3
	-38.3	163.6	-23.7	-16329.1	-1122.6	51260.8
350.	-10.2	-3722.7	20.3	-57918.7	-2604.0	-318692.9
	10.7	-3613.7	16.7	-58364.3	-1937.5	-303627.6
	-2.4	-2758.3	-12.1	-54944.8	863.5	-192319.1
	18.5	-2649.3	-15.7	-55390.4	1530.0	-177253.9
	-2.5	-3825.4	33.0	-57413.5	-4315.1	-332894.0
	18.4	-3716.4	29.4	-57859.1	-3648.6	-317828.8
	5.3	-2861.0	0.6	-54439.6	-847.6	-206520.2
	26.2	-2752.0	-2.9	-54885.2	-181.1	-191455.0
	-74.7	-3487.2	-0.5	-19362.6	602.2	-281849.2
	-53.7	-3378.2	-4.1	-19808.2	1268.8	-266784.0
	-66.8	-2522.8	-32.9	-16388.7	4069.7	-155475.5
	-45.9	-2413.8	-36.4	-16834.3	4736.3	-140410.2
	-67.0	-3589.9	12.2	-18857.3	-1108.9	-296050.4
	-46.1	-3480.9	8.7	-19303.0	-442.4	-280985.1
	-59.2	-2625.5	-20.1	-15883.4	2358.6	-169676.6
	-38.3	-2516.5	-23.7	-16329.1	3025.1	-154611.3

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	13.5	1717.4	5.6	5771.2	1209.4	37368.4
	-18.9	1851.4	0.8	4217.4	204.7	9689.5
	-163.1	2466.4	-6.6	9991.5	-826.9	-120666.6
	-195.6	2600.3	-11.4	8437.7	-1831.6	-148345.5
	51.8	1588.0	14.7	7448.7	2930.0	64087.4
	19.3	1722.0	9.9	5894.9	1925.3	36408.5
	-124.8	2337.0	2.5	11668.9	893.7	-93947.5
	-157.3	2470.9	-2.3	10115.1	-111.1	-121626.4
	-127.7	1945.9	-0.5	-2331.6	-508.6	-8533.7
	-160.2	2079.9	-5.3	-3885.4	-1513.3	-36212.6
	-304.3	2694.9	-12.7	1888.7	-2544.9	-166568.7
	-336.8	2828.8	-17.5	334.9	-3549.6	-194247.6
	-89.4	1816.5	8.6	-654.1	1212.0	18185.3
	-121.9	1950.5	3.8	-2207.9	207.3	-9493.6
	-266.0	2565.5	-3.6	3566.1	-824.3	-139849.6
	-298.5	2699.4	-8.4	2012.3	-1829.0	-167528.5
175.	13.5	-962.7	5.6	5771.2	222.2	103404.0
	-18.9	-828.8	0.8	4217.4	56.4	99168.1
	-163.1	-213.7	-6.6	9991.5	328.5	76440.5
	-195.6	-79.8	-11.4	8437.7	162.8	72204.5
	51.8	-1092.1	14.7	7448.7	355.7	107477.2
	19.3	-958.2	9.9	5894.9	189.9	103241.2
	-124.8	-343.1	2.5	11668.9	462.0	80513.6
	-157.3	-209.2	-2.3	10115.1	296.3	76277.7
	-127.7	-734.2	-0.5	-2331.6	-425.6	97487.9
	-160.2	-600.3	-5.3	-3885.4	-591.4	93251.9
	-304.3	14.8	-12.7	1888.7	-319.3	70524.4
	-336.8	148.7	-17.5	334.9	-485.0	66288.4
	-89.4	-863.6	8.6	-654.1	-292.1	101561.0
	-121.9	-729.7	3.8	-2207.9	-457.8	97325.0
	-266.0	-114.7	-3.6	3566.1	-185.8	74597.5
	-298.5	19.3	-8.4	2012.3	-351.5	70361.5
350.	13.5	-3642.8	5.6	5771.2	-760.2	-299582.3
	-18.9	-3508.9	0.8	4217.4	-86.9	-280375.4
	-163.1	-2893.9	-6.6	9991.5	1479.0	-195474.1
	-195.6	-2759.9	-11.4	8437.7	2152.2	-176267.2
	51.8	-3772.2	14.7	7448.7	-2213.7	-318155.1
	19.3	-3638.3	9.9	5894.9	-1540.5	-298948.2
	-124.8	-3023.3	2.5	11668.9	25.4	-214046.9
	-157.3	-2889.3	-2.3	10115.1	698.7	-194840.0
	-127.7	-3414.3	-0.5	-2331.6	-337.7	-265512.5
	-160.2	-3280.4	-5.3	-3885.4	335.6	-246305.6
	-304.3	-2665.4	-12.7	1888.7	1901.5	-161404.3
	-336.8	-2531.4	-17.5	334.9	2574.7	-142197.4
	-89.4	-3543.8	8.6	-654.1	-1791.2	-284085.3
	-121.9	-3409.8	3.8	-2207.9	-1118.0	-264878.4
	-266.0	-2794.8	-3.6	3566.1	447.9	-179977.1
	-298.5	-2660.8	-8.4	2012.3	1121.1	-160770.2

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-148.0	-103.9	11.8	-694.6	2085.1	128958.0
	-148.8	-101.7	10.5	-313.9	1862.6	128575.0
	-145.0	-109.3	-16.3	-5636.8	-2880.4	129958.6
	-145.7	-107.1	-17.6	-5256.1	-3102.8	129575.6
	-146.4	-106.2	4.7	-1033.3	722.2	129362.9
	-147.1	-104.0	3.3	-652.5	499.8	128979.9
	-143.3	-111.6	-23.4	-5975.5	-4243.3	130363.5
	-144.1	-109.4	-24.7	-5594.8	-4465.7	129980.5
	25.0	1638.7	22.9	-185.2	4100.0	-182613.4
	24.3	1640.8	21.6	195.5	3877.6	-182996.5
	28.0	1633.2	-5.1	-5127.4	-865.5	-181612.8
	27.3	1635.4	-6.5	-4746.7	-1087.9	-181995.8
	26.7	1636.4	15.8	-523.9	2737.1	-182208.5
	25.9	1638.5	14.5	-143.2	2514.7	-182591.6
	29.7	1630.9	-12.3	-5466.1	-2228.3	-181207.9
	29.0	1633.1	-13.6	-5085.4	-2450.8	-181590.9
195.	-148.0	-981.4	11.8	-694.6	-211.9	23151.0
	-148.8	-979.2	10.5	-313.9	-175.3	23191.2
	-145.0	-986.8	-16.3	-5636.8	293.5	23092.5
	-145.7	-984.6	-17.6	-5256.1	330.2	23132.7
	-146.4	-983.7	4.7	-1033.3	-187.9	23107.0
	-147.1	-981.5	3.3	-652.5	-151.2	23147.2
	-143.3	-989.1	-23.4	-5975.5	317.6	23048.5
	-144.1	-986.9	-24.7	-5594.8	354.2	23088.7
	25.0	761.2	22.9	-185.2	-368.9	51369.2
	24.3	763.3	21.6	195.5	-332.3	51409.4
	28.0	755.7	-5.1	-5127.4	136.5	51310.8
	27.3	757.9	-6.5	-4746.7	173.2	51351.0
	26.7	758.9	15.8	-523.9	-344.9	51325.3
	25.9	761.0	14.5	-143.2	-308.2	51365.5
	29.7	753.4	-12.3	-5466.1	160.6	51266.8
	29.0	755.6	-13.6	-5085.4	197.2	51307.0
390.	-148.0	-1858.9	11.8	-694.6	-2508.9	-253768.6
	-148.8	-1856.7	10.5	-313.9	-2213.2	-253305.2
	-145.0	-1864.3	-16.3	-5636.8	3467.5	-254886.0
	-145.7	-1862.1	-17.6	-5256.1	3763.2	-254422.6
	-146.4	-1861.2	4.7	-1033.3	-1097.9	-254261.4
	-147.1	-1859.0	3.3	-652.5	-802.2	-253798.0
	-143.3	-1866.6	-23.4	-5975.5	4878.4	-255378.9
	-144.1	-1864.4	-24.7	-5594.8	5174.1	-254915.5
	25.0	-116.3	22.9	-185.2	-4837.8	114239.4
	24.3	-114.2	21.6	195.5	-4542.1	114702.8
	28.0	-121.8	-5.1	-5127.4	1138.5	113121.9
	27.3	-119.6	-6.5	-4746.7	1434.2	113585.3
	26.7	-118.6	15.8	-523.9	-3426.9	113746.5
	25.9	-116.5	14.5	-143.2	-3131.2	114209.9
	29.7	-124.1	-12.3	-5466.1	2549.5	112629.0
	29.0	-121.9	-13.6	-5085.4	2845.2	113092.4

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-189.5	46.1	-19.6	2963.3	-4588.0	129030.4
	-187.2	48.4	-18.8	2092.1	-4402.4	128571.2
	-179.8	43.6	17.4	179.9	3896.4	129561.3
	-177.5	45.9	18.3	-691.2	4082.0	129102.1
	-197.4	43.9	-27.9	3830.7	-6405.8	129487.9
	-195.1	46.2	-27.0	2959.6	-6220.1	129028.7
	-187.7	41.4	9.2	1047.4	2078.7	130018.8
	-185.4	43.7	10.0	176.2	2264.3	129559.6
	21.8	1936.2	-6.8	1547.1	-1585.6	-250294.6
	24.1	1938.5	-6.0	675.9	-1400.0	-250753.8
	31.5	1933.8	30.2	-1236.3	6898.8	-249763.7
	33.7	1936.0	31.0	-2107.5	7084.5	-250222.9
	13.8	1934.0	-15.1	2414.5	-3403.3	-249837.1
	16.1	1936.3	-14.2	1543.3	-3217.7	-250296.3
	23.5	1931.5	21.9	-368.8	5081.1	-249306.2
	25.8	1933.8	22.8	-1240.0	5266.7	-249765.4
210.	-189.5	-898.9	-19.6	2963.3	-470.5	39492.3
	-187.2	-896.6	-18.8	2092.1	-462.0	39509.1
	-179.8	-901.4	17.4	179.9	239.4	39501.4
	-177.5	-899.1	18.3	-691.2	247.8	39518.2
	-197.4	-901.1	-27.9	3830.7	-556.1	39478.0
	-195.1	-898.8	-27.0	2959.6	-547.7	39494.8
	-187.7	-903.6	9.2	1047.4	153.7	39487.1
	-185.4	-901.3	10.0	176.2	162.2	39503.8
	21.8	991.2	-6.8	1547.1	-151.5	57090.4
	24.1	993.5	-6.0	675.9	-143.1	57107.2
	31.5	988.8	30.2	-1236.3	558.3	57099.5
	33.7	991.0	31.0	-2107.5	566.7	57116.2
	13.8	989.0	-15.1	2414.5	-237.2	57076.1
	16.1	991.3	-14.2	1543.3	-228.7	57092.9
	23.5	986.5	21.9	-368.8	472.6	57085.1
	25.8	988.8	22.8	-1240.0	481.1	57101.9
420.	-189.5	-1843.9	-19.6	2963.3	3647.1	-248494.9
	-187.2	-1841.6	-18.8	2092.1	3478.3	-248002.1
	-179.8	-1846.4	17.4	179.9	-3417.6	-249009.4
	-177.5	-1844.1	18.3	-691.2	-3586.4	-248516.6
	-197.4	-1846.1	-27.9	3830.7	5293.6	-248981.0
	-195.1	-1843.8	-27.0	2959.6	5124.8	-248488.2
	-187.7	-1848.6	9.2	1047.4	-1771.2	-249495.5
	-185.4	-1846.3	10.0	176.2	-1940.0	-249002.7
	21.8	46.2	-6.8	1547.1	1282.5	166026.3
	24.1	48.5	-6.0	675.9	1113.7	166519.1
	31.5	43.8	30.2	-1236.3	-5782.3	165511.8
	33.7	46.0	31.0	-2107.5	-5951.1	166004.6
	13.8	44.0	-15.1	2414.5	2929.0	165540.2
	16.1	46.3	-14.2	1543.3	2760.2	166033.0
	23.5	41.5	21.9	-368.8	-4135.8	165025.7
	25.8	43.8	22.8	-1240.0	-4304.6	165518.4

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-186.2	3234.8	-2.9	4135.1	-533.4	-213165.9
	-201.8	3148.1	-4.7	3190.9	-821.5	-199155.1
	-101.2	3930.5	10.8	4564.5	2293.4	-323058.6
	-116.8	3843.8	9.1	3620.2	2005.3	-309047.9
	-177.0	3318.4	2.4	5162.8	507.2	-226704.8
	-192.6	3231.7	0.7	4218.5	219.2	-212694.0
	-92.0	4014.1	16.2	5592.1	3334.1	-336597.5
	-107.6	3927.5	14.4	4647.9	3046.0	-322586.8
	-189.3	3105.9	-14.3	10812.0	-3023.0	-193275.6
	-204.9	3019.3	-16.0	9867.7	-3311.1	-179264.8
	-104.4	3801.6	-0.6	11241.4	-196.2	-303168.3
	-120.0	3715.0	-2.3	10297.1	-484.3	-289157.6
	-180.2	3189.5	-8.9	11839.6	-1982.3	-206814.5
	-195.8	3102.9	-10.7	10895.4	-2270.4	-192803.7
	-95.2	3885.2	4.8	12269.0	844.5	-316707.2
	-110.8	3798.6	3.0	11324.8	556.4	-302696.5
210.	-186.2	180.8	-2.9	4135.1	75.8	145470.0
	-201.8	94.2	-4.7	3190.9	157.7	141286.1
	-101.2	876.6	10.8	4564.5	22.1	181680.4
	-116.8	789.9	9.1	3620.2	104.0	177496.5
	-177.0	264.4	2.4	5162.8	-5.3	149491.8
	-192.6	177.8	0.7	4218.5	76.6	145307.9
	-92.0	960.2	16.2	5592.1	-59.0	185702.1
	-107.6	873.5	14.4	4647.9	22.9	181518.3
	-189.3	52.0	-14.3	10812.0	-27.5	138299.9
	-204.9	-34.7	-16.0	9867.7	54.4	134116.0
	-104.4	747.7	-0.6	11241.4	-81.2	174510.3
	-120.0	661.1	-2.3	10297.1	0.7	170326.4

	-180.2	135.6	-8.9	11839.6	-108.6	142321.7
	-195.8	48.9	-10.7	10895.4	-26.6	138137.8
	-95.2	831.3	4.8	12269.0	-162.3	178532.0
	-110.8	744.7	3.0	11324.8	-80.4	174348.2
420.	-186.2	-2873.1	-2.9	4135.1	683.7	-137218.3
	-201.8	-2959.7	-4.7	3190.9	1135.7	-159596.8
	-101.2	-2177.4	10.8	4564.5	-2248.0	45095.1
	-116.8	-2264.0	9.1	3620.2	-1796.0	22716.6
	-177.0	-2789.5	2.4	5162.8	-519.2	-115635.9
	-192.6	-2876.1	0.7	4218.5	-67.2	-138014.4
	-92.0	-2093.7	16.2	5592.1	-3450.8	66677.5
	-107.6	-2180.4	14.4	4647.9	-2998.8	44299.0
	-189.3	-3002.0	-14.3	10812.0	2966.7	-171448.8
	-204.9	-3088.6	-16.0	9867.7	3418.7	-193827.3
	-104.4	-2306.2	-0.6	11241.4	35.0	10864.6
	-120.0	-2392.9	-2.3	10297.1	487.0	-11513.9
	-180.2	-2918.3	-8.9	11839.6	1763.8	-149866.4
	-195.8	-3005.0	-10.7	10895.4	2215.8	-172244.9
	-95.2	-2222.6	4.8	12269.0	-1167.8	32447.0
	-110.8	-2309.2	3.0	11324.8	-715.8	10068.5

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-152.4	3033.3	-9.0	-20787.9	-1533.9	-187292.4
	-150.5	2931.8	-11.1	-21626.2	-1980.1	-170383.4
	-45.2	4055.2	11.9	-21069.1	1816.3	-352706.8
	-43.3	3953.7	9.9	-21907.5	1370.1	-335797.8
	-154.0	3129.5	-2.1	-19871.8	-399.7	-203317.4
	-152.2	3027.9	-4.1	-20710.1	-845.9	-186408.4
	-46.8	4151.4	18.9	-20153.0	2950.6	-368731.8
	-45.0	4049.8	16.8	-20991.4	2504.4	-351822.8
	-145.0	2924.1	-17.6	-50852.1	-2636.6	-172637.5
	-143.1	2822.6	-19.7	-51690.4	-3082.8	-155728.5
	-37.7	3946.0	3.4	-51133.3	713.7	-338051.9
	-35.9	3844.5	1.3	-51971.6	267.4	-321142.9
	-146.6	3020.2	-10.6	-49936.0	-1502.4	-188662.6
	-144.7	2918.7	-12.7	-50774.3	-1948.6	-171753.6
	-39.4	4042.1	10.3	-50217.2	1847.9	-354077.0
	-37.5	3940.6	8.2	-51055.5	1401.7	-337168.0
210.	-152.4	-20.6	-9.0	-20787.9	359.3	129037.1
	-150.5	-122.1	-11.1	-21626.2	352.5	124628.8
	-45.2	1001.3	11.9	-21069.1	-692.8	178223.1
	-43.3	899.8	9.9	-21907.5	-699.6	173814.9
	-154.0	75.5	-2.1	-19871.8	32.2	133205.1
	-152.2	-26.0	-4.1	-20710.1	25.4	128796.8
	-46.8	1097.4	18.9	-20153.0	-1019.9	182391.1
	-45.0	995.9	16.8	-20991.4	-1026.7	177982.8
	-145.0	-129.9	-17.6	-50852.1	1058.9	120755.4
	-143.1	-231.4	-19.7	-51690.4	1052.1	116347.1
	-37.7	892.1	3.4	-51133.3	6.8	169941.4
	-35.9	790.5	1.3	-51971.6	0.0	165533.1
	-146.6	-33.7	-10.6	-49936.0	731.8	124923.3
	-144.7	-135.2	-12.7	-50774.3	725.0	120515.0
	-39.4	988.2	10.3	-50217.2	-320.3	174109.3
	-37.5	886.7	8.2	-51055.5	-327.1	169701.1
420.	-152.4	-3074.6	-9.0	-20787.9	2252.4	-195957.6
	-150.5	-3176.1	-11.1	-21626.2	2685.1	-221683.2
	-45.2	-2052.7	11.9	-21069.1	-3201.8	67828.7
	-43.3	-2154.2	9.9	-21907.5	-2769.1	42103.1
	-154.0	-2978.4	-2.1	-19871.8	464.0	-171596.6
	-152.2	-3079.9	-4.1	-20710.1	896.6	-197322.2
	-46.8	-1956.5	18.9	-20153.0	-4990.2	92189.7
	-45.0	-2058.0	16.8	-20991.4	-4557.5	66464.1
	-145.0	-3183.8	-17.6	-50852.1	4754.3	-227175.9
	-143.1	-3285.3	-19.7	-51690.4	5186.9	-252901.5
	-37.7	-2161.9	3.4	-51133.3	-699.9	36610.4
	-35.9	-2263.4	1.3	-51971.6	-267.2	10884.8
	-146.6	-3087.6	-10.6	-49936.0	2965.8	-202814.9
	-144.7	-3189.1	-12.7	-50774.3	3398.5	-228540.5
	-39.4	-2065.7	10.3	-50217.2	-2488.3	60971.4
	-37.5	-2167.2	8.2	-51055.5	-2055.7	35245.8

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-128.1	3221.9	12.4	35575.8	1703.8	-205818.6
	-123.0	3306.9	9.2	34963.7	1044.5	-219894.7
	-57.9	3965.5	-5.7	38763.0	-774.0	-323418.4
	-52.8	4050.5	-8.8	38150.9	-1433.3	-337494.5
	-129.4	3141.8	20.4	36250.9	3026.6	-192539.9
	-124.3	3226.8	17.3	35638.8	2367.3	-206616.1
	-59.3	3885.3	2.4	39438.1	548.8	-310139.7
	-54.1	3970.4	-0.7	38825.9	-110.5	-324215.9
	-161.1	3298.5	0.5	4109.2	-15.6	-214410.0
	-156.0	3383.5	-2.6	3497.1	-675.0	-228486.2
	-90.9	4042.0	-17.5	7296.4	-2493.4	-332009.8
	-85.8	4127.1	-20.6	6684.3	-3152.8	-346086.0
	-162.4	3218.3	8.6	4784.3	1307.2	-201131.4
	-157.3	3303.3	5.5	4172.1	647.8	-215207.5
	-92.3	3961.9	-9.4	7971.5	-1170.6	-318731.2
	-87.1	4046.9	-12.5	7359.3	-1830.0	-332807.3
210.	-128.1	5.8	12.4	35575.8	-891.4	133085.0
	-123.0	90.8	9.2	34963.7	-895.3	136861.7
	-57.9	749.3	-5.7	38763.0	415.5	171638.3
	-52.8	834.4	-8.8	38150.9	411.6	175415.0
	-129.4	-74.4	20.4	36250.9	-1266.7	129533.7
	-124.3	10.6	17.3	35638.8	-1270.6	133310.4
	-59.3	669.2	2.4	39438.1	40.2	168087.1
	-54.1	754.2	-0.7	38825.9	36.3	171863.7
	-161.1	82.3	0.5	4109.2	-126.9	140570.1
	-156.0	167.3	-2.6	3497.1	-130.8	144346.8
	-90.9	825.9	-17.5	7296.4	1180.0	179123.4
	-85.8	910.9	-20.6	6684.3	1176.1	182900.1
	-162.4	2.2	8.6	4784.3	-502.2	137018.8
	-157.3	87.2	5.5	4172.1	-506.1	140795.5
	-92.3	745.7	-9.4	7971.5	804.7	175572.2
	-87.1	830.8	-12.5	7359.3	800.8	179348.8
420.	-128.1	-3210.4	12.4	35575.8	-3486.0	-203402.7
	-123.0	-3125.4	9.2	34963.7	-2834.5	-181773.3
	-57.9	-2466.8	-5.7	38763.0	1604.4	-8696.5
	-52.8	-2381.8	-8.8	38150.9	2256.0	12932.9
	-129.4	-3290.5	20.4	36250.9	-5559.5	-223783.9
	-124.3	-3205.5	17.3	35638.8	-4908.0	-202154.4
	-59.3	-2547.0	2.4	39438.1	-469.0	-29077.7
	-54.1	-2461.9	-0.7	38825.9	182.5	-7448.3
	-161.1	-3133.8	0.5	4109.2	-237.6	-179841.2
	-156.0	-3048.8	-2.6	3497.1	413.9	-158211.8
	-90.9	-2390.3	-17.5	7296.4	4852.8	14865.0
	-85.8	-2305.2	-20.6	6684.3	5504.4	36494.4
	-162.4	-3214.0	8.6	4784.3	-2311.1	-200222.4
	-157.3	-3129.0	5.5	4172.1	-1659.5	-178592.9
	-92.3	-2470.4	-9.4	7971.5	2779.4	-5516.2
	-87.1	-2385.4	-12.5	7359.3	3430.9	16113.2

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-233.1	3274.1	11.2	-8914.2	2550.8	-205743.0
	-220.4	3379.5	7.6	-10556.8	1915.8	-223760.2
	-180.0	3862.8	1.9	-4461.3	348.9	-303725.9
	-167.4	3968.2	-1.7	-6104.0	-286.1	-321743.0
	-245.8	3172.2	18.4	-7138.3	3949.8	-188320.4
	-233.2	3277.6	14.8	-8780.9	3314.8	-206337.6

	-192.8	3760.9	9.1	-2685.4	1748.0	-286303.3
	-180.1	3866.4	5.5	-4328.0	1113.0	-304320.4
	-283.4	3425.3	-5.8	-2797.0	-1276.7	-230511.2
	-270.7	3530.7	-9.5	-4439.6	-1911.7	-248528.4
	-230.4	4014.1	-15.1	1655.9	-3478.6	-328494.1
	-217.7	4119.5	-18.8	13.3	-4113.6	-346511.2
	-296.1	3323.5	1.4	-1021.0	122.3	-213088.6
	-283.5	3428.9	-2.3	-2663.6	-512.7	-231105.8
	-243.1	3912.2	-7.9	3431.9	-2079.6	-311071.4
	-230.4	4017.6	-11.6	1789.2	-2714.5	-329088.6
210.	-233.1	57.9	11.2	-8914.2	196.7	144112.7
	-220.4	163.3	7.6	-10556.8	327.1	148234.3
	-180.0	646.6	1.9	-4461.3	-52.1	169765.8
	-167.4	752.1	-1.7	-6104.0	78.3	173887.4
	-245.8	-44.0	18.4	-7138.3	82.3	140145.3
	-233.2	61.5	14.8	-8780.9	212.7	144267.0
	-192.8	544.8	9.1	-2685.4	-166.5	165798.4
	-180.1	650.2	5.5	-4328.0	-36.1	169920.1
	-283.4	209.2	-5.8	-2797.0	-49.8	151111.4
	-270.7	314.6	-9.5	-4439.6	80.6	155233.0
	-230.4	797.9	-15.1	1655.9	-298.6	176764.5
	-217.7	903.3	-18.8	13.3	-168.2	180886.1
	-296.1	107.3	1.4	-1021.0	-164.2	147144.0
	-283.5	212.7	-2.3	-2663.6	-33.8	151265.7
	-243.1	696.1	-7.9	3431.9	-413.0	172797.1
	-230.4	801.5	-11.6	1789.2	-282.6	176918.8
420.	-233.1	-3158.2	11.2	-8914.2	-2159.9	-181423.0
	-220.4	-3052.8	7.6	-10556.8	-1264.2	-155162.6
	-180.0	-2569.5	1.9	-4461.3	-450.6	-32134.2
	-167.4	-2464.1	-1.7	-6104.0	445.2	-5873.7
	-245.8	-3260.1	18.4	-7138.3	-3787.8	-206780.3
	-233.2	-3154.7	14.8	-8780.9	-2892.0	-180519.9
	-192.8	-2671.4	9.1	-2685.4	-2078.4	-57491.5
	-180.1	-2565.9	5.5	-4328.0	-1182.7	-31231.0
	-283.4	-3007.0	-5.8	-2797.0	1174.6	-142657.4
	-270.7	-2901.6	-9.5	-4439.6	2070.3	-116397.0
	-230.4	-2418.2	-15.1	1655.9	2883.9	6631.4
	-217.7	-2312.8	-18.8	13.3	3779.7	32891.9
	-296.1	-3108.8	1.4	-1021.0	-453.3	-168014.7
	-283.5	-3003.4	-2.3	-2663.6	442.5	-141754.3
	-243.1	-2520.1	-7.9	3431.9	1256.1	-18725.9
	-230.4	-2414.7	-11.6	1789.2	2151.8	7534.6

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	252.4	-287.6	4.5	17916.6	957.8	135024.4
	282.9	-311.8	2.9	18504.5	596.9	139869.3
	-73.1	-250.7	-3.5	-1061.1	-1053.3	127241.1
	-42.6	-274.9	-5.1	-473.2	-1414.1	132086.1
	310.5	-261.8	3.7	17453.9	616.9	129869.0
	341.0	-286.0	2.1	18041.8	256.0	134714.0
	-15.1	-224.9	-4.3	-1523.8	-1394.2	122085.8
	15.4	-249.1	-5.9	-935.9	-1755.1	126930.7
	-84.4	1069.2	6.2	19618.0	1824.5	-134157.2
	-53.9	1045.0	4.6	20205.9	1463.6	-129312.3
	-409.9	1106.1	-1.9	640.3	-186.6	-141940.5
	-379.4	1081.9	-3.5	1228.3	-547.5	-137095.5
	-26.4	1095.0	5.4	19155.3	1483.6	-139312.6
	4.1	1070.8	3.8	19743.2	1122.7	-134467.6
	-351.9	1131.9	-2.7	177.6	-527.5	-147095.8
	-321.4	1107.7	-4.3	765.5	-888.4	-142250.9
195.	252.4	-1091.9	4.5	17916.6	72.7	525.7
	282.9	-1116.1	2.9	18504.5	27.3	650.3
	-73.1	-1055.1	-3.5	-1061.1	-367.5	-69.8
	-42.6	-1079.3	-5.1	-473.2	-412.9	54.9
	310.5	-1066.2	3.7	17453.9	-112.9	392.9
	341.0	-1090.4	2.1	18041.8	-158.3	517.5
	-15.1	-1029.3	-4.3	-1523.8	-553.1	-202.6
	15.4	-1053.5	-5.9	-935.9	-598.5	-77.9
	-84.4	264.9	6.2	19618.0	617.7	-4082.3
	-53.9	240.7	4.6	20205.9	572.3	-3957.7
	-409.9	301.7	-1.9	640.3	177.5	-4677.8
	-379.4	277.5	-3.5	1228.3	132.1	-4553.1
	-26.4	290.6	5.4	19155.3	432.2	-4215.2
	4.1	266.4	3.8	19743.2	386.8	-4090.5
	-351.9	327.5	-2.7	177.6	-8.0	-4810.6
	-321.4	303.3	-4.3	765.5	-53.4	-4686.0
390.	252.4	-1896.3	4.5	17916.6	-812.6	-290827.6
	282.9	-1920.5	2.9	18504.5	-542.5	-295423.2
	-73.1	-1859.4	-3.5	-1061.1	318.2	-284232.3
	-42.6	-1883.6	-5.1	-473.2	588.3	-288828.0
	310.5	-1870.5	3.7	17453.9	-842.8	-285937.9
	341.0	-1894.8	2.1	18041.8	-572.6	-290533.5
	-15.1	-1833.7	-4.3	-1523.8	288.0	-279342.6
	15.4	-1857.9	-5.9	-935.9	558.2	-283938.3
	-84.4	-539.5	6.2	19618.0	-589.1	-30862.0
	-53.9	-563.7	4.6	20205.9	-319.0	-35457.7
	-409.9	-502.6	-1.9	640.3	541.6	-24266.8
	-379.4	-526.9	-3.5	1228.3	811.8	-28862.4
	-26.4	-513.8	5.4	19155.3	-619.3	-25972.4
	4.1	-538.0	3.8	19743.2	-349.2	-30568.0
	-351.9	-476.9	-2.7	177.6	511.5	-19377.1
	-321.4	-501.1	-4.3	765.5	781.6	-23972.8

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	307.4	4344.4	8.0	50053.2	1844.3	-155493.1
	365.7	4321.9	6.1	52364.5	1374.3	-150772.7
	-789.4	4389.7	-4.9	-12217.1	-1223.3	-165121.8
	-731.1	4367.3	-6.8	-9905.8	-1693.3	-160401.4
	414.4	4367.9	7.6	47973.7	1235.4	-160444.9
	472.7	4345.4	5.7	50285.0	765.4	-155724.5
	-682.4	4413.2	-5.3	-14296.6	-1832.2	-170073.6
	-624.1	4390.8	-7.1	-11985.2	-2302.2	-165353.2
	21.3	5495.4	8.2	52191.9	2616.5	-407529.8
	79.6	5473.0	6.3	54503.3	2146.5	-402809.4
	-1075.5	5540.8	-4.7	-10078.3	-451.1	-417158.5
	-1017.2	5518.3	-6.5	-7767.0	-921.1	-412438.1
	128.2	5518.9	7.9	50112.5	2007.6	-412481.6
	186.5	5496.5	6.0	52423.8	1537.6	-407761.3
	-968.6	5564.3	-5.0	-12157.8	-1060.0	-422110.3
	-910.3	5541.8	-6.9	-9846.4	-1530.0	-417389.9
215.	307.4	-805.4	8.0	50053.2	127.9	224943.1
	365.7	-827.9	6.1	52364.5	61.5	224836.7
	-789.4	-760.1	-4.9	-12217.1	-170.9	225063.3
	-731.1	-782.5	-6.8	-9905.8	-237.4	224956.9
	414.4	-781.9	7.6	47973.7	-402.2	225045.7
	472.7	-804.4	5.7	50285.0	-468.6	224939.4
	-682.4	-736.6	-5.3	-14296.6	-701.0	225165.9
	-624.1	-759.0	-7.1	-11985.2	-767.5	225059.6
	21.3	345.6	8.2	52191.9	848.2	220386.0
	79.6	323.2	6.3	54503.3	781.7	220279.7
	-1075.5	391.0	-4.7	-10078.3	549.4	220506.3
	-1017.2	368.5	-6.5	-7767.0	482.9	220399.9
	128.2	369.2	7.9	50112.5	318.1	220488.7
	186.5	346.7	6.0	52423.8	251.7	220382.4
	-968.6	414.5	-5.0	-12157.8	19.3	220608.9
	-910.3	392.0	-6.9	-9846.4	-47.2	220502.6
430.	307.4	-5955.2	8.0	50053.2	-1588.5	-501824.9
	365.7	-5977.7	6.1	52364.5	-1251.4	-506757.9
	-789.4	-5909.9	-4.9	-12217.1	881.5	-491956.2
	-731.1	-5932.3	-6.8	-9905.8	1218.6	-496889.2

	414.4	-5931.7	7.6	47973.7	-2039.8	-496667.8
	472.7	-5954.2	5.7	50285.0	-1702.6	-501600.8
	-682.4	-5886.4	-5.3	-14296.6	430.2	-486799.1
	-624.1	-5908.8	-7.1	-11985.2	767.4	-491732.1
	21.3	-4804.1	8.2	52191.9	-920.2	-258902.2
	79.6	-4826.6	6.3	54503.3	-583.0	-263835.2
	-1075.5	-4758.8	-4.7	-10078.3	1549.8	-249033.5
	-1017.2	-4781.2	-6.5	-7767.0	1887.0	-253966.6
	128.2	-4780.6	7.9	50112.5	-1371.4	-253745.1
	186.5	-4803.1	6.0	52423.8	-1034.3	-258678.1
	-968.6	-4735.3	-5.0	-12157.8	1098.6	-243876.4
	-910.3	-4757.7	-6.9	-9846.4	1435.7	-248809.4

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	840.9	4262.8	0.6	12485.9	-1165.3	-223454.1
	900.2	4237.7	-2.8	9217.4	-2011.2	-218457.3
	-1397.4	4301.5	5.8	2190.6	2515.4	-230446.4
	-1338.0	4276.5	2.4	-1077.8	1669.5	-225449.6
	958.1	4288.9	4.1	15563.3	-491.8	-228674.4
	1017.4	4263.8	0.7	12294.8	-1337.7	-223677.7
	-1280.2	4327.6	9.3	5268.0	3188.9	-235666.7
	-1220.8	4302.6	5.9	1999.6	2343.0	-230670.0
	680.2	5545.5	-5.5	7306.7	-2334.4	-481911.1
	739.6	5520.4	-8.9	4038.3	-3180.3	-476914.4
	-1558.0	5584.2	-0.3	-2988.5	1346.3	-488903.4
	-1498.7	5559.1	-3.7	-6257.0	500.4	-483906.7
	797.4	5571.5	-2.0	10384.1	-1661.0	-487131.5
	856.8	5546.5	-5.4	7115.7	-2506.9	-482134.7
	-1440.8	5610.3	3.2	88.9	2019.8	-494123.8
	-1381.5	5585.2	-0.2	-3179.6	1173.9	-489127.0
200.	840.9	-527.7	0.6	12485.9	-1284.7	150054.0
	900.2	-552.8	-2.8	9217.4	-1447.7	150036.0
	-1397.4	-489.0	5.8	2190.6	1354.9	150815.3
	-1338.0	-514.0	2.4	-1077.8	1191.9	150797.4
	958.1	-501.6	4.1	15563.3	-1310.9	150052.5
	1017.4	-526.7	0.7	12294.8	-1473.9	150034.5
	-1280.2	-462.9	9.3	5268.0	1328.7	150813.8
	-1220.8	-487.9	5.9	1999.6	1165.7	150795.9
	680.2	755.0	-5.5	7306.7	-1235.6	148127.1
	739.6	729.9	-8.9	4038.3	-1398.5	148109.1
	-1558.0	793.7	-0.3	-2988.5	1404.1	148888.4
	-1498.7	768.6	-3.7	-6257.0	1241.1	148870.4
	797.4	781.0	-2.0	10384.1	-1261.8	148125.6
	856.8	756.0	-5.4	7115.7	-1424.8	148107.6
	-1440.8	819.8	3.2	88.9	1377.8	148886.9
	-1381.5	794.7	-0.2	-3179.6	1214.9	148868.9
400.	840.9	-5318.2	0.6	12485.9	-1406.2	-434534.3
	900.2	-5343.3	-2.8	9217.4	-886.3	-439567.0
	-1397.4	-5279.5	5.8	2190.6	196.4	-426026.6
	-1338.0	-5304.5	2.4	-1077.8	716.4	-431059.2
	958.1	-5292.1	4.1	15563.3	-2132.1	-429317.0
	1017.4	-5317.2	0.7	12294.8	-1612.1	-434349.6
	-1280.2	-5253.4	9.3	5268.0	-529.4	-420809.2
	-1220.8	-5278.4	5.9	1999.6	-9.4	-425841.9
	680.2	-4035.5	-5.5	7306.7	-138.8	-179931.1
	739.6	-4060.6	-8.9	4038.3	381.2	-184963.8
	-1558.0	-3996.8	-0.3	-2988.5	1463.9	-171423.4
	-1498.7	-4021.9	-3.7	-6257.0	1983.8	-176456.0
	797.4	-4009.5	-2.0	10384.1	-864.7	-174713.8
	856.8	-4034.5	-5.4	7115.7	-344.7	-179746.4
	-1440.8	-3970.7	3.2	88.9	738.0	-166206.0
	-1381.5	-3995.8	-0.2	-3179.6	1258.0	-171238.7

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	1009.5	4096.3	1.0	2357.6	-1172.6	-179083.5
	1000.7	4072.8	-2.2	-2248.3	-1860.0	-174281.0
	-1713.4	4135.0	4.1	6870.9	2030.6	-186474.7
	-1722.1	4111.6	0.9	2265.0	1343.3	-181672.2
	1083.5	4120.5	3.5	6608.1	-777.5	-184042.0
	1074.8	4097.0	0.2	2002.2	-1464.9	-179239.5
	-1639.4	4159.3	6.6	11121.4	2425.7	-191433.2
	-1648.1	4135.8	3.3	6515.5	1738.4	-186630.7
	1079.4	5327.4	-3.0	-4585.8	-1735.6	-431938.5
	1070.6	5304.0	-6.2	-9191.7	-2423.0	-427136.1
	-1643.5	5366.2	0.1	-72.5	1467.7	-439329.7
	-1652.2	5342.7	-3.1	-4678.4	780.3	-434527.3
	1153.4	5351.7	-0.5	-335.4	-1340.5	-436897.0
	1144.6	5328.2	-3.8	-4941.3	-2027.9	-432094.6
	-1569.5	5390.4	2.6	4178.0	1862.8	-444288.2
	-1578.2	5366.9	-0.7	-428.0	1175.4	-439485.8
210.	1009.5	-933.7	1.0	2357.6	-1390.5	152983.6
	1000.7	-957.2	-2.2	-2248.3	-1391.1	152852.8
	-1713.4	-895.0	4.1	6870.9	1167.7	153732.8
	-1722.1	-918.5	0.9	2265.0	1167.1	153602.1
	1083.5	-909.5	3.5	6608.1	-1510.5	153111.9
	1074.8	-933.0	0.2	2002.2	-1511.1	152981.2
	-1639.4	-870.8	6.6	11121.4	1047.7	153861.2
	-1648.1	-894.2	3.3	6515.5	1047.1	153730.4
	1079.4	297.4	-3.0	-4585.8	-1116.3	158671.5
	1070.6	273.9	-6.2	-9191.7	-1116.9	158540.8
	-1643.5	336.2	0.1	-72.5	1441.9	159420.7
	-1652.2	312.7	-3.1	-4678.4	1441.3	159290.0
	1153.4	321.6	-0.5	-335.4	-1236.4	158799.8
	1144.6	298.2	-3.8	-4941.3	-1237.0	158669.1
	-1569.5	360.4	2.6	4178.0	1321.9	159549.1
	-1578.2	336.9	-0.7	-428.0	1321.3	159418.4
420.	1009.5	-5963.8	1.0	2357.6	-1610.7	-571252.9
	1000.7	-5987.3	-2.2	-2248.3	-924.6	-576316.8
	-1713.4	-5925.0	4.1	6870.9	307.2	-562366.7
	-1722.1	-5948.5	0.9	2265.0	993.4	-567430.5
	1083.5	-5939.5	3.5	6608.1	-2245.9	-566037.7
	1074.8	-5963.0	0.2	2002.2	-1559.7	-571101.6
	-1639.4	-5900.8	6.6	11121.4	-327.9	-557151.5
	-1648.1	-5924.3	3.3	6515.5	358.3	-562215.3
	1079.4	-4732.6	-3.0	-4585.8	-499.5	-307022.0
	1070.6	-4756.1	-6.2	-9191.7	186.7	-312085.9
	-1643.5	-4693.8	0.1	-72.5	1418.5	-298135.8
	-1652.2	-4717.3	-3.1	-4678.4	2104.7	-303199.7
	1153.4	-4708.4	-0.5	-335.4	-1134.6	-301806.8
	1144.6	-4731.9	-3.8	-4941.3	-448.4	-306870.7
	-1569.5	-4669.6	2.6	4178.0	783.4	-292920.6
	-1578.2	-4693.1	-0.7	-428.0	1469.5	-297984.4

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	625.8	5724.5	-0.8	-2893.6	-1592.9	-378179.4
	516.7	5707.7	-3.3	-7508.6	-2114.1	-373804.9
	-1923.4	5753.6	4.7	8812.3	2322.3	-385119.3
	-2032.5	5736.7	2.2	4197.3	1801.1	-380744.7
	644.8	5741.9	1.0	1369.1	-1126.0	-382688.9
	535.7	5725.1	-1.5	-3246.0	-1647.1	-378314.3
	-1904.4	5770.9	6.5	13075.0	2789.2	-389628.7
	-2013.5	5754.1	4.0	8460.0	2268.1	-385254.1
	1205.2	6608.8	-3.6	-9835.0	-2269.1	-606266.6
	1096.1	6592.0	-6.1	-14450.1	-2790.2	-601892.0
	-1344.0	6637.9	1.9	1870.9	1646.1	-613206.4
	-1453.1	6621.0	-0.6	-2744.1	1125.0	-608831.8
	1224.2	6626.2	-1.8	-5572.4	-1802.1	-610776.0
	1115.1	6609.4	-4.3	-10187.4	-2323.3	-606401.4
	-1325.0	6655.2	3.7	6133.6	2113.1	-617715.8

	-1434.1	6638.4	1.2	1518.5	1591.9	-613341.3
255.	625.8	-383.4	-0.8	-2893.6	-1392.4	302815.7
	516.7	-400.2	-3.3	-7508.6	-1275.9	302901.9
	-1923.4	-354.3	4.7	8812.3	1121.3	303286.1
	-2032.5	-371.1	2.2	4197.3	1237.8	303372.3
	644.8	-366.0	1.0	1369.1	-1371.7	302736.3
	535.7	-382.8	-1.5	-3246.0	-1255.2	302822.6
	-1904.4	-336.9	6.5	13075.0	1142.0	303206.7
	-2013.5	-353.8	4.0	8460.0	1258.5	303293.0
	1205.2	500.9	-3.6	-9835.0	-1357.0	300221.7
	1096.1	484.1	-6.1	-14450.1	-1240.5	300308.0
	-1344.0	530.0	1.9	1870.9	1156.8	300692.1
	-1453.1	513.1	-0.6	-2744.1	1273.3	300778.4
	1224.2	518.3	-1.8	-5572.4	-1336.3	300142.4
	1115.1	501.5	-4.3	-10187.4	-1219.8	300228.6
	-1325.0	547.3	3.7	6133.6	1177.5	300612.8
	-1434.1	530.5	1.2	1518.5	1294.0	300699.0
510.	625.8	-6491.3	-0.8	-2893.6	-1195.3	-573697.3
	516.7	-6508.1	-3.3	-7508.6	-441.1	-577899.3
	-1923.4	-6462.2	4.7	8812.3	-76.1	-565823.2
	-2032.5	-6479.0	2.2	4197.3	678.0	-570025.2
	644.8	-6473.9	1.0	1369.1	-1620.8	-569346.6
	535.7	-6490.7	-1.5	-3246.0	-866.7	-573548.6
	-1904.4	-6444.8	6.5	13075.0	-501.7	-561472.5
	-2013.5	-6461.7	4.0	8460.0	252.4	-565674.5
	1205.2	-5607.0	-3.6	-9835.0	-448.3	-350798.0
	1096.1	-5623.8	-6.1	-14450.1	305.8	-355000.0
	-1344.0	-5577.9	1.9	1870.9	670.8	-342924.0
	-1453.1	-5594.7	-0.6	-2744.1	1425.0	-347126.0
	1224.2	-5589.6	-1.8	-5572.4	-873.9	-346447.3
	1115.1	-5606.4	-4.3	-10187.4	-119.8	-350649.3
	-1325.0	-5560.5	3.7	6133.6	245.3	-338573.3
	-1434.1	-5577.4	1.2	1518.5	999.4	-342775.3

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	359.5	3984.2	-0.5	-15500.4	-1439.3	-233075.4
	189.3	3955.1	-4.1	-18674.8	-1870.5	-227611.0
	-1562.7	4033.7	7.2	9045.3	2149.6	-241468.3
	-1732.9	4004.6	3.5	5870.9	1718.4	-236003.9
	329.9	4014.5	3.5	-12489.1	-758.8	-238756.7
	159.7	3985.4	-0.2	-15663.5	-1190.0	-233292.2
	-1592.3	4064.0	11.1	12056.6	2830.1	-247149.6
	-1762.5	4035.0	7.4	8882.2	2398.9	-241685.1
	1297.9	5481.0	-7.5	-20499.3	-2473.2	-510464.6
	1127.7	5451.9	-11.2	-23673.7	-2904.4	-505000.2
	-624.3	5530.5	0.2	4046.4	1115.7	-518857.6
	-794.5	5501.5	-3.5	872.0	684.5	-513393.1
	1268.3	5511.3	-3.6	-17487.9	-1792.6	-516145.9
	1098.1	5482.3	-7.2	-20662.3	-2223.8	-510681.4
	-653.9	5560.9	4.1	7057.8	1796.2	-524538.8
	-824.2	5531.8	0.4	3883.4	1365.0	-519074.3
180.	359.5	-327.3	-0.5	-15500.4	-1359.9	96040.0
	189.3	-356.3	-4.1	-18674.8	-1127.1	96274.2
	-1562.7	-277.8	7.2	9045.3	855.6	96569.2
	-1732.9	-306.8	3.5	5870.9	1088.5	96803.4
	329.9	-297.0	3.5	-12489.1	-1383.8	95818.4
	159.7	-326.0	-0.2	-15663.5	-1151.0	96052.7
	-1592.3	-247.4	11.1	12056.6	831.7	96347.6
	-1762.5	-276.5	7.4	8882.2	1064.5	96581.9
	1297.9	1169.5	-7.5	-20499.3	-1130.7	88080.3
	1127.7	1140.5	-11.2	-23673.7	-897.9	88314.5
	-624.3	1219.1	0.2	4046.4	1084.8	88609.5
	-794.5	1190.0	-3.5	872.0	1317.6	88843.7
	1268.3	1199.9	-3.6	-17487.9	-1154.7	87858.7
	1098.1	1170.8	-7.2	-20662.3	-921.9	88093.0
	-653.9	1249.4	4.1	7057.8	1060.8	88387.9
	-824.2	1220.3	0.4	3883.4	1293.6	88622.2
360.	359.5	-4638.7	-0.5	-15500.4	-1286.2	-350898.9
	189.3	-4667.8	-4.1	-18674.8	-389.4	-355894.8
	-1562.7	-4589.2	7.2	9045.3	-432.5	-341461.1
	-1732.9	-4618.3	3.5	5870.9	464.3	-346456.9
	329.9	-4608.4	3.5	-12489.1	-2014.6	-345660.8
	159.7	-4637.5	-0.2	-15663.5	-1117.8	-350656.7
	-1592.3	-4558.9	11.1	12056.6	-1161.0	-336223.0
	-1762.5	-4587.9	7.4	8882.2	-264.2	-341218.8
	1297.9	-3141.9	-7.5	-20499.3	206.0	-89429.1
	1127.7	-3171.0	-11.2	-23673.7	1102.8	-94425.0
	-624.3	-3092.4	0.2	4046.4	1059.7	-79991.2
	-794.5	-3121.4	-3.5	872.0	1956.5	-84987.1
	1268.3	-3111.6	-3.6	-17487.9	-522.5	-84191.0
	1098.1	-3140.6	-7.2	-20662.3	374.4	-89186.9
	-653.9	-3062.0	4.1	7057.8	331.2	-74753.1
	-824.2	-3091.1	0.4	3883.4	1228.0	-79749.0

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-41.6	3288.1	-12.3	-58332.3	-1709.0	-89024.5
	-173.8	3257.7	-14.6	-56313.3	-1966.5	-83859.3
	-1025.0	3325.0	13.2	6227.2	1904.8	-95425.7
	-1157.3	3294.6	10.9	8246.2	1647.3	-90260.6
	-89.0	3320.0	-13.4	-60102.6	-1334.5	-94443.8
	-221.3	3289.6	-15.6	-58083.7	-1592.0	-89278.6
	-1072.5	3356.9	12.1	4456.8	2279.3	-100845.0
	-1204.7	3326.5	9.8	6475.8	2021.8	-95679.8
	770.7	4854.0	-9.9	-56931.6	-1967.2	-343509.7
	638.4	4823.6	-12.1	-54912.6	-2224.7	-338344.5
	-212.8	4890.9	15.6	7627.8	1646.6	-349910.9
	-345.0	4860.5	13.4	9646.8	1389.1	-344745.7
	723.2	4885.9	-11.0	-58702.0	-1592.7	-348929.0
	591.0	4855.5	-13.2	-56683.0	-1850.2	-343763.8
	-260.2	4922.9	14.5	5857.5	2021.1	-355330.2
	-392.5	4892.5	12.3	7876.4	1763.6	-350165.0
165.	-41.6	-664.1	-12.3	-58332.3	322.5	127451.3
	-173.8	-694.5	-14.6	-56313.3	434.6	127600.4
	-1025.0	-627.2	13.2	6227.2	-266.3	127141.0
	-1157.3	-657.6	10.9	8246.2	-154.1	127290.1
	-89.0	-632.2	-13.4	-60102.6	877.7	127301.9
	-221.3	-662.6	-15.6	-58083.7	989.9	127451.0
	-1072.5	-595.3	12.1	4456.8	289.0	126991.6
	-1204.7	-625.7	9.8	6475.8	401.2	127140.7
	770.7	901.8	-9.9	-56931.6	-337.7	131346.8
	638.4	871.4	-12.1	-54912.6	-225.5	131495.9
	-212.8	938.8	15.6	7627.8	-926.4	131036.5
	-345.0	908.4	13.4	9646.8	-814.3	131185.6
	723.2	933.8	-11.0	-58702.0	217.6	131197.5
	591.0	903.4	-13.2	-56683.0	329.7	131346.6
	-260.2	970.7	14.5	5857.5	-371.1	130887.2
	-392.5	940.3	12.3	7876.4	-259.0	131036.3
330.	-41.6	-4616.3	-12.3	-58332.3	2353.8	-308180.2
	-173.8	-4646.7	-14.6	-56313.3	2835.6	-313047.2
	-1025.0	-4579.4	13.2	6227.2	-2437.2	-302398.7
	-1157.3	-4609.8	10.9	8246.2	-1955.4	-307265.7
	-89.0	-4584.3	-13.4	-60102.6	3089.9	-303059.6
	-221.3	-4614.7	-15.6	-58083.7	3571.7	-307926.6
	-1072.5	-4547.4	12.1	4456.8	-1701.1	-297278.1
	-1204.7	-4577.8	9.8	6475.8	-1219.3	-302145.1
	770.7	-3050.3	-9.9	-56931.6	1291.7	-45903.9
	638.4	-3080.7	-12.1	-54912.6	1773.5	-50770.9
	-212.8	-3013.4	15.6	7627.8	-3499.4	-40122.4
	-345.0	-3043.8	13.4	9646.8	-3017.6	-44989.4
	723.2	-3018.4	-11.0	-58702.0	2027.8	-40783.4

591.0	-3048.8	-13.2	-56683.0	2509.6	-45650.3
-260.2	-2981.5	14.5	5857.5	-2763.3	-35001.9
-392.5	-3011.9	12.3	7876.4	-2281.5	-39868.8

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-213.4	301.2	-9.5	-8942.3	-1521.1	29639.8
	-283.4	274.2	-10.1	-10069.8	-1528.6	34539.0
	-531.6	346.2	7.9	2122.6	1478.0	21177.0
	-601.7	319.1	7.3	995.1	1470.4	26076.2
	-236.4	330.0	-10.9	-7743.6	-1687.1	24421.6
	-306.5	303.0	-11.5	-8871.1	-1694.7	29320.7
	-554.7	375.0	6.4	3321.3	1311.9	15958.8
	-624.8	348.0	5.9	2193.8	1304.3	20857.9
	467.6	1802.8	-5.3	-9678.8	-1166.5	-240620.0
	397.6	1775.8	-5.8	-10806.3	-1174.1	-235720.9
	149.4	1847.8	12.1	1386.1	1832.5	-249082.8
	79.3	1820.8	11.5	258.6	1824.9	-244183.7
	444.6	1831.6	-6.7	-8480.2	-1332.6	-245838.3
	374.5	1804.6	-7.3	-9607.7	-1340.2	-240939.1
	126.3	1876.6	10.7	2584.7	1666.4	-254301.1
	56.2	1849.6	10.1	1457.2	1658.9	-249401.9
210.	-213.4	-565.1	-9.5	-8942.3	475.5	1933.8
	-283.4	-592.1	-10.1	-10069.8	585.5	1155.5
	-531.6	-520.1	7.9	2122.6	-175.6	2919.4
	-601.7	-547.1	7.3	995.1	-65.7	2141.2
	-236.4	-536.2	-10.9	-7743.6	610.6	2768.6
	-306.5	-563.3	-11.5	-8871.1	720.5	1990.3
	-554.7	-491.2	6.4	3321.3	-40.6	3754.2
	-624.8	-518.3	5.9	2193.8	69.3	2975.9
	467.6	936.6	-5.3	-9678.8	-57.6	47012.5
	397.6	909.5	-5.8	-10806.3	52.4	46234.2
	149.4	981.5	12.1	1386.1	-708.7	47998.1
	79.3	954.5	11.5	258.6	-598.8	47219.8
	444.6	965.4	-6.7	-8480.2	77.5	47847.3
	374.5	938.3	-7.3	-9607.7	187.4	47069.0
	126.3	1010.4	10.7	2584.7	-573.7	48832.9
	56.2	983.3	10.1	1457.2	-463.7	48054.6
420.	-213.4	-1431.3	-9.5	-8942.3	2472.0	-207684.3
	-283.4	-1458.3	-10.1	-10069.8	2699.4	-214140.0
	-531.6	-1386.3	7.9	2122.6	-1829.0	-197251.1
	-601.7	-1413.4	7.3	995.1	-1601.6	-203706.8
	-236.4	-1402.5	-10.9	-7743.6	2908.1	-200796.5
	-306.5	-1429.5	-11.5	-8871.1	3135.5	-207252.2
	-554.7	-1357.5	6.4	3321.3	-1392.9	-190363.3
	-624.8	-1384.5	5.9	2193.8	-1165.5	-196819.0
	467.6	70.3	-5.3	-9678.8	1051.3	152732.9
	397.6	43.3	-5.8	-10806.3	1278.7	146277.2
	149.4	115.3	12.1	1386.1	-3249.7	163166.1
	79.3	88.3	11.5	258.6	-3022.3	156710.4
	444.6	99.1	-6.7	-8480.2	1487.4	159620.7
	374.5	72.1	-7.3	-9607.7	1714.8	153165.0
	126.3	144.1	10.7	2584.7	-2813.6	170053.9
	56.2	117.1	10.1	1457.2	-2586.2	163598.2

SOLLECITAZIONI ASTE

CASO DI CARICO : 5 SLU con SISMAY PRINC COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA

1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00

N. 2 CASI DI CARICO
3 SISMAY SLU 1.00
2 SISMAX SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.001
2) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.002
3) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.003
4) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.004
5) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.001
6) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.002
7) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.003
8) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.004
9) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.001
10) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.002
11) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.003
12) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.004
13) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.001
14) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.002
15) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.003
16) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-415.0	0.0	-193374.2	14.3	-152581.0
	0.0	-443.9	-0.7	-191778.4	-116.9	-149330.6
	0.0	-478.4	1.0	-205933.4	225.9	-253683.4
	0.0	-507.4	0.4	-204337.6	94.6	-250433.0
	0.0	-82.0	6.8	-212116.5	1395.0	-188869.0
	0.0	-110.9	6.1	-210520.7	1263.7	-185618.6
	0.0	-145.4	7.8	-224675.7	1606.5	-289971.4
	0.0	-174.4	7.2	-223079.9	1475.3	-286721.0
	0.0	-3072.7	-7.4	-59937.9	-1523.9	47626.3
	0.0	-3101.7	-8.0	-58342.1	-1655.2	50876.6
	0.0	-3136.2	-6.4	-72497.1	-1312.4	-53476.1
	0.0	-3165.1	-7.0	-70901.3	-1443.6	-50225.8
	0.0	-2739.7	-0.6	-78680.2	-143.3	11338.3
	0.0	-2768.7	-1.3	-77084.4	-274.6	14588.6
	0.0	-2803.2	0.4	-91239.4	68.3	-89764.2
	0.0	-2832.1	-0.2	-89643.6	-63.0	-86513.8
195.	0.0	1334.0	0.0	-192115.1	17.4	-75397.5
	0.0	1329.3	-0.7	-190585.4	10.4	-75379.3
	0.0	1506.3	1.0	-204740.1	27.2	-162581.8
	0.0	1501.7	0.4	-203210.4	20.2	-162563.6
	0.0	1380.4	6.7	-210080.3	82.7	-75190.1
	0.0	1375.7	6.1	-208550.6	75.6	-75172.0
	0.0	1552.7	7.7	-222705.2	92.5	-162374.5
	0.0	1548.1	7.1	-221175.5	85.5	-162356.3
	0.0	1551.7	-7.3	-66308.3	-88.3	-108257.8
	0.0	1547.1	-8.0	-64778.6	-95.3	-108239.6
	0.0	1724.1	-6.3	-78933.2	-78.5	-195442.2
	0.0	1719.5	-6.9	-77403.5	-85.5	-195424.0
	0.0	1598.1	-0.6	-84273.4	-23.0	-108050.5
	0.0	1593.5	-1.2	-82743.7	-30.1	-108032.3
	0.0	1770.5	0.4	-96898.4	-13.2	-195234.8
	0.0	1765.8	-0.2	-95368.6	-20.2	-195216.7
390.	0.0	3863.2	0.0	-191520.0	21.1	418844.4
	0.0	3880.1	-0.7	-190051.0	138.0	420099.8
	0.0	4094.2	1.0	-204254.3	-170.3	373490.1
	0.0	4111.1	0.4	-202785.4	-53.4	374745.5
	0.0	3656.5	6.7	-208770.0	-1225.7	402842.2
	0.0	3673.4	6.1	-207301.1	-1108.9	404097.5
	0.0	3887.5	7.8	-221504.3	-1417.2	357487.9

	0.0	3904.3	7.1	-220035.4	-1300.3	358743.2
	0.0	6641.4	-7.4	-72907.8	1343.1	683480.2
	0.0	6658.3	-8.0	-71438.9	1460.0	684735.6
	0.0	6872.4	-6.3	-85642.1	1151.7	638126.0
	0.0	6889.3	-7.0	-84173.2	1268.6	639381.3
	0.0	6434.7	-0.6	-90157.8	96.2	667478.0
	0.0	6451.6	-1.2	-88688.9	213.1	668733.3
	0.0	6665.7	0.4	-102892.2	-95.2	622123.7
	0.0	6682.5	-0.2	-101423.3	21.7	623379.0

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2975.5	-0.3	-316234.0	-63.1	321401.5
	0.0	-3017.3	-1.0	-313614.7	-184.4	327989.8
	0.0	-2117.6	0.7	-296909.1	136.4	51543.8
	0.0	-2159.4	0.1	-294289.8	15.1	58132.0
	0.0	-2495.3	6.8	-346820.7	1294.2	246730.3
	0.0	-2537.2	6.2	-344201.5	1172.9	253318.6
	0.0	-1637.4	7.8	-327495.8	1493.8	-23127.4
	0.0	-1679.3	7.2	-324876.5	1372.4	-16539.2
	0.0	-6965.7	-7.5	-128511.6	-1417.7	860649.3
	0.0	-7007.5	-8.1	-125892.3	-1539.1	867237.5
	0.0	-6107.8	-6.4	-109186.7	-1218.2	590791.5
	0.0	-6149.6	-7.0	-106567.4	-1339.5	597379.7
	0.0	-6485.5	-0.3	-159098.3	-60.4	785978.1
	0.0	-6527.3	-0.9	-156479.0	-181.7	792566.3
	0.0	-5627.6	0.7	-139773.4	139.1	516120.3
	0.0	-5669.5	0.1	-137154.1	17.8	522708.5
215.	0.0	645.2	-0.3	-316608.7	11.5	56116.2
	0.0	623.0	-1.0	-314048.1	25.4	55918.0
	0.0	1434.7	0.7	-297388.0	-10.3	-35305.1
	0.0	1412.5	0.1	-294827.5	3.6	-35503.3
	0.0	894.6	6.8	-346503.9	-167.3	58748.5
	0.0	872.4	6.2	-343943.4	-153.4	58550.3
	0.0	1684.1	7.8	-327283.3	-189.0	-32672.8
	0.0	1661.9	7.2	-324722.7	-175.2	-32871.0
	0.0	-971.4	-7.4	-136200.2	181.0	2656.4
	0.0	-993.6	-8.1	-133639.6	194.9	2458.2
	0.0	-181.8	-6.4	-116979.6	159.2	-88765.0
	0.0	-204.0	-7.0	-114419.0	173.1	-88963.2
	0.0	-722.0	-0.3	-166095.5	2.2	5288.7
	0.0	-744.1	-0.9	-163534.9	16.1	5090.5
	0.0	67.6	0.7	-146874.8	-19.5	-86132.7
	0.0	45.4	0.1	-144314.3	-5.6	-86330.9
430.	0.0	5020.1	-0.4	-318312.8	87.0	653248.5
	0.0	5011.7	-1.0	-315800.3	237.1	649870.8
	0.0	5714.5	0.7	-299115.8	-157.7	721344.8
	0.0	5706.2	0.1	-296603.2	-7.6	717967.1
	0.0	5106.7	6.9	-347642.2	-1640.8	690814.1
	0.0	5098.4	6.3	-345129.6	-1490.7	687436.4
	0.0	5801.1	7.9	-328445.1	-1885.5	758910.4
	0.0	5792.8	7.3	-325932.6	-1735.4	755532.7
	0.0	5188.5	-7.5	-144460.7	1792.8	454344.9
	0.0	5180.2	-8.2	-141948.1	1942.9	450967.2
	0.0	5882.9	-6.5	-125263.7	1548.2	522441.2
	0.0	5874.6	-7.1	-122751.1	1698.3	519063.5
	0.0	5275.1	-0.3	-173790.0	65.0	491910.4
	0.0	5266.8	-0.9	-171277.5	215.1	488532.7
	0.0	5969.6	0.7	-154593.0	-179.6	560006.7
	0.0	5961.2	0.1	-152080.4	-29.5	556629.1

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5340.3	0.3	-172241.0	-7.5	706765.3
	0.0	-5356.1	-0.6	-169475.0	-181.7	707220.7
	0.0	-4750.5	1.7	-170101.2	274.9	593379.3
	0.0	-4766.3	0.8	-167335.2	100.7	593834.7
	0.0	-5163.9	10.4	-204874.9	2045.7	703216.7
	0.0	-5179.6	9.5	-202108.9	1871.5	703672.1
	0.0	-4574.0	11.7	-202735.1	2328.2	589830.7
	0.0	-4589.8	10.9	-199969.1	2153.9	590286.1
	0.0	-6615.2	-11.2	13106.5	-2223.3	617936.7
	0.0	-6630.9	-12.1	15872.5	-2397.5	618392.1
	0.0	-6025.3	-9.9	15246.3	-1940.8	504550.7
	0.0	-6041.1	-10.7	18012.3	-2115.0	505006.1
	0.0	-6438.7	-1.2	-19527.4	-170.0	614388.1
	0.0	-6454.5	-2.0	-16761.4	-344.3	614843.5
	0.0	-5848.9	0.2	-17387.6	112.4	501002.1
	0.0	-5864.6	-0.6	-14621.6	-61.8	501457.5
200.	0.0	-787.3	0.3	-174762.3	-67.7	88172.3
	0.0	-794.5	-0.5	-172031.0	-72.5	86396.2
	0.0	-283.8	1.7	-172603.0	-59.9	83873.4
	0.0	-290.9	0.8	-169871.7	-64.6	82097.4
	0.0	-712.1	10.3	-206986.7	-22.8	109091.4
	0.0	-719.2	9.5	-204255.4	-27.5	107315.4
	0.0	-208.6	11.7	-204827.5	-14.9	104792.6
	0.0	-215.7	10.8	-202096.1	-19.7	103016.5
	0.0	-842.6	-11.2	5165.8	19.0	-127665.2
	0.0	-849.7	-12.0	7897.1	14.2	-129441.3
	0.0	-339.1	-9.8	7325.0	26.8	-131964.1
	0.0	-346.2	-10.7	10056.4	22.0	-133740.1
	0.0	-767.4	-1.2	-27058.7	63.9	-106746.1
	0.0	-774.5	-2.0	-24327.3	59.1	-108522.1
	0.0	-263.9	0.2	-24899.4	71.7	-111044.9
	0.0	-271.0	-0.6	-22168.0	67.0	-112821.0
400.	0.0	4024.5	0.3	-177918.9	-129.4	408698.2
	0.0	4022.8	-0.5	-175212.3	35.0	406088.0
	0.0	4463.9	1.7	-175732.2	-395.8	498374.0
	0.0	4462.2	0.8	-173025.6	-231.4	495763.7
	0.0	4035.4	10.4	-209851.0	-2090.4	437728.4
	0.0	4033.8	9.5	-207144.3	-1926.0	435118.1
	0.0	4474.8	11.8	-207664.3	-2356.7	527404.1
	0.0	4473.2	10.9	-204957.7	-2192.3	524793.9
	0.0	4895.4	-11.2	-2756.2	2260.2	278448.3
	0.0	4893.8	-12.1	-49.6	2424.6	275838.1
	0.0	5334.9	-9.9	-569.5	1993.8	368124.1
	0.0	5333.2	-10.7	2137.1	2158.2	365513.8
	0.0	4906.4	-1.2	-34688.3	299.2	307478.5
	0.0	4904.7	-2.0	-31981.7	463.7	304868.2
	0.0	5345.8	0.2	-32501.6	32.9	397154.2
	0.0	5344.2	-0.7	-29795.0	197.3	394544.0

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4930.8	2.0	-42120.3	340.8	470856.2
	0.0	-4938.9	1.2	-39817.9	181.7	471746.2
	0.0	-4514.2	3.2	-46030.1	598.5	378555.5
	0.0	-4522.2	2.5	-43727.7	439.4	379445.5
	0.0	-4844.0	11.5	-69430.6	2268.2	462243.7
	0.0	-4852.0	10.7	-67128.2	2109.1	463133.7
	0.0	-4427.3	12.7	-73340.4	2525.9	369943.0
	0.0	-4435.4	12.0	-71037.9	2366.8	370833.0
	0.0	-5721.4	-12.3	44125.4	-2434.0	418816.4
	0.0	-5729.5	-13.1	46427.9	-2593.1	419706.5
	0.0	-5304.8	-11.0	40215.7	-2176.3	326515.7
	0.0	-5312.8	-11.8	42518.1	-2335.4	327405.8
	0.0	-5634.6	-2.8	16815.2	-506.5	410203.9
	0.0	-5642.6	-3.6	19117.6	-665.7	411093.9
	0.0	-5217.9	-1.5	12905.4	-248.9	317903.2
	0.0	-5226.0	-2.3	15207.9	-408.0	318793.2
210.	0.0	283.8	2.0	-45861.7	-72.6	-19332.1

	0.0	279.3	1.2	-43575.4	-67.8	-19723.0
	0.0	646.6	3.2	-49746.4	-80.2	-30176.0
	0.0	642.1	2.5	-47460.1	-75.5	-30566.9
	0.0	329.3	11.4	-72980.8	-136.0	-14466.2
	0.0	324.8	10.7	-70694.5	-131.3	-14857.2
	0.0	692.1	12.7	-76865.5	-143.7	-25310.1
	0.0	687.6	11.9	-74579.2	-138.9	-25701.1
	0.0	266.1	-12.2	35890.7	140.7	-153376.4
	0.0	261.6	-13.0	38177.0	145.4	-153767.4
	0.0	628.9	-11.0	32006.0	133.0	-164220.3
	0.0	624.4	-11.8	34292.3	137.8	-164611.3
	0.0	311.6	-2.8	8771.6	77.2	-148510.6
	0.0	307.1	-3.6	11057.9	81.9	-148901.6
	0.0	674.4	-1.5	4886.9	69.6	-159354.5
	0.0	669.9	-2.3	7173.2	74.3	-159745.5
420.	0.0	5563.0	2.0	-49787.0	-490.3	594490.6
	0.0	5560.1	1.2	-47507.8	-321.5	593354.1
	0.0	5902.8	3.3	-53662.2	-763.8	656875.3
	0.0	5899.9	2.5	-51383.0	-594.9	655738.9
	0.0	5590.4	11.5	-76823.7	-2548.8	606644.0
	0.0	5587.5	10.8	-74544.4	-2379.9	605507.6
	0.0	5930.2	12.8	-80698.8	-2822.2	669028.8
	0.0	5927.3	12.0	-78419.6	-2653.4	667892.3
	0.0	6207.2	-12.4	27800.1	2724.2	527629.9
	0.0	6204.3	-13.2	30079.3	2893.0	526493.5
	0.0	6547.0	-11.1	23924.9	2450.7	590014.7
	0.0	6544.1	-11.9	26204.1	2619.6	588878.2
	0.0	6234.6	-2.8	763.5	665.7	539783.4
	0.0	6231.7	-3.6	3042.7	834.5	538646.9
	0.0	6574.4	-1.5	-3111.7	392.2	602168.1
	0.0	6571.5	-2.3	-832.5	561.1	601031.7

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6362.7	2.7	80745.5	626.4	635154.7
	0.0	-6368.0	2.1	83224.9	478.3	637386.5
	0.0	-5919.1	3.6	75241.4	865.3	517673.7
	0.0	-5924.4	3.1	77720.7	717.1	519905.5
	0.0	-6309.1	9.7	51463.3	2429.3	610996.5
	0.0	-6314.4	9.1	53942.7	2281.1	613228.3
	0.0	-5865.5	10.6	45959.2	2668.1	493515.5
	0.0	-5870.8	10.1	48438.5	2520.0	495747.3
	0.0	-7395.2	-10.3	60593.1	-2581.6	628477.9
	0.0	-7400.5	-10.9	63072.4	-2729.8	630709.7
	0.0	-6951.6	-9.4	55088.9	-2342.8	510996.9
	0.0	-6956.9	-9.9	57568.3	-2491.0	513228.6
	0.0	-7341.6	-3.3	31310.9	-778.8	604319.7
	0.0	-7346.9	-3.9	33790.2	-926.9	606551.5
	0.0	-6898.0	-2.4	25806.7	-540.0	486838.7
	0.0	-6903.3	-2.9	28286.1	-688.1	489070.4
255.	0.0	-45.5	2.7	76044.5	-61.2	-178634.0
	0.0	-51.4	2.1	78528.2	-63.5	-177762.5
	0.0	417.4	3.6	70526.2	-56.9	-182250.1
	0.0	411.5	3.0	73009.8	-59.1	-181378.6
	0.0	15.6	9.6	46709.9	-26.7	-189003.4
	0.0	9.7	9.0	49193.6	-29.0	-188131.9
	0.0	478.6	10.5	41191.6	-22.4	-192619.5
	0.0	472.7	9.9	43675.3	-24.7	-191748.0
	0.0	-316.2	-10.1	51054.1	23.7	-350560.4
	0.0	-322.1	-10.7	53537.7	21.4	-349688.9
	0.0	146.8	-9.2	45535.7	28.0	-354176.5
	0.0	140.8	-9.8	48019.4	25.7	-353305.0
	0.0	-255.0	-3.3	21719.5	58.1	-360929.8
	0.0	-261.0	-3.8	24203.2	55.9	-360058.3
	0.0	207.9	-2.4	16201.2	62.5	-364545.9
	0.0	202.0	-2.9	18684.9	60.2	-363674.4
510.	0.0	6032.5	2.8	71808.6	-756.7	590961.8
	0.0	6021.9	2.2	74311.3	-613.5	589811.7
	0.0	6608.1	3.7	66243.5	-986.3	718008.9
	0.0	6597.4	3.1	68746.2	-843.0	716858.8
	0.0	6148.4	9.7	42248.5	-2485.7	602067.4
	0.0	6137.7	9.2	44751.2	-2342.4	600917.3
	0.0	6723.9	10.7	36683.5	-2715.2	729114.5
	0.0	6713.3	10.1	39186.2	-2571.9	727964.4
	0.0	6621.7	-10.3	41800.0	2631.4	455473.1
	0.0	6611.1	-10.9	44302.7	2774.7	454322.9
	0.0	7197.3	-9.4	36235.0	2401.9	582520.2
	0.0	7186.6	-10.0	38737.7	2545.2	581370.1
	0.0	6737.6	-3.4	12240.0	902.5	466578.7
	0.0	6727.0	-3.9	14742.7	1045.8	465428.5
	0.0	7313.1	-2.4	6674.9	673.0	593625.8
	0.0	7302.5	-3.0	9177.6	816.2	592475.7

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4950.8	6.7	222759.7	1168.2	742190.7
	0.0	-4953.4	5.8	225697.1	993.1	744615.1
	0.0	-4481.4	8.2	228105.0	1446.8	687989.2
	0.0	-4484.0	7.3	231042.4	1271.7	690413.6
	0.0	-4927.8	18.0	188139.2	3245.0	714728.3
	0.0	-4930.5	17.0	191076.6	3069.9	717152.7
	0.0	-4458.4	19.5	193484.5	3523.6	660526.8
	0.0	-4461.0	18.6	196421.9	3348.5	662951.2
	0.0	-5762.8	-19.0	99225.7	-3422.9	640866.3
	0.0	-5765.4	-19.9	102163.1	-3598.0	643290.7
	0.0	-5293.3	-17.5	104571.0	-3144.3	586664.9
	0.0	-5296.0	-18.4	107508.4	-3319.4	589089.3
	0.0	-5739.8	-7.7	64605.3	-1346.1	613404.0
	0.0	-5742.4	-8.7	67542.7	-1521.2	615828.4
	0.0	-5270.4	-6.2	69950.6	-1067.5	559202.5
	0.0	-5273.0	-7.1	72888.0	-1242.6	561626.9
180.	0.0	-891.1	6.7	220274.0	-40.3	220459.7
	0.0	-899.8	5.7	223234.3	-43.5	221902.9
	0.0	-310.3	8.2	225582.6	-35.1	260468.0
	0.0	-319.0	7.3	228542.9	-38.2	261911.2
	0.0	-796.9	17.9	185381.9	11.3	203075.7
	0.0	-805.6	17.0	188342.2	8.2	204518.9
	0.0	-216.1	19.4	190690.5	16.6	243084.0
	0.0	-224.8	18.5	193650.8	13.5	244527.2
	0.0	-924.4	-18.9	92915.1	-13.5	40498.5
	0.0	-933.1	-19.9	95875.5	-16.6	41941.6
	0.0	-343.6	-17.4	98223.8	-8.3	80506.8
	0.0	-352.3	-18.3	101184.1	-11.4	81949.9
	0.0	-830.2	-7.7	58023.0	38.2	23114.5
	0.0	-838.9	-8.6	60983.4	35.0	24557.7
	0.0	-249.3	-6.2	63331.7	43.4	63122.8
	0.0	-258.1	-7.1	66292.0	40.3	64565.9
360.	0.0	2798.2	6.7	218437.0	-1248.4	398549.8
	0.0	2780.3	5.8	221429.0	-1079.6	397650.4
	0.0	3505.0	8.3	223724.6	-1516.3	554437.8
	0.0	3487.2	7.3	226716.6	-1347.6	553538.4
	0.0	2999.0	18.0	183170.5	-3220.0	407148.4
	0.0	2981.2	17.0	186162.5	-3051.3	406249.1
	0.0	3705.8	19.5	188458.1	-3488.0	563036.4
	0.0	3688.0	18.6	191450.1	-3319.3	562137.1
	0.0	3782.3	-19.0	86878.1	3393.6	300426.3
	0.0	3764.5	-19.9	89870.1	3562.3	299527.0
	0.0	4489.1	-17.5	92165.7	3125.6	456314.3
	0.0	4471.3	-18.4	95157.7	3294.4	455415.0
	0.0	3983.2	-7.7	51611.6	1421.9	309024.9
	0.0	3965.3	-8.7	54603.6	1590.6	308125.6
	0.0	4690.0	-6.2	56899.2	1153.9	464912.9

	0.0	4672.2	-7.1	59891.2	1322.7	464013.6

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4819.1	6.5	347589.9	1196.5	523731.3
	0.0	-4831.1	5.6	350253.5	1045.1	526687.9
	0.0	-4024.5	7.8	376057.9	1438.8	497186.0
	0.0	-4036.4	7.0	378721.4	1287.4	500142.6
	0.0	-4689.4	15.9	316444.5	2931.9	490774.3
	0.0	-4701.3	15.0	319108.1	2780.5	493730.9
	0.0	-3894.7	17.2	344912.5	3174.2	464229.0
	0.0	-3906.6	16.4	347576.0	3022.8	467185.6
	0.0	-4902.9	-16.7	226909.4	-3091.1	435688.1
	0.0	-4914.8	-17.6	229572.9	-3242.5	438644.8
	0.0	-4108.2	-15.4	255377.3	-2848.7	409142.8
	0.0	-4120.1	-16.2	258040.9	-3000.2	412099.4
	0.0	-4773.1	-7.4	195764.0	-1355.7	402731.1
	0.0	-4785.0	-8.2	198427.5	-1507.1	405687.8
	0.0	-3978.4	-6.0	224231.9	-1113.4	376185.8
	0.0	-3990.4	-6.8	226895.5	-1264.8	379142.4
165.	0.0	-1870.7	6.4	346632.6	131.0	-21909.6
	0.0	-1894.0	5.6	349332.5	115.3	-21814.5
	0.0	-976.1	7.8	375123.6	154.2	91232.3
	0.0	-999.4	6.9	377823.6	138.5	91327.4
	0.0	-1607.3	15.8	315057.8	321.7	-22957.6
	0.0	-1630.6	15.0	317757.7	306.0	-22862.5
	0.0	-712.7	17.1	343548.8	344.9	90184.3
	0.0	-736.0	16.3	346248.8	329.3	90279.4
	0.0	-757.9	-16.6	221775.2	-336.5	-28600.5
	0.0	-781.2	-17.5	224475.2	-352.1	-28505.5
	0.0	136.8	-15.3	250266.3	-313.3	84541.3
	0.0	113.5	-16.1	252966.2	-328.9	84636.4
	0.0	-494.5	-7.3	190200.4	-145.8	-29648.5
	0.0	-517.8	-8.1	192900.4	-161.4	-29553.5
	0.0	400.2	-6.0	218691.5	-122.5	83493.3
	0.0	376.9	-6.8	221391.4	-138.2	83588.4
330.	0.0	593.5	6.4	346533.3	-931.4	-120602.5
	0.0	555.5	5.6	349276.3	-811.6	-125519.8
	0.0	1548.7	7.8	375118.0	-1126.6	146040.3
	0.0	1510.7	6.9	377861.0	-1006.9	141123.0
	0.0	1029.7	15.8	314450.9	-2280.5	-64443.6
	0.0	991.8	15.0	317193.9	-2160.8	-69360.9
	0.0	1984.9	17.1	343035.6	-2475.8	202199.2
	0.0	1946.9	16.3	345778.6	-2356.1	197281.9
	0.0	3179.4	-16.7	217190.0	2409.7	174159.4
	0.0	3141.4	-17.5	219933.0	2529.5	169242.1
	0.0	4134.6	-15.3	245774.8	2214.4	440802.2
	0.0	4096.6	-16.2	248517.8	2334.2	435884.9
	0.0	3615.6	-7.3	185107.7	1060.5	230318.2
	0.0	3577.6	-8.1	187850.7	1180.3	225400.9
	0.0	4570.8	-6.0	213692.4	865.3	496961.1
	0.0	4532.8	-6.8	216435.4	985.0	492043.7

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3568.4	4.6	257948.4	840.5	213055.9
	0.0	-3558.5	3.9	260691.6	720.7	213822.0
	0.0	-3195.1	5.7	245799.8	1030.3	252889.7
	0.0	-3185.2	5.0	248543.0	910.6	253655.8
	0.0	-3697.6	11.8	225954.5	2124.4	206136.5
	0.0	-3687.7	11.1	228697.7	2004.6	206902.6
	0.0	-3324.2	12.9	213805.8	2314.3	245970.3
	0.0	-3314.3	12.2	216549.0	2194.5	246736.4
	0.0	-5872.2	-12.5	96533.2	-2245.5	369052.5
	0.0	-5862.3	-13.2	99276.4	-2365.3	369818.5
	0.0	-5498.8	-11.4	84384.6	-2055.6	408886.3
	0.0	-5488.9	-12.1	87127.8	-2175.4	409652.4
	0.0	-6001.4	-5.3	64539.2	-961.6	362133.1
	0.0	-5991.5	-6.0	67282.4	-1081.3	362899.1
	0.0	-5628.0	-4.2	52390.6	-771.7	401966.9
	0.0	-5618.1	-4.9	55133.8	-891.5	402733.0
210.	0.0	-1095.7	4.6	258887.1	-126.7	-264171.5
	0.0	-1108.7	3.9	261695.0	-103.9	-263643.0
	0.0	-790.1	5.7	246878.5	-158.7	-149571.8
	0.0	-803.0	5.0	249686.4	-135.9	-149043.3
	0.0	-955.6	11.8	226131.8	-352.6	-270921.6
	0.0	-968.6	11.1	228939.7	-329.9	-270393.1
	0.0	-650.0	12.9	214123.2	-384.6	-156321.9
	0.0	-663.0	12.2	216931.1	-361.9	-155793.4
	0.0	-1173.6	-12.5	91229.2	370.6	-364599.2
	0.0	-1186.5	-13.2	94037.1	393.3	-364070.6
	0.0	-867.9	-11.4	79220.6	338.6	-249999.5
	0.0	-880.9	-12.1	82028.5	361.3	-249470.9
	0.0	-1033.5	-5.3	58473.9	144.6	-371349.3
	0.0	-1046.4	-6.0	61281.8	167.4	-370820.7
	0.0	-727.8	-4.2	46465.3	112.6	-256749.6
	0.0	-740.8	-4.9	49273.2	135.4	-256221.0
420.	0.0	705.8	4.7	260863.0	-1102.1	-295134.6
	0.0	665.3	4.0	263746.9	-935.4	-300146.0
	0.0	708.6	5.7	248946.4	-1358.1	-143277.7
	0.0	668.1	5.1	251830.2	-1191.3	-148289.0
	0.0	1171.6	12.0	227215.2	-2852.8	-239204.3
	0.0	1131.0	11.3	230099.0	-2686.0	-244215.6
	0.0	1174.4	13.1	215298.5	-3108.7	-87347.3
	0.0	1133.8	12.4	218182.3	-2942.0	-92358.7
	0.0	3247.9	-12.7	86290.7	3010.9	-143232.0
	0.0	3207.3	-13.3	89174.5	3177.7	-148243.3
	0.0	3250.7	-11.6	74374.0	2755.0	8625.0
	0.0	3210.1	-12.3	77257.8	2921.8	3613.6
	0.0	3713.6	-5.3	52642.8	1260.3	-87301.6
	0.0	3673.1	-6.0	55526.6	1427.0	-92312.9
	0.0	3716.4	-4.3	40726.1	1004.3	64555.4
	0.0	3675.9	-5.0	43609.9	1171.1	59544.0

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1589.4	0.1	178523.8	31.6	73134.1
	0.0	-1584.3	-0.5	177271.3	-95.7	67179.0
	0.0	-1913.0	1.1	179202.0	235.0	73678.8
	0.0	-1907.8	0.5	177949.6	107.8	67723.7
	0.0	-1640.6	6.7	194018.5	1361.0	141082.2
	0.0	-1635.4	6.1	192766.0	1233.7	135127.2
	0.0	-1964.1	7.7	194696.7	1564.4	141626.9
	0.0	-1959.0	7.1	193444.3	1437.2	135671.9
	0.0	-1712.4	-7.3	9259.0	-1485.2	-453494.6
	0.0	-1707.2	-8.0	8006.5	-1612.4	-459449.7
	0.0	-2035.9	-6.3	9937.2	-1281.8	-452949.9
	0.0	-2030.7	-7.0	8684.8	-1409.0	-458905.0
	0.0	-1763.5	-0.8	24753.7	-155.8	-385546.5
	0.0	-1758.3	-1.4	23501.3	-283.0	-391501.5
	0.0	-2087.1	0.3	25431.9	47.6	-385001.8
	0.0	-2081.9	-0.4	24179.5	-79.6	-390956.8
175.	0.0	-203.4	0.1	176099.4	8.6	-88186.6
	0.0	-181.4	-0.5	174853.1	-8.9	-91594.7
	0.0	-222.5	1.1	177681.0	36.3	-117559.6
	0.0	-200.5	0.5	176434.7	18.8	-120967.7
	0.0	-453.9	6.7	191517.6	189.2	-48627.4
	0.0	-431.9	6.0	190271.3	171.7	-52035.5
	0.0	-473.0	7.7	193099.2	216.9	-78000.4
	0.0	-451.0	7.0	191852.9	199.4	-81408.5
	0.0	1690.8	-7.3	7721.0	-205.6	-440026.8
	0.0	1712.8	-7.9	6474.6	-223.1	-443434.9

	0.0	1671.7	-6.3	9302.5	-177.9	-469399.8
	0.0	1693.7	-6.9	8056.2	-195.4	-472807.9
	0.0	1440.3	-0.7	23139.1	-25.0	-400467.6
	0.0	1462.3	-1.4	21892.8	-42.5	-403875.7
	0.0	1421.3	0.3	24720.7	2.7	-429840.6
	0.0	1443.3	-0.4	23474.4	-14.8	-433248.7
350.	0.0	1494.6	0.1	174165.3	-14.1	20089.9
	0.0	1522.6	-0.5	172921.7	77.6	21208.0
	0.0	1779.7	1.1	176654.7	-161.3	13934.5
	0.0	1807.8	0.5	175411.0	-69.6	15052.5
	0.0	1172.7	6.7	189549.9	-976.6	7794.9
	0.0	1200.7	6.0	188306.2	-884.9	8912.9
	0.0	1457.9	7.7	192039.2	-1123.8	1639.4
	0.0	1485.9	7.0	190795.6	-1032.1	2757.5
	0.0	4128.3	-7.3	6204.4	1067.6	82256.6
	0.0	4156.3	-7.9	4960.8	1159.3	83374.7
	0.0	4413.4	-6.3	8693.8	920.4	76101.2
	0.0	4441.4	-6.9	7450.1	1012.1	77219.2
	0.0	3806.4	-0.7	21589.0	105.0	69961.6
	0.0	3834.4	-1.4	20345.3	196.7	71079.6
	0.0	4091.6	0.3	24078.3	-42.2	63806.1
	0.0	4119.6	-0.4	22834.6	49.5	64924.2

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4430.3	0.1	107737.9	-6.6	318684.8
	0.0	-4409.1	-0.6	105844.1	-130.2	310752.0
	0.0	-4915.2	1.4	157880.2	197.7	367732.9
	0.0	-4894.1	0.6	155986.4	74.0	359800.1
	0.0	-4678.6	8.0	130448.5	1310.0	411907.5
	0.0	-4657.4	7.3	128554.6	1186.3	403974.7
	0.0	-5163.6	9.2	180590.8	1514.3	460955.6
	0.0	-5142.4	8.5	178697.0	1390.6	453022.7
	0.0	-2020.1	-8.8	-109008.7	-1436.5	-622881.7
	0.0	-1999.0	-9.5	-110902.6	-1560.1	-630814.5
	0.0	-2505.1	-7.5	-58866.4	-1232.2	-573833.7
	0.0	-2483.9	-8.3	-60760.2	-1355.9	-581766.5
	0.0	-2268.4	-0.9	-86298.2	-119.9	-529659.1
	0.0	-2247.3	-1.6	-88192.0	-243.6	-537591.9
	0.0	-2753.4	0.3	-36155.8	84.3	-480611.0
	0.0	-2732.3	-0.4	-38049.7	-39.3	-488543.8
175.	0.0	-1809.1	0.1	105188.0	-31.1	-227605.7
	0.0	-1774.9	-0.6	103302.9	-24.4	-230559.2
	0.0	-2323.4	1.4	155926.4	-41.4	-265511.2
	0.0	-2289.2	0.6	154041.3	-34.7	-268464.7
	0.0	-2210.8	8.0	127793.0	-90.1	-192860.2
	0.0	-2176.6	7.2	125907.9	-83.3	-195813.7
	0.0	-2725.1	9.2	178531.4	-100.4	-230765.7
	0.0	-2690.9	8.5	176646.2	-93.6	-233719.2
	0.0	2157.2	-8.8	-110485.1	96.8	-594927.1
	0.0	2191.4	-9.5	-112370.3	103.5	-597880.6
	0.0	1642.9	-7.5	-59746.8	86.5	-632832.6
	0.0	1677.1	-8.3	-61631.9	93.2	-635786.1
	0.0	1755.5	-0.9	-87880.2	37.9	-560181.6
	0.0	1789.7	-1.6	-89765.3	44.6	-563135.1
	0.0	1241.2	0.3	-37141.8	27.6	-598087.1
	0.0	1275.4	-0.4	-39026.9	34.3	-601040.6
350.	0.0	857.1	0.1	102931.0	-56.4	-312189.7
	0.0	895.9	-0.6	101049.4	80.9	-308643.2
	0.0	285.8	1.4	154406.7	-281.6	-444850.6
	0.0	324.5	0.6	152525.0	-144.2	-441304.1
	0.0	402.2	8.0	125493.3	-1492.7	-353799.7
	0.0	441.0	7.3	123611.7	-1355.3	-350253.2
	0.0	-169.1	9.3	176969.0	-1717.8	-486460.6
	0.0	-130.4	8.5	175087.3	-1580.5	-482914.1
	0.0	5357.4	-8.8	-112269.1	1632.8	75511.2
	0.0	5396.1	-9.5	-114150.8	1770.1	79057.7
	0.0	4786.1	-7.6	-60793.5	1407.6	-57149.7
	0.0	4824.8	-8.3	-62675.1	1545.0	-53603.2
	0.0	4902.5	-0.9	-89706.8	196.5	33901.2
	0.0	4941.2	-1.7	-91588.5	333.9	37447.7
	0.0	4331.2	0.3	-38231.2	-28.6	-98759.7
	0.0	4369.9	-0.4	-40112.8	108.7	-95213.2

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4320.0	4.4	-213833.3	752.9	287999.0
	0.0	-4338.0	3.7	-216095.5	643.1	295103.8
	0.0	-3790.3	5.5	-163132.2	932.1	233329.0
	0.0	-3808.3	4.9	-165394.4	822.2	240433.9
	0.0	-4107.2	11.7	-186782.7	1935.2	204227.0
	0.0	-4125.2	11.0	-189044.9	1825.3	211331.8
	0.0	-3577.5	12.8	-136081.6	2114.3	149557.0
	0.0	-3595.5	12.2	-138343.8	2004.4	156661.9
	0.0	-2604.9	-12.4	-15850.5	-2049.3	-419423.6
	0.0	-2623.0	-13.1	-18112.7	-2159.2	-412318.7
	0.0	-2075.3	-11.3	34850.6	-1870.2	-474093.6
	0.0	-2093.3	-12.0	32588.4	-1980.1	-466988.7
	0.0	-2392.1	-5.1	11200.1	-867.1	-503195.6
	0.0	-2410.2	-5.8	8937.9	-977.0	-496090.7
	0.0	-1862.5	-4.0	61901.2	-688.0	-557865.6
	0.0	-1880.5	-4.7	59639.0	-797.9	-550760.7
175.	0.0	-1929.9	4.4	-211743.8	-21.0	-259626.1
	0.0	-1960.4	3.7	-213995.8	-10.4	-256895.9
	0.0	-1359.6	5.5	-160389.4	-36.1	-218608.5
	0.0	-1390.1	4.8	-162641.4	-25.5	-215878.4
	0.0	-1569.9	11.7	-184815.1	-115.5	-291760.9
	0.0	-1600.4	11.0	-187067.2	-104.9	-289030.7
	0.0	-999.7	12.8	-133460.7	-130.6	-250743.3
	0.0	-1030.2	12.1	-135712.8	-120.0	-248013.1
	0.0	1019.3	-12.4	-14736.9	122.0	-546019.6
	0.0	988.8	-13.1	-16988.9	132.6	-543289.5
	0.0	1589.6	-11.3	36617.5	106.8	-505002.1
	0.0	1559.1	-12.0	34365.5	117.4	-502271.9
	0.0	1379.3	-5.1	12191.8	27.5	-578154.4
	0.0	1348.8	-5.8	9939.7	38.1	-575424.2
	0.0	1949.5	-4.0	63546.1	12.3	-537136.8
	0.0	1919.0	-4.7	61294.1	23.0	-534406.7
350.	0.0	541.1	4.4	-210243.8	-795.5	-383091.0
	0.0	506.2	3.7	-212491.9	-664.1	-386195.1
	0.0	1184.3	5.6	-158093.2	-1005.3	-236179.1
	0.0	1149.4	4.9	-160341.3	-873.9	-239283.2
	0.0	952.4	11.8	-183362.1	-2169.6	-346397.2
	0.0	917.6	11.1	-185610.2	-2038.2	-349501.3
	0.0	1595.7	12.9	-131211.5	-2379.5	-199485.3
	0.0	1560.8	12.2	-133459.6	-2248.1	-202589.4
	0.0	3913.3	-12.5	-13664.3	2297.0	-105094.0
	0.0	3878.4	-13.2	-15912.4	2428.4	-108198.1
	0.0	4556.5	-11.3	38486.3	2087.2	41817.9
	0.0	4521.7	-12.0	36238.2	2218.6	38713.8
	0.0	4324.7	-5.1	13217.4	922.9	-68400.2
	0.0	4289.8	-5.8	10969.3	1054.3	-71504.3
	0.0	4967.9	-4.0	65368.0	713.0	78511.7
	0.0	4933.0	-4.7	63119.9	844.4	75407.6

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1637.1	6.1	-210342.8	1231.5	80717.3
	0.0	-1647.3	5.2	-212273.9	1040.6	88099.9
	0.0	-1211.8	7.5	-210669.0	1521.4	74518.3
	0.0	-1222.0	6.6	-212600.1	1330.5	81901.0
	0.0	-1528.6	15.9	-186715.9	3221.9	-3420.9

	0.0	-1538.8	15.0	-188647.0	3031.0	3961.8
	0.0	-1103.3	17.4	-187042.1	3511.8	-9619.8
	0.0	-1113.5	16.4	-188973.3	3320.9	-2237.1
	0.0	-1739.7	-16.8	-2624.3	-3397.5	-358330.5
	0.0	-1749.9	-17.7	-4555.5	-3588.4	-350947.9
	0.0	-1314.4	-15.4	-2950.6	-3107.6	-364529.5
	0.0	-1324.6	-16.3	-4881.7	-3298.5	-357146.8
	0.0	-1631.2	-7.0	21002.6	-1407.2	-442468.7
	0.0	-1641.4	-7.9	19071.4	-1598.1	-435086.0
	0.0	-1205.9	-5.5	20676.3	-1117.2	-448667.6
	0.0	-1216.1	-6.5	18745.2	-1308.1	-441285.0
175.	0.0	-140.3	6.0	-209180.6	168.9	-81305.5
	0.0	-168.7	5.1	-211102.9	142.1	-77487.7
	0.0	-86.4	7.5	-208392.2	208.6	-45697.2
	0.0	-114.8	6.5	-210314.5	181.8	-41879.4
	0.0	183.1	15.8	-185662.4	444.5	-125473.8
	0.0	154.7	14.9	-187584.7	417.6	-121656.0
	0.0	237.0	17.2	-184874.0	484.2	-89865.5
	0.0	208.6	16.3	-186796.3	457.3	-86047.7
	0.0	1505.3	-16.7	-2501.4	-469.1	-368185.3
	0.0	1476.9	-17.6	-4423.6	-496.0	-364367.5
	0.0	1559.2	-15.2	-1713.0	-429.4	-332577.0
	0.0	1530.8	-16.2	-3635.2	-456.3	-328759.2
	0.0	1828.7	-6.9	21016.8	-193.6	-412353.6
	0.0	1800.3	-7.8	19094.5	-220.5	-408535.8
	0.0	1882.6	-5.5	21805.2	-153.9	-376745.4
	0.0	1854.2	-6.4	19882.9	-180.8	-372927.5
350.	0.0	1803.7	6.0	-208600.6	-888.3	57617.0
	0.0	1768.8	5.1	-210519.3	-752.0	55737.1
	0.0	1489.4	7.5	-206695.8	-1097.6	70481.2
	0.0	1454.6	6.5	-208614.5	-961.3	68601.3
	0.0	2203.3	15.8	-185125.7	-2319.0	78641.0
	0.0	2168.4	14.9	-187044.4	-2182.7	76761.1
	0.0	1889.1	17.2	-183220.9	-2528.3	91505.2
	0.0	1854.2	16.3	-185139.6	-2392.0	89625.3
	0.0	4093.9	-16.7	-2385.2	2444.6	130549.7
	0.0	4059.0	-17.6	-4303.9	2580.9	128669.8
	0.0	3779.7	-15.2	-480.4	2235.3	143413.9
	0.0	3744.8	-16.2	-2399.1	2371.6	141534.0
	0.0	4493.5	-6.9	21089.8	1013.9	151573.7
	0.0	4458.7	-7.8	19171.1	1150.2	149693.9
	0.0	4179.3	-5.5	22994.5	804.6	164437.9
	0.0	4144.4	-6.4	21075.8	940.9	162558.0

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2668.0	0.2	-122955.1	29.4	128655.3
	0.0	-2669.5	-0.3	-121621.9	-55.0	128829.9
	0.0	-2472.5	1.1	-123320.4	166.3	37719.5
	0.0	-2474.1	0.6	-121987.3	81.9	37894.1
	0.0	-2649.6	5.5	-138982.4	911.6	126618.3
	0.0	-2651.2	5.0	-137649.3	827.2	126792.9
	0.0	-2454.2	6.4	-139347.7	1048.5	35682.5
	0.0	-2455.7	5.9	-138014.6	964.1	35857.1
	0.0	-2871.5	-6.1	25641.5	-997.3	150237.6
	0.0	-2873.0	-6.6	26974.6	-1081.6	150412.1
	0.0	-2676.0	-5.2	25276.2	-860.3	59301.7
	0.0	-2677.6	-5.7	26609.3	-944.7	59476.3
	0.0	-2853.1	-0.8	9614.1	-115.1	148200.6
	0.0	-2854.7	-1.3	10947.3	-199.4	148375.2
	0.0	-2657.7	0.1	9248.8	21.8	57264.8
	0.0	-2659.2	-0.4	10581.9	-62.5	57439.4
195.	0.0	-370.0	0.2	-121376.8	-18.1	-174896.7
	0.0	-370.7	-0.3	-120096.2	-3.4	-174937.7
	0.0	58.4	1.1	-121693.3	-42.3	-201583.5
	0.0	57.7	0.6	-120412.6	-27.6	-201624.5
	0.0	-361.9	5.5	-136784.9	-167.1	-174409.3
	0.0	-362.6	5.0	-135504.2	-152.5	-174450.3
	0.0	66.5	6.4	-137101.3	-191.3	-201096.1
	0.0	65.8	5.9	-135820.6	-176.6	-201137.0
	0.0	-451.7	-6.1	21038.9	182.1	-180291.1
	0.0	-452.4	-6.6	22319.5	196.8	-180332.0
	0.0	-23.4	-5.2	20722.5	158.0	-206977.8
	0.0	-24.1	-5.7	22003.1	172.7	-207018.8
	0.0	-443.6	-0.8	5630.9	33.1	-179803.6
	0.0	-444.3	-1.3	6911.5	47.8	-179844.6
	0.0	-15.2	0.1	5314.4	9.0	-206490.4
	0.0	-15.9	-0.4	6595.1	23.6	-206531.4
390.	0.0	2405.0	0.3	-120218.0	-66.5	15272.7
	0.0	2404.9	-0.3	-118985.5	47.9	15152.9
	0.0	2865.5	1.1	-120486.7	-252.8	78466.4
	0.0	2865.4	0.6	-119254.1	-138.4	78346.6
	0.0	2406.4	5.6	-135060.0	-1253.9	16634.5
	0.0	2406.3	5.1	-133827.4	-1139.5	16514.7
	0.0	2867.0	6.4	-135328.6	-1440.3	79828.2
	0.0	2866.8	5.9	-134096.0	-1325.9	79708.4
	0.0	2393.7	-6.1	16509.0	1370.4	1620.7
	0.0	2393.6	-6.6	17741.5	1484.8	1500.9
	0.0	2854.3	-5.3	16240.4	1184.0	64814.4
	0.0	2854.1	-5.8	17472.9	1298.4	64694.6
	0.0	2395.1	-0.8	1667.1	182.9	2982.5
	0.0	2395.0	-1.3	2899.6	297.3	2862.7
	0.0	2855.7	0.1	1398.4	-3.5	66176.2
	0.0	2855.5	-0.5	2631.0	110.9	66056.4

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2924.7	3.1	160687.1	680.9	20010.2
	0.0	-2924.2	2.6	162846.9	564.4	20003.8
	0.0	-2355.6	3.9	159657.1	864.2	-44049.7
	0.0	-2355.0	3.4	161817.0	747.8	-44056.1
	0.0	-2930.8	8.5	135079.1	1887.5	20030.9
	0.0	-2930.3	8.0	137239.0	1771.1	20024.5
	0.0	-2361.6	9.3	134049.2	2070.8	-44029.0
	0.0	-2361.1	8.8	136209.1	1954.4	-44035.4
	0.0	-2972.3	-9.0	-8251.1	-1995.8	16367.1
	0.0	-2971.7	-9.5	-6091.3	-2112.2	16360.7
	0.0	-2403.1	-8.2	-9281.0	-1812.5	-47692.8
	0.0	-2402.5	-8.7	-7121.2	-1928.9	-47699.2
	0.0	-2978.4	-3.6	-33859.0	-789.2	16387.8
	0.0	-2977.8	-4.1	-31699.2	-905.6	16381.4
	0.0	-2409.2	-2.8	-34888.9	-605.8	-47672.1
	0.0	-2408.6	-3.3	-32729.1	-722.3	-47678.5
210.	0.0	-21.1	3.1	162358.7	30.6	-284085.3
	0.0	-21.2	2.6	164569.9	22.3	-284039.3
	0.0	516.6	3.9	161281.3	44.0	-227572.1
	0.0	516.5	3.4	163492.5	35.7	-227526.2
	0.0	-19.6	8.4	136146.0	111.1	-284606.9
	0.0	-19.7	7.9	138357.2	102.8	-284561.0
	0.0	518.0	9.2	135068.7	124.5	-228093.8
	0.0	517.9	8.7	137279.8	116.2	-228047.8
	0.0	-4.9	-8.9	-11548.3	-119.0	-291882.9
	0.0	-5.0	-9.4	-9337.1	-127.3	-291836.9
	0.0	532.8	-8.1	-12625.7	-105.5	-235369.7
	0.0	532.7	-8.6	-10414.5	-113.8	-235323.8
	0.0	-3.4	-3.6	-37761.0	-38.5	-292404.5
	0.0	-3.5	-4.1	-35549.8	-46.8	-292358.6
	0.0	534.2	-2.8	-38838.3	-25.0	-235891.4
	0.0	534.1	-3.3	-36627.2	-33.3	-235845.4
420.	0.0	2653.4	3.1	164680.9	-617.7	-4899.4
	0.0	2652.4	2.6	166952.2	-518.4	-4961.5
	0.0	2897.7	3.9	163551.7	-773.3	138731.4

0.0	2896.7	3.4	165823.0	-674.0	138669.3
0.0	2665.5	8.4	137758.4	-1658.0	-4055.8
0.0	2664.5	7.9	140029.8	-1558.7	-4117.9
0.0	2909.8	9.3	136629.2	-1813.6	139575.0
0.0	2908.8	8.7	138900.6	-1714.3	139512.9
0.0	2784.7	-8.9	-14891.7	1750.1	1866.1
0.0	2783.7	-9.4	-12620.4	1849.4	1804.0
0.0	3029.0	-8.1	-16020.9	1594.5	145496.9
0.0	3028.0	-8.6	-13749.6	1693.7	145434.8
0.0	2796.8	-3.6	-41814.2	709.8	2709.7
0.0	2795.8	-4.1	-39542.8	809.0	2647.6
0.0	3041.1	-2.8	-42943.3	554.2	146340.5
0.0	3040.1	-3.3	-40672.0	653.4	146278.4

Asta	15	nodi	3	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4566.1	0.0	26879.4	-9.2	487148.1
	0.0	-4558.1	-0.1	26445.1	-24.1	482786.7
	0.0	-4500.2	0.1	27680.6	15.0	477965.8
	0.0	-4492.1	0.0	27246.3	0.1	473604.4
	0.0	-4662.9	0.6	32058.0	164.8	539096.9
	0.0	-4654.8	0.5	31623.7	150.0	534735.6
	0.0	-4596.9	0.6	32859.1	189.0	529914.6
	0.0	-4588.8	0.6	32424.8	174.1	525553.3
	0.0	-3157.7	-0.6	-21508.5	-180.0	-216233.5
	0.0	-3149.6	-0.7	-21942.8	-194.9	-220594.9
	0.0	-3091.7	-0.5	-20707.4	-155.8	-225415.8
	0.0	-3083.6	-0.6	-21141.7	-170.7	-229777.2
	0.0	-3254.4	0.0	-16330.0	-5.9	-164284.7
	0.0	-3246.4	-0.1	-16764.3	-20.8	-168646.0
	0.0	-3188.4	0.1	-15528.8	18.2	-173467.0
	0.0	-3180.4	0.0	-15963.1	3.3	-177828.3
385.	0.0	-826.3	0.0	26523.6	0.0	-523864.0
	0.0	-814.3	0.0	26091.2	0.0	-524031.9
	0.0	-842.9	0.0	27342.0	0.0	-523795.3
	0.0	-830.8	0.0	26909.6	0.0	-523963.1
	0.0	-969.7	0.3	31679.6	0.0	-521867.7
	0.0	-957.6	0.3	31247.2	0.0	-522035.6
	0.0	-986.2	0.4	32498.0	0.0	-521798.9
	0.0	-974.2	0.3	32065.6	0.0	-521966.8
	0.0	1095.1	-0.3	-21656.7	0.0	-543677.8
	0.0	1107.1	-0.4	-22089.1	0.0	-543845.7
	0.0	1078.5	-0.3	-20838.3	0.0	-543609.0
	0.0	1090.6	-0.3	-21270.7	0.0	-543776.9
	0.0	951.7	0.0	-16500.6	0.0	-541681.5
	0.0	963.7	0.0	-16933.0	0.0	-541849.4
	0.0	935.2	0.0	-15682.2	0.0	-541612.7
	0.0	947.2	0.0	-16114.6	0.0	-541780.6
770.	0.0	2655.7	0.0	26387.0	10.7	-188972.9
	0.0	2663.7	-0.1	25952.9	25.4	-184997.8
	0.0	2574.2	0.0	27229.5	-13.3	-208750.7
	0.0	2582.2	0.0	26795.4	1.4	-204775.5
	0.0	2560.6	0.5	31563.2	-162.1	-236307.4
	0.0	2568.6	0.5	31129.1	-147.4	-232332.2
	0.0	2479.1	0.6	32405.7	-186.1	-256085.1
	0.0	2487.1	0.6	31971.6	-171.4	-252110.0
	0.0	4036.8	-0.6	-21983.9	178.6	466364.4
	0.0	4044.7	-0.6	-22418.0	193.3	470339.6
	0.0	3955.3	-0.5	-21141.5	154.5	446586.7
	0.0	3963.2	-0.6	-21575.5	169.2	450561.8
	0.0	3941.6	0.0	-16807.7	5.8	419030.0
	0.0	3949.6	-0.1	-17241.8	20.5	423005.1
	0.0	3860.1	0.1	-15965.3	-18.2	399252.2
	0.0	3868.1	0.0	-16399.4	-3.5	403227.4

Asta	16	nodi	4	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4840.5	0.1	10737.9	19.2	455141.2
	0.0	-4834.6	0.0	10538.9	6.3	452401.0
	0.0	-4800.8	0.1	11165.0	40.0	452798.3
	0.0	-4794.9	0.1	10965.9	27.2	450058.1
	0.0	-4911.4	0.6	13139.2	174.2	487980.3
	0.0	-4905.5	0.5	12940.2	161.4	485240.1
	0.0	-4871.7	0.7	13566.3	195.1	485637.3
	0.0	-4865.8	0.6	13367.2	182.2	482897.2
	0.0	-3177.6	-0.6	-10030.2	-187.7	-264490.9
	0.0	-3171.7	-0.7	-10229.3	-200.6	-267231.1
	0.0	-3137.9	-0.6	-9603.2	-166.8	-266833.9
	0.0	-3132.0	-0.6	-9802.2	-179.7	-269574.1
	0.0	-3248.5	-0.1	-7628.9	-32.7	-231651.9
	0.0	-3242.6	-0.2	-7828.0	-45.5	-234392.1
	0.0	-3208.8	0.0	-7201.9	-11.8	-233994.8
	0.0	-3202.9	-0.1	-7401.0	-24.7	-236735.0
385.	0.0	-821.8	0.0	10630.6	0.0	-593838.7
	0.0	-814.5	0.0	10432.4	0.0	-593902.6
	0.0	-833.2	0.1	11064.6	0.0	-590973.9
	0.0	-825.9	0.1	10866.4	0.0	-591037.8
	0.0	-909.7	0.3	13021.3	0.0	-593077.2
	0.0	-902.3	0.3	12823.2	0.0	-593141.1
	0.0	-921.1	0.4	13455.3	0.0	-590212.4
	0.0	-913.7	0.4	13257.1	0.0	-590276.3
	0.0	1077.9	-0.4	-10047.8	0.0	-603684.2
	0.0	1085.3	-0.4	-10246.0	0.0	-603748.1
	0.0	1066.5	-0.3	-9613.9	0.0	-600819.4
	0.0	1073.8	-0.3	-9812.0	0.0	-600883.3
	0.0	990.0	-0.1	-7657.1	0.0	-602922.7
	0.0	997.4	-0.1	-7855.3	0.0	-602986.6
	0.0	978.6	0.0	-7223.1	0.0	-600057.9
	0.0	986.0	0.0	-7421.3	0.0	-600121.8
770.	0.0	2645.7	0.1	10611.2	-19.7	-255353.3
	0.0	2651.5	0.0	10412.2	-6.8	-252766.8
	0.0	2589.8	0.1	11055.7	-40.8	-265722.4
	0.0	2595.6	0.1	10856.7	-27.9	-263135.9
	0.0	2575.9	0.6	13011.1	-174.3	-286348.8
	0.0	2581.6	0.5	12812.2	-161.3	-283762.4
	0.0	2519.9	0.7	13455.6	-195.4	-296717.9
	0.0	2525.7	0.6	13256.7	-182.5	-294131.4
	0.0	4288.7	-0.6	-10148.5	188.2	439154.5
	0.0	4294.5	-0.7	-10347.4	201.1	441741.0
	0.0	4232.8	-0.6	-9704.0	167.0	428785.4
	0.0	4238.5	-0.6	-9903.0	180.0	431371.9
	0.0	4218.8	-0.1	-7748.6	33.6	408158.9
	0.0	4224.6	-0.2	-7947.5	46.5	410745.4
	0.0	4162.9	0.0	-7304.1	12.5	397789.9
	0.0	4168.7	-0.1	-7503.0	25.4	400376.4

Asta	17	nodi	5	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4875.2	0.2	-975.0	51.4	441566.5
	0.0	-4874.9	0.1	-1128.5	36.4	441345.8
	0.0	-4867.1	0.3	-639.1	75.7	440567.8
	0.0	-4866.8	0.2	-792.6	60.7	440347.1
	0.0	-4879.8	0.8	840.7	234.8	444184.7
	0.0	-4879.5	0.7	687.3	219.8	443964.0
	0.0	-4871.7	0.9	1176.6	259.0	443186.0
	0.0	-4871.4	0.8	1023.2	244.0	442965.3
	0.0	-3231.4	-0.8	-4335.8	-250.3	-242788.3
	0.0	-3231.1	-0.9	-4489.3	-265.3	-243009.0
	0.0	-3223.3	-0.8	-4000.0	-226.0	-243787.0
	0.0	-3223.0	-0.8	-4153.4	-241.0	-244007.8
	0.0	-3236.0	-0.2	-2520.1	-66.9	-240170.1
	0.0	-3235.7	-0.3	-2673.6	-81.9	-240390.8

	0.0	-3227.9	-0.1	-2184.2	-42.7	-241168.8
	0.0	-3227.6	-0.2	-2337.7	-57.7	-241389.5
385.	0.0	-809.6	0.1	-908.0	0.0	-607877.7
	0.0	-808.9	0.1	-1060.8	0.0	-607878.8
	0.0	-810.4	0.1	-582.1	0.0	-607482.3
	0.0	-809.7	0.1	-734.9	0.0	-607483.4
	0.0	-817.4	0.5	899.9	0.0	-607876.2
	0.0	-816.7	0.4	747.1	0.0	-607877.3
	0.0	-818.1	0.5	1225.8	0.0	-607480.9
	0.0	-817.5	0.5	1073.0	0.0	-607481.9
	0.0	977.4	-0.5	-4254.6	0.0	-614525.0
	0.0	978.0	-0.5	-4407.4	0.0	-614526.0
	0.0	976.6	-0.4	-3928.7	0.0	-614129.6
	0.0	977.3	-0.5	-4081.5	0.0	-614130.6
	0.0	969.6	-0.1	-2446.7	0.0	-614523.5
	0.0	970.3	-0.2	-2599.5	0.0	-614524.5
	0.0	968.8	-0.1	-2120.8	0.0	-614128.1
	0.0	969.5	-0.1	-2273.6	0.0	-614129.2
770.	0.0	2617.5	0.2	-848.5	-51.1	-270708.4
	0.0	2617.8	0.1	-1001.9	-36.2	-270489.1
	0.0	2608.7	0.3	-529.9	-75.2	-272178.9
	0.0	2609.1	0.2	-683.3	-60.3	-271959.6
	0.0	2612.9	0.8	966.6	-233.5	-273310.4
	0.0	2613.3	0.7	813.2	-218.7	-273091.0
	0.0	2604.2	0.9	1285.2	-257.7	-274780.8
	0.0	2604.6	0.8	1131.8	-242.8	-274561.5
	0.0	4243.2	-0.8	-4208.6	249.2	395789.4
	0.0	4243.6	-0.9	-4362.0	264.1	396008.8
	0.0	4234.5	-0.8	-3890.0	225.1	394319.0
	0.0	4234.9	-0.8	-4043.4	240.0	394538.3
	0.0	4238.7	-0.2	-2393.5	66.7	393187.5
	0.0	4239.1	-0.3	-2546.9	81.6	393406.9
	0.0	4230.0	-0.1	-2074.9	42.6	391717.1
	0.0	4230.4	-0.2	-2228.3	57.5	391936.4

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4673.1	0.3	-17581.8	84.8	454380.3
	0.0	-4677.4	0.2	-17881.6	71.0	456670.6
	0.0	-4764.6	0.4	-16929.8	106.7	462314.6
	0.0	-4768.9	0.3	-17229.7	92.9	464604.9
	0.0	-4619.7	0.8	-14014.7	249.2	426433.0
	0.0	-4624.0	0.8	-14314.5	235.5	428723.3
	0.0	-4711.2	0.9	-13362.7	271.1	434367.2
	0.0	-4715.5	0.9	-13662.6	257.4	436657.6
	0.0	-3205.9	-0.9	6092.7	-263.0	-186514.3
	0.0	-3210.2	-0.9	5792.8	-276.7	-184224.0
	0.0	-3297.4	-0.8	6744.7	-241.1	-178580.1
	0.0	-3301.7	-0.9	6444.8	-254.8	-176289.7
	0.0	-3152.6	-0.3	9659.8	-98.6	-214461.7
	0.0	-3156.9	-0.4	9359.9	-112.3	-212171.3
	0.0	-3244.1	-0.3	10311.8	-76.7	-206527.4
	0.0	-3248.4	-0.3	10011.9	-90.4	-204237.0
385.	0.0	-834.4	0.2	-17443.4	0.0	-568478.5
	0.0	-840.7	0.1	-17742.0	0.0	-568403.1
	0.0	-824.6	0.2	-16801.5	0.0	-575838.5
	0.0	-830.9	0.2	-17100.0	0.0	-575763.1
	0.0	-757.3	0.5	-13891.8	0.0	-569401.0
	0.0	-763.7	0.5	-14190.4	0.0	-569325.6
	0.0	-747.5	0.5	-13249.9	0.0	-576761.0
	0.0	-753.9	0.5	-13548.4	0.0	-576685.6
	0.0	862.0	-0.5	6130.0	0.0	-577823.3
	0.0	855.6	-0.5	5831.4	0.0	-577747.9
	0.0	871.8	-0.5	6771.9	0.0	-585183.3
	0.0	865.4	-0.5	6473.4	0.0	-585107.9
	0.0	939.1	-0.2	9681.6	0.0	-578745.8
	0.0	932.7	-0.2	9383.0	0.0	-578670.5
	0.0	948.9	-0.1	10323.5	0.0	-586105.8
	0.0	942.5	-0.2	10025.0	0.0	-586030.4
770.	0.0	2529.3	0.3	-17449.3	-84.2	-256050.1
	0.0	2525.1	0.2	-17749.0	-70.4	-258155.9
	0.0	2630.8	0.4	-16812.1	-106.4	-241730.1
	0.0	2626.6	0.3	-17111.8	-92.6	-243835.9
	0.0	2581.6	0.8	-13883.8	-247.9	-230308.8
	0.0	2577.4	0.8	-14183.5	-234.1	-232414.6
	0.0	2683.0	0.9	-13246.6	-270.1	-215988.8
	0.0	2678.9	0.9	-13546.3	-256.3	-218094.6
	0.0	3978.6	-0.9	6217.9	261.3	361229.0
	0.0	3974.5	-0.9	5918.2	275.1	359123.3
	0.0	4080.1	-0.8	6855.2	239.1	375549.0
	0.0	4076.0	-0.8	6555.4	252.9	373443.2
	0.0	4030.9	-0.3	9783.4	97.6	386970.4
	0.0	4026.7	-0.4	9483.7	111.4	384864.6
	0.0	4132.4	-0.3	10420.7	75.4	401290.3
	0.0	4128.2	-0.3	10120.9	89.2	399184.5

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4137.5	0.3	-36834.4	99.8	439682.1
	0.0	-4142.8	0.3	-37299.1	87.3	443213.5
	0.0	-4250.1	0.4	-36024.4	119.7	456112.7
	0.0	-4255.4	0.4	-36489.1	107.2	459644.1
	0.0	-4072.4	0.8	-31259.6	244.6	397285.6
	0.0	-4077.8	0.8	-31724.2	232.1	400817.0
	0.0	-4185.0	0.9	-30449.6	264.5	413716.2
	0.0	-4190.3	0.8	-30914.3	251.9	417247.6
	0.0	-3126.1	-0.9	8051.2	-257.5	-99841.8
	0.0	-3131.5	-0.9	7586.5	-270.1	-96310.4
	0.0	-3238.7	-0.8	8861.1	-237.7	-83411.2
	0.0	-3244.0	-0.8	8396.5	-250.2	-79879.8
	0.0	-3061.1	-0.4	13626.0	-112.8	-142238.3
	0.0	-3066.4	-0.4	13161.3	-125.3	-138706.9
	0.0	-3173.6	-0.3	14436.0	-92.9	-125807.7
	0.0	-3179.0	-0.4	13971.3	-105.4	-122276.3
385.	0.0	-773.7	0.2	-36384.9	0.0	-486158.9
	0.0	-783.9	0.2	-36847.5	0.0	-485978.9
	0.0	-761.0	0.2	-35533.6	0.0	-488573.6
	0.0	-771.1	0.2	-35996.3	0.0	-488393.6
	0.0	-652.0	0.5	-30834.3	0.0	-488310.9
	0.0	-662.2	0.5	-31296.9	0.0	-488130.9
	0.0	-639.2	0.5	-29983.0	0.0	-490725.6
	0.0	-649.4	0.5	-30445.7	0.0	-490545.6
	0.0	725.6	-0.5	8309.9	0.0	-503326.7
	0.0	715.4	-0.5	7847.3	0.0	-503146.7
	0.0	738.4	-0.5	9161.2	0.0	-505741.4
	0.0	728.2	-0.5	8698.5	0.0	-505561.4
	0.0	847.3	-0.2	13860.6	0.0	-505478.7
	0.0	837.1	-0.2	13397.9	0.0	-505298.7
	0.0	860.1	-0.2	14711.8	0.0	-507893.5
	0.0	849.9	-0.2	14249.1	0.0	-507713.5
770.	0.0	2527.2	0.3	-36236.2	-100.3	-170355.1
	0.0	2522.0	0.3	-36700.6	-88.0	-173472.1
	0.0	2643.6	0.4	-35336.6	-120.0	-146781.4
	0.0	2638.4	0.4	-35801.1	-107.6	-149898.4
	0.0	2590.8	0.8	-30663.9	-244.6	-132870.3
	0.0	2585.6	0.8	-31128.3	-232.2	-135987.3
	0.0	2707.3	0.9	-29764.4	-264.2	-109296.5
	0.0	2702.1	0.8	-30228.8	-251.9	-112413.5
	0.0	3512.9	-0.9	8637.4	256.1	327172.4
	0.0	3507.7	-0.9	8173.0	268.5	324055.3
	0.0	3629.3	-0.8	9536.9	236.5	350746.1
	0.0	3624.1	-0.8	9072.5	248.8	347629.1

	0.0	3576.5	-0.4	14209.7	111.9	364657.2
	0.0	3571.3	-0.4	13745.3	124.2	361540.2
	0.0	3693.0	-0.3	15109.2	92.2	388230.9
	0.0	3687.8	-0.4	14644.8	104.6	385113.9

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3742.5	0.1	79096.0	14.4	203329.8
	0.0	-3706.0	-0.4	77825.5	-70.2	197374.8
	0.0	-4191.0	0.9	74069.3	152.8	210648.6
	0.0	-4154.5	0.4	72798.8	68.1	204693.6
	0.0	-4162.0	5.1	94973.7	903.2	271555.1
	0.0	-4125.5	4.7	93703.2	818.5	265600.1
	0.0	-4610.5	5.9	89947.0	1041.5	278873.9
	0.0	-4574.0	5.5	88676.5	956.9	272918.9
	0.0	-306.6	-5.6	-107188.0	-990.3	-332624.3
	0.0	-270.1	-6.1	-108458.5	-1075.0	-338579.3
	0.0	-755.1	-4.9	-112214.7	-852.0	-325305.4
	0.0	-718.6	-5.3	-113485.2	-936.6	-331260.5
	0.0	-726.1	-0.6	-91310.3	-101.6	-264399.0
	0.0	-689.6	-1.1	-92580.8	-186.2	-270354.0
	0.0	-1174.6	0.2	-96337.0	36.8	-257080.1
	0.0	-1138.1	-0.3	-97607.5	-47.9	-263035.2
210.	0.0	-1264.3	0.1	77224.0	-8.1	-331069.7
	0.0	-1233.7	-0.4	75952.1	8.2	-329740.6
	0.0	-1334.8	0.9	73281.4	-35.5	-378627.4
	0.0	-1304.2	0.4	72009.4	-19.2	-377298.3
	0.0	-1615.3	5.2	93118.9	-177.0	-346505.6
	0.0	-1584.6	4.7	91847.0	-160.7	-345176.5
	0.0	-1685.8	5.9	89176.3	-204.4	-394063.3
	0.0	-1655.1	5.5	87904.3	-188.1	-392734.2
	0.0	1505.0	-5.7	-109213.8	194.4	-187229.0
	0.0	1535.7	-6.1	-110485.7	210.7	-185899.9
	0.0	1434.5	-4.9	-113156.4	167.0	-234786.8
	0.0	1465.2	-5.3	-114428.3	183.3	-233457.7
	0.0	1154.0	-0.6	-93318.8	25.5	-202664.9
	0.0	1184.7	-1.1	-94590.8	41.8	-201335.8
	0.0	1083.6	0.2	-97261.5	-1.9	-250222.7
	0.0	1114.2	-0.3	-98533.4	14.4	-248893.6
420.	0.0	1782.5	0.1	75661.3	-31.2	-288386.9
	0.0	1794.0	-0.4	74382.9	87.2	-282383.1
	0.0	2123.5	0.9	72787.0	-226.1	-308358.8
	0.0	2135.0	0.4	71508.5	-107.8	-302355.0
	0.0	1657.8	5.2	91637.2	-1268.7	-356663.6
	0.0	1669.4	4.7	90358.7	-1150.4	-350659.8
	0.0	1998.8	6.0	88762.8	-1463.7	-376635.5
	0.0	2010.4	5.6	87484.4	-1345.3	-370631.7
	0.0	2268.5	-5.7	-111677.1	1391.8	226694.1
	0.0	2280.0	-6.2	-112955.5	1510.2	232697.9
	0.0	2609.5	-4.9	-114551.4	1196.9	206722.2
	0.0	2621.0	-5.4	-115829.9	1315.2	212726.0
	0.0	2143.8	-0.6	-95701.2	154.3	158417.4
	0.0	2155.3	-1.1	-96979.7	272.6	164421.2
	0.0	2484.8	0.2	-98575.6	-40.7	138445.5
	0.0	2496.3	-0.3	-99854.0	77.7	144449.3

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5620.2	0.2	176508.0	58.5	326590.0
	0.0	-5574.2	-0.4	174739.8	-64.4	318338.0
	0.0	-5253.7	1.1	134319.4	258.0	211581.1
	0.0	-5207.6	0.5	132551.3	135.1	203329.1
	0.0	-6162.1	6.1	197993.1	1341.2	423779.6
	0.0	-6116.1	5.6	196224.9	1218.3	415527.6
	0.0	-5795.6	7.1	155804.6	1540.7	308770.8
	0.0	-5749.6	6.5	154036.4	1417.8	300518.8
	0.0	-157.3	-6.7	-47157.1	-1465.7	-631624.2
	0.0	-111.3	-7.3	-48925.2	-1588.6	-639876.1
	0.0	209.2	-5.8	-89345.6	-1266.1	-746633.0
	0.0	255.2	-6.4	-91113.7	-1389.1	-754885.0
	0.0	-699.3	-0.8	-25671.9	-183.0	-534434.5
	0.0	-653.2	-1.3	-27440.1	-305.9	-542686.5
	0.0	-332.8	0.2	-67860.5	16.6	-649443.4
	0.0	-286.7	-0.4	-69628.6	-106.4	-657695.4
210.	0.0	-2225.1	0.2	174324.5	19.5	-501703.6
	0.0	-2184.0	-0.4	172553.8	15.1	-500629.9
	0.0	-1913.0	1.1	133022.7	27.4	-546329.5
	0.0	-1871.9	0.5	131252.0	23.0	-545255.9
	0.0	-2708.9	6.1	195839.2	58.2	-514309.8
	0.0	-2667.8	5.5	194068.6	53.8	-513236.2
	0.0	-2396.8	7.0	154537.5	66.1	-558935.8
	0.0	-2355.7	6.4	152766.8	61.7	-557862.2
	0.0	2642.8	-6.6	-49581.8	-63.2	-353894.9
	0.0	2683.9	-7.2	-51352.4	-67.6	-352821.3
	0.0	2954.9	-5.7	-90883.5	-55.3	-398520.9
	0.0	2996.0	-6.3	-92654.2	-59.7	-397447.2
	0.0	2159.0	-0.7	-28067.0	-24.5	-366501.2
	0.0	2200.1	-1.3	-29837.7	-28.9	-365427.5
	0.0	2471.1	0.2	-69368.7	-16.6	-411127.2
	0.0	2512.2	-0.4	-71139.4	-21.0	-410053.5
420.	0.0	1543.0	0.2	172839.4	-18.3	-582757.2
	0.0	1569.2	-0.4	171059.1	95.5	-574432.2
	0.0	1871.1	1.1	132258.9	-201.6	-561617.6
	0.0	1897.3	0.5	130478.6	-87.8	-553292.5
	0.0	1234.7	6.1	194470.1	-1221.1	-680741.8
	0.0	1260.9	5.5	192689.8	-1107.3	-672416.8
	0.0	1562.8	7.0	153889.6	-1404.3	-659602.2
	0.0	1589.0	6.5	152109.3	-1290.5	-651277.2
	0.0	4616.5	-6.7	-52205.1	1335.3	421568.7
	0.0	4642.7	-7.2	-53985.4	1449.1	429893.8
	0.0	4944.6	-5.8	-92785.6	1152.1	442708.4
	0.0	4970.8	-6.3	-94565.9	1265.9	451033.4
	0.0	4308.2	-0.7	-30574.5	132.5	323584.1
	0.0	4334.3	-1.3	-32354.8	246.3	331909.2
	0.0	4636.3	0.2	-71154.9	-50.7	344723.7
	0.0	4662.5	-0.4	-72935.2	63.1	353048.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5143.8	3.3	-143494.5	699.7	225644.3
	0.0	-5185.3	2.7	-145518.7	582.6	233086.5
	0.0	-5589.1	4.1	-185537.3	883.5	357680.4
	0.0	-5630.6	3.6	-187561.5	766.4	365122.6
	0.0	-4653.8	8.8	-119041.6	1919.8	137771.1
	0.0	-4695.3	8.2	-121065.8	1802.7	145213.3
	0.0	-5099.1	9.6	-161084.4	2103.5	269807.2
	0.0	-5140.6	9.0	-163108.6	1986.5	277249.4
	0.0	-979.9	-9.2	59730.0	-2027.6	-498809.7
	0.0	-1021.4	-9.8	57705.7	-2144.6	-491367.4
	0.0	-1425.2	-8.4	17687.1	-1843.8	-366773.6
	0.0	-1466.7	-8.9	15662.9	-1960.9	-359331.3
	0.0	-489.8	-3.7	84182.9	-807.5	-586682.9
	0.0	-531.3	-4.3	82158.7	-924.5	-579240.7
	0.0	-935.1	-2.9	42140.1	-623.7	-454646.8
	0.0	-976.6	-3.4	40115.8	-740.8	-447204.6
210.	0.0	-1902.7	3.2	-142333.3	18.8	-520727.7
	0.0	-1939.6	2.7	-144360.7	10.9	-521685.0
	0.0	-2273.9	4.0	-183417.2	32.0	-473482.2
	0.0	-2310.7	3.5	-185444.5	24.1	-474439.5
	0.0	-1467.6	8.7	-117842.7	90.9	-509443.5
	0.0	-1504.5	8.1	-119870.1	83.0	-510400.8
	0.0	-1838.7	9.5	-158926.5	104.0	-462197.9

	0.0	-1875.6	9.0	-160953.9	96.1	-463155.3
	0.0	1789.1	-9.1	61114.9	-99.1	-403367.3
	0.0	1752.3	-9.7	59087.5	-107.0	-404324.6
	0.0	1418.0	-8.3	20031.0	-85.9	-356121.7
	0.0	1381.1	-8.8	18003.7	-93.8	-357079.0
	0.0	2224.2	-3.7	85605.5	-27.0	-392083.1
	0.0	2187.4	-4.2	83578.1	-34.9	-393040.4
	0.0	1853.1	-2.9	44521.7	-13.8	-344837.5
	0.0	1816.3	-3.4	42494.3	-21.7	-345794.8
420.	0.0	1834.8	3.2	-141742.4	-661.0	-539531.2
	0.0	1812.2	2.7	-143781.1	-560.2	-546911.6
	0.0	1461.9	4.1	-182031.9	-817.5	-568840.7
	0.0	1439.3	3.5	-184070.5	-716.7	-576221.1
	0.0	2102.1	8.7	-117116.0	-1732.1	-452376.5
	0.0	2079.5	8.2	-119154.6	-1631.4	-459756.9
	0.0	1729.3	9.5	-157405.5	-1888.6	-481686.0
	0.0	1706.6	9.0	-159444.1	-1787.9	-489066.4
	0.0	4097.6	-9.2	62744.7	1822.9	221121.5
	0.0	4075.0	-9.7	60706.1	1923.7	213741.1
	0.0	3724.8	-8.4	22455.2	1666.4	191812.0
	0.0	3702.2	-8.9	20416.6	1767.1	184431.6
	0.0	4365.0	-3.7	87371.1	751.7	308276.2
	0.0	4342.4	-4.2	85332.5	852.5	300895.8
	0.0	3992.1	-2.9	47081.6	595.2	278966.7
	0.0	3969.5	-3.4	45043.0	696.0	271586.3

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4565.6	4.6	-118797.8	817.3	297931.7
	0.0	-4610.4	3.9	-120567.9	691.0	305465.1
	0.0	-4045.3	5.8	-122646.9	1018.0	292770.8
	0.0	-4090.1	5.1	-124417.0	891.7	300304.1
	0.0	-4051.2	12.2	-96818.1	2144.4	211726.1
	0.0	-4095.9	11.5	-98588.2	2018.1	219259.4
	0.0	-3530.9	13.4	-100667.2	2345.1	206565.2
	0.0	-3575.7	12.6	-102437.3	2218.8	214098.5
	0.0	-1618.1	-12.9	97057.3	-2263.2	-167220.9
	0.0	-1662.9	-13.6	95287.2	-2389.5	-159687.6
	0.0	-1097.9	-11.7	93208.2	-2062.5	-172381.9
	0.0	-1142.6	-12.5	91438.2	-2188.8	-164848.5
	0.0	-1103.7	-5.3	119037.0	-936.1	-253426.6
	0.0	-1148.5	-6.0	117266.9	-1062.4	-245893.2
	0.0	-583.5	-4.2	115187.9	-735.4	-258587.5
	0.0	-628.2	-4.9	113417.9	-861.7	-251054.2
210.	0.0	-1629.6	4.6	-118689.0	-155.8	-364133.4
	0.0	-1667.9	3.9	-120461.6	-130.5	-365580.0
	0.0	-1564.2	5.8	-121202.1	-197.5	-307373.5
	0.0	-1602.6	5.1	-122974.7	-172.3	-308820.1
	0.0	-1190.8	12.2	-96677.8	-416.3	-347287.1
	0.0	-1229.2	11.5	-98450.4	-391.0	-348733.8
	0.0	-1125.4	13.4	-99190.9	-458.0	-290527.2
	0.0	-1163.8	12.6	-100963.5	-432.8	-291973.8
	0.0	743.0	-12.9	97387.6	441.0	-246149.1
	0.0	704.6	-13.6	95615.1	466.2	-247595.7
	0.0	808.3	-11.7	94874.6	399.2	-189389.2
	0.0	770.0	-12.5	93102.0	424.5	-190835.8
	0.0	1181.7	-5.3	119398.9	180.5	-229302.8
	0.0	1143.4	-6.0	117626.3	205.7	-230749.4
	0.0	1247.1	-4.2	116885.8	138.7	-172542.9
	0.0	1208.7	-4.9	115113.2	164.0	-173989.5
420.	0.0	2041.2	4.7	-119055.8	-1139.1	-335687.9
	0.0	2023.5	4.0	-120838.0	-960.7	-343289.6
	0.0	1612.9	5.9	-120242.9	-1426.0	-316089.9
	0.0	1595.1	5.2	-122025.1	-1247.5	-323691.6
	0.0	2235.5	12.4	-96924.9	-3004.3	-249256.4
	0.0	2217.8	11.7	-98707.0	-2825.9	-256858.1

	0.0	1807.2	13.6	-98112.0	-3291.2	-229658.3
	0.0	1789.4	12.9	-99894.2	-3112.7	-237260.1
	0.0	2436.9	-13.1	98108.1	3174.1	98400.9
	0.0	2419.2	-13.8	96326.0	3352.5	90799.2
	0.0	2008.6	-11.9	96921.0	2887.2	117999.0
	0.0	1990.8	-12.7	95138.8	3065.6	110397.3
	0.0	2631.2	-5.4	120239.1	1308.9	184832.5
	0.0	2613.5	-6.1	118456.9	1487.3	177230.7
	0.0	2202.9	-4.2	119051.9	1022.0	204430.5
	0.0	2185.1	-5.0	117269.7	1200.4	196828.8

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2564.2	0.1	-11936.8	28.5	117538.5
	0.0	-2535.3	-0.6	-10467.6	-111.7	114194.9
	0.0	-2668.9	1.2	-3345.1	258.5	21229.8
	0.0	-2640.0	0.5	-1875.8	118.3	17886.2
	0.0	-2897.0	7.3	-29411.7	1500.6	155003.9
	0.0	-2868.1	6.6	-27942.4	1360.4	151660.3
	0.0	-3001.7	8.4	-20819.9	1730.6	58695.1
	0.0	-2972.8	7.7	-19350.7	1590.4	55351.5
	0.0	118.3	-8.0	126265.4	-1645.5	-100800.8
	0.0	147.1	-8.7	127734.6	-1785.7	-104144.4
	0.0	13.6	-6.9	134857.1	-1415.5	-197109.6
	0.0	42.5	-7.5	136326.4	-1555.8	-200453.2
	0.0	-214.5	-0.8	108790.6	-173.4	-63335.5
	0.0	-185.7	-1.5	110259.8	-313.6	-66679.1
	0.0	-319.2	0.3	117382.3	56.6	-159644.2
	0.0	-290.3	-0.4	118851.5	-83.7	-162987.8
195.	0.0	761.7	0.1	-8880.6	11.7	-63587.9
	0.0	767.2	-0.6	-7468.6	4.0	-63620.4
	0.0	958.9	1.2	-39.4	25.7	-147649.1
	0.0	964.4	0.5	1372.7	17.9	-147681.6
	0.0	705.2	7.2	-25682.3	86.9	-63591.4
	0.0	710.7	6.5	-24270.2	79.1	-63623.9
	0.0	902.4	8.3	-16841.0	100.8	-147652.6
	0.0	907.9	7.6	-15428.9	93.1	-147685.1
	0.0	657.8	-7.9	122616.9	-96.0	-35165.8
	0.0	663.3	-8.6	124029.0	-103.7	-35198.3
	0.0	855.0	-6.8	131458.1	-82.0	-119226.9
	0.0	860.5	-7.5	132870.2	-89.8	-119259.4
	0.0	601.4	-0.8	105815.3	-20.8	-35169.3
	0.0	606.8	-1.5	107227.4	-28.6	-35201.8
	0.0	798.5	0.3	114656.5	-6.9	-119230.4
	0.0	804.0	-0.4	116068.6	-14.6	-119262.9
390.	0.0	4408.8	0.1	-5855.2	-4.6	435644.6
	0.0	4393.6	-0.6	-4495.3	119.8	434620.1
	0.0	4733.4	1.2	3266.2	-206.0	404947.9
	0.0	4718.3	0.5	4626.0	-81.6	403923.4
	0.0	4595.7	7.2	-22041.6	-1322.8	448922.7
	0.0	4580.5	6.6	-20681.8	-1198.4	447898.3
	0.0	4920.3	8.4	-12920.3	-1524.1	418226.0
	0.0	4905.1	7.7	-11560.5	-1399.7	417201.6
	0.0	1826.2	-7.9	119392.1	1448.8	196915.8
	0.0	1811.1	-8.6	120751.9	1573.2	195891.4
	0.0	2150.9	-6.8	128513.4	1247.5	166219.1
	0.0	2135.7	-7.5	129873.2	1371.9	165194.7
	0.0	2013.1	-0.8	103205.6	130.7	210194.0
	0.0	1998.0	-1.5	104565.5	255.1	209169.5
	0.0	2337.8	0.3	112327.0	-70.6	179497.3
	0.0	2322.6	-0.4	113686.8	53.8	178472.8

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5077.0	-0.3	114260.2	-46.7	647214.8
	0.0	-5036.5	-1.0	116248.3	-171.4	640864.0

	0.0	-4395.3	0.7	89898.8	154.7	413543.2
	0.0	-4354.7	0.1	91886.9	30.0	407192.4
	0.0	-5542.7	6.9	91050.8	1341.9	719307.7
	0.0	-5502.2	6.3	93038.9	1217.1	712956.9
	0.0	-4860.9	8.0	66689.4	1543.3	485636.1
	0.0	-4820.4	7.3	68677.5	1418.5	479285.3
	0.0	-1208.1	-7.6	232100.1	-1473.1	125434.1
	0.0	-1167.6	-8.3	234088.2	-1597.9	119083.4
	0.0	-526.3	-6.6	207738.7	-1271.8	-108237.5
	0.0	-485.8	-7.2	209726.8	-1396.5	-114588.2
	0.0	-1673.8	-0.4	208890.7	-84.6	197527.0
	0.0	-1633.2	-1.0	210878.8	-209.3	191176.3
	0.0	-992.0	0.7	184529.3	116.8	-36144.6
	0.0	-951.5	0.0	186517.4	-7.9	-42495.3
215.	0.0	-790.8	-0.3	117826.1	21.3	13211.9
	0.0	-769.1	-1.0	119763.3	33.5	13457.8
	0.0	-106.2	0.7	93739.7	0.4	-72003.3
	0.0	-84.5	0.1	95676.9	12.6	-71757.4
	0.0	-1035.0	6.9	95215.5	-144.5	10080.5
	0.0	-1013.4	6.3	97152.7	-132.2	10326.4
	0.0	-350.4	7.9	71129.1	-165.4	-75134.7
	0.0	-328.7	7.3	73066.3	-153.1	-74888.8
	0.0	779.3	-7.6	229259.9	161.1	66478.7
	0.0	801.0	-8.2	231197.1	173.4	66724.6
	0.0	1463.9	-6.6	205173.5	140.2	-18736.5
	0.0	1485.6	-7.2	207110.8	152.5	-18490.6
	0.0	535.1	-0.4	206649.3	-4.6	63347.3
	0.0	556.8	-1.0	208586.5	7.7	63593.2
	0.0	1219.7	0.7	182562.9	-25.5	-21867.9
	0.0	1241.4	0.0	184500.1	-13.2	-21622.0
430.	0.0	3597.3	-0.3	121886.7	90.8	314065.6
	0.0	3605.8	-1.0	123781.2	241.0	317450.9
	0.0	4240.5	0.7	97974.3	-153.8	371927.2
	0.0	4248.9	0.1	99868.7	-3.7	375312.6
	0.0	3509.1	7.0	99779.9	-1641.2	276337.6
	0.0	3517.5	6.4	101674.4	-1491.0	279723.0
	0.0	4152.3	8.1	75867.4	-1885.8	334199.2
	0.0	4160.7	7.4	77761.9	-1735.7	337584.6
	0.0	3435.4	-7.7	227382.5	1806.9	508885.0
	0.0	3443.8	-8.3	229277.0	1957.1	512270.4
	0.0	4078.5	-6.7	203470.0	1562.2	566746.7
	0.0	4086.9	-7.3	205364.5	1712.4	570132.0
	0.0	3347.2	-0.4	205275.7	74.9	471157.1
	0.0	3355.6	-1.0	207170.1	225.1	474542.5
	0.0	3990.3	0.7	181363.2	-169.8	529018.7
	0.0	3998.7	0.0	183257.7	-19.6	532404.1

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4743.1	0.3	1059.3	-19.8	442780.0
	0.0	-4727.6	-0.6	3514.0	-192.4	442246.9
	0.0	-4221.0	1.6	-9917.8	262.7	333384.8
	0.0	-4205.4	0.8	-7463.2	90.1	332851.7
	0.0	-4917.7	10.3	-27872.3	2018.9	447262.5
	0.0	-4902.1	9.4	-25417.6	1846.4	446729.5
	0.0	-4395.6	11.7	-38849.4	2301.5	337867.3
	0.0	-4380.0	10.8	-36394.8	2128.9	337334.3
	0.0	-3501.1	-11.2	156170.0	-2211.8	527298.8
	0.0	-3485.5	-12.1	158624.6	-2384.4	526765.8
	0.0	-2979.0	-9.8	145192.8	-1929.3	417903.6
	0.0	-2963.4	-10.7	147647.5	-2101.9	417370.6
	0.0	-3675.7	-1.2	127238.4	-173.1	531781.4
	0.0	-3660.1	-2.0	129693.0	-345.7	531248.3
	0.0	-3153.5	0.2	116261.2	109.4	422386.2
	0.0	-3138.0	-0.7	118715.9	-63.2	421853.1
200.	0.0	-647.8	0.3	5076.1	-73.1	-95903.7
	0.0	-640.5	-0.6	7499.2	-77.2	-94206.6
	0.0	-177.6	1.6	-5806.0	-66.2	-106080.6
	0.0	-170.3	0.8	-3383.0	-70.3	-104383.5
	0.0	-725.1	10.2	-23482.9	-30.2	-115942.8
	0.0	-717.8	9.4	-21059.8	-34.3	-114245.7
	0.0	-254.9	11.6	-34365.0	-23.4	-126119.7
	0.0	-247.6	10.7	-31942.0	-27.5	-124422.6
	0.0	-593.8	-11.1	155153.1	23.8	112450.7
	0.0	-586.5	-12.0	157576.2	19.7	114147.8
	0.0	-123.6	-9.8	144271.0	30.7	102273.8
	0.0	-116.3	-10.6	146694.0	26.6	103970.9
	0.0	-671.1	-1.2	126594.1	66.7	92411.6
	0.0	-663.8	-2.0	129017.2	62.6	94108.7
	0.0	-200.9	0.2	115712.0	73.5	82234.7
	0.0	-193.6	-0.7	118135.0	69.4	83931.8
400.	0.0	3409.2	0.3	9111.4	-128.2	181044.4
	0.0	3411.2	-0.6	11511.7	35.9	183627.0
	0.0	3837.2	1.7	-1715.4	-396.7	260540.4
	0.0	3839.2	0.8	684.9	-232.6	263123.0
	0.0	3393.9	10.3	-19178.8	-2079.0	152227.0
	0.0	3395.9	9.4	-16778.6	-1914.8	154809.6
	0.0	3821.9	11.7	-30005.6	-2347.4	231723.0
	0.0	3823.9	10.8	-27605.3	-2183.3	234305.7
	0.0	2555.4	-11.2	154700.3	2258.7	305572.2
	0.0	2557.4	-12.1	157100.6	2422.8	308154.9
	0.0	2983.4	-9.8	143873.5	1990.3	385068.3
	0.0	2985.4	-10.7	146273.8	2154.4	387650.9
	0.0	2540.1	-1.2	126410.1	308.0	276754.8
	0.0	2542.1	-2.1	128810.4	472.1	279337.5
	0.0	2968.1	0.2	115583.3	39.6	356250.9
	0.0	2970.1	-0.7	117983.6	203.7	358833.5

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4059.0	2.0	-11559.1	344.2	284024.4
	0.0	-4050.7	1.2	-9440.6	185.0	283014.8
	0.0	-3671.6	3.2	-15638.4	603.8	194592.0
	0.0	-3663.2	2.5	-13519.9	444.6	193582.3
	0.0	-4149.4	11.4	-36651.9	2263.5	294054.4
	0.0	-4141.1	10.7	-34533.4	2104.2	293044.7
	0.0	-3762.0	12.7	-40731.2	2523.0	204621.9
	0.0	-3753.6	11.9	-38612.7	2363.8	203612.3
	0.0	-3269.9	-12.3	65382.6	-2433.7	329159.7
	0.0	-3261.5	-13.1	67501.2	-2592.9	328150.1
	0.0	-2882.4	-11.0	61303.4	-2174.1	239727.3
	0.0	-2874.0	-11.8	63421.9	-2333.4	238717.6
	0.0	-3360.3	-2.8	40289.9	-514.4	339189.7
	0.0	-3351.9	-3.6	42408.4	-673.7	338180.0
	0.0	-2972.8	-1.5	36210.6	-254.9	249757.2
	0.0	-2964.5	-2.3	38329.1	-414.1	248747.6
210.	0.0	165.8	2.0	-7328.7	-70.3	-124247.0
	0.0	170.6	1.2	-5225.3	-66.0	-123905.2
	0.0	513.2	3.2	-11378.7	-77.0	-136754.2
	0.0	518.0	2.5	-9275.3	-72.7	-136412.4
	0.0	115.6	11.4	-32243.7	-132.9	-128569.3
	0.0	120.5	10.6	-30140.2	-128.5	-128227.5
	0.0	463.1	12.7	-36293.7	-139.5	-141076.5
	0.0	467.9	11.9	-34190.2	-135.2	-140734.7
	0.0	192.2	-12.2	65335.7	136.8	3795.9
	0.0	197.1	-13.0	67439.2	141.1	4137.7
	0.0	539.7	-11.0	61285.7	130.1	-8711.3
	0.0	544.5	-11.7	63389.2	134.5	-8369.5
	0.0	142.1	-2.8	40420.7	74.2	-526.3
	0.0	147.0	-3.6	42524.2	78.6	-184.5
	0.0	489.5	-1.5	36370.7	67.6	-13033.5
	0.0	494.4	-2.3	38474.2	71.9	-12691.7

420.	0.0	4359.8	2.0	-3128.0	-489.2	351721.1
	0.0	4363.1	1.2	-1031.1	-321.0	352891.3
	0.0	4689.9	3.3	-7164.9	-762.5	409940.0
	0.0	4693.2	2.5	-5068.1	-594.3	411110.2
	0.0	4327.5	11.5	-27964.9	-2537.6	339109.6
	0.0	4330.8	10.7	-25868.1	-2369.4	340279.8
	0.0	4657.6	12.8	-32001.9	-2810.9	397328.6
	0.0	4660.9	12.0	-29905.0	-2642.7	398498.7
	0.0	3730.7	-12.3	65550.8	2715.9	415169.1
	0.0	3734.0	-13.1	67647.6	2884.1	416339.3
	0.0	4060.8	-11.1	61513.9	2442.6	473388.0
	0.0	4064.1	-11.9	63610.7	2610.8	474558.2
	0.0	3698.5	-2.8	40713.9	667.4	402557.7
	0.0	3701.8	-3.6	42810.7	835.7	403727.8
	0.0	4028.6	-1.6	36676.9	394.2	460776.6
	0.0	4031.9	-2.4	38773.7	562.4	461946.8

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5310.7	2.7	1960.5	621.6	416569.9
	0.0	-5305.0	2.1	4256.8	474.0	414278.9
	0.0	-4885.3	3.6	-1203.6	860.4	307545.2
	0.0	-4879.5	3.0	1092.7	712.9	305254.2
	0.0	-5369.8	9.6	-25118.9	2415.1	441452.1
	0.0	-5364.0	9.1	-22822.6	2267.5	439161.1
	0.0	-4944.3	10.6	-28283.0	2653.9	332427.4
	0.0	-4938.6	10.0	-25986.7	2506.3	330136.4
	0.0	-4281.7	-10.2	-12342.0	-2567.0	420429.3
	0.0	-4276.0	-10.8	-10045.8	-2714.5	418138.3
	0.0	-3856.3	-9.3	-15506.1	-2328.1	311404.5
	0.0	-3850.5	-9.9	-13209.9	-2475.7	309113.5
	0.0	-4340.8	-3.3	-39421.4	-773.5	445311.5
	0.0	-4335.0	-3.8	-37125.2	-921.1	443020.5
	0.0	-3915.4	-2.3	-42585.5	-534.7	336286.8
	0.0	-3909.6	-2.9	-40289.3	-682.2	333995.8
255.	0.0	-288.8	2.7	6989.6	-60.7	-294016.7
	0.0	-282.4	2.1	9289.7	-62.7	-294833.4
	0.0	152.5	3.6	3822.2	-57.2	-293957.0
	0.0	158.8	3.0	6122.3	-59.2	-294773.8
	0.0	-354.9	9.5	-20135.7	-26.6	-284275.8
	0.0	-348.6	8.9	-17835.6	-28.6	-285092.6
	0.0	86.3	10.4	-23303.1	-23.1	-284216.2
	0.0	92.7	9.9	-21003.0	-25.1	-285033.0
	0.0	-14.6	-10.1	-11882.4	22.4	-127344.0
	0.0	-8.3	-10.7	-9582.3	20.4	-128160.8
	0.0	426.6	-9.2	-15049.8	25.9	-127284.4
	0.0	433.0	-9.7	-12749.7	23.9	-128101.2
	0.0	-80.8	-3.2	-39007.7	56.6	-117603.2
	0.0	-74.4	-3.8	-36707.6	54.6	-118420.0
	0.0	360.5	-2.3	-42175.1	60.0	-117543.6
	0.0	366.9	-2.9	-39875.0	58.0	-118360.3
510.	0.0	4705.9	2.7	12090.5	-750.8	268436.7
	0.0	4716.9	2.2	14408.0	-607.6	269741.3
	0.0	5239.7	3.7	8901.1	-982.2	391454.8
	0.0	5250.7	3.1	11218.6	-839.0	392759.4
	0.0	4586.7	9.7	-15240.9	-2471.1	255597.2
	0.0	4597.7	9.1	-12923.3	-2327.8	256901.8
	0.0	5120.4	10.6	-18430.3	-2702.5	378615.3
	0.0	5131.4	10.0	-16112.8	-2559.2	379919.9
	0.0	4133.1	-10.3	-11523.4	2614.1	401013.0
	0.0	4144.0	-10.8	-9205.9	2757.4	402317.6
	0.0	4666.8	-9.3	-14712.8	2382.7	524031.2
	0.0	4677.8	-9.9	-12395.3	2526.0	525335.7
	0.0	4013.8	-3.3	-38854.7	893.8	388173.5
	0.0	4024.8	-3.9	-36537.2	1037.1	389478.1
	0.0	4547.5	-2.4	-42044.2	662.4	511191.7
	0.0	4558.5	-3.0	-39726.7	805.7	512496.2

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4169.8	6.7	5254.6	1164.2	388782.2
	0.0	-4166.9	5.8	7851.7	989.4	386410.2
	0.0	-3718.3	8.2	-9211.4	1444.9	343898.5
	0.0	-3715.4	7.3	-6614.3	1270.1	341526.5
	0.0	-4196.0	17.9	-25364.4	3231.4	415666.9
	0.0	-4193.1	17.0	-22767.3	3056.6	413294.9
	0.0	-3744.5	19.5	-39830.4	3512.1	370783.2
	0.0	-3741.6	18.5	-37233.3	3337.2	368411.2
	0.0	-3361.0	-18.9	-92283.8	-3399.0	484621.4
	0.0	-3358.1	-19.8	-89686.7	-3573.8	482249.4
	0.0	-2909.5	-17.3	-106749.8	-3118.3	439737.7
	0.0	-2906.6	-18.3	-104152.7	-3293.1	437365.7
	0.0	-3387.2	-7.6	-122902.8	-1331.8	511506.1
	0.0	-3384.3	-8.6	-120305.7	-1506.6	509134.0
	0.0	-2935.8	-6.1	-137368.8	-1051.2	466622.4
	0.0	-2932.8	-7.1	-134771.7	-1226.0	464250.4
180.	0.0	-604.6	6.7	8913.2	-43.5	-41152.9
	0.0	-595.7	5.7	11531.2	-47.2	-42504.2
	0.0	-67.4	8.2	-5596.3	-36.7	2794.5
	0.0	-58.5	7.3	-2978.3	-40.4	1443.2
	0.0	-699.5	17.9	-21953.2	7.6	-24726.8
	0.0	-690.7	16.9	-19335.2	3.9	-26078.2
	0.0	-162.3	19.4	-36462.7	14.4	19220.6
	0.0	-153.5	18.4	-33844.7	10.7	17869.2
	0.0	-559.4	-18.8	-92221.2	-12.8	134076.0
	0.0	-550.5	-19.7	-89603.2	-16.5	132724.7
	0.0	-22.2	-17.3	-106730.7	-6.0	178023.4
	0.0	-13.3	-18.2	-104112.7	-9.7	176672.1
	0.0	-654.3	-7.6	-123087.6	38.3	150502.1
	0.0	-645.5	-8.5	-120469.6	34.6	149150.8
	0.0	-117.1	-6.1	-137597.1	45.1	194449.5
	0.0	-108.3	-7.0	-134979.1	41.4	193098.2
360.	0.0	2969.9	6.7	12598.1	-1251.1	171891.6
	0.0	2987.5	5.8	15244.8	-1083.9	172876.4
	0.0	3595.6	8.3	-1997.6	-1518.0	320675.3
	0.0	3613.2	7.3	649.0	-1350.7	321660.1
	0.0	2772.5	17.9	-18606.6	-3214.2	162547.5
	0.0	2790.1	17.0	-15959.9	-3046.9	163532.3
	0.0	3398.2	19.5	-33202.4	-3481.0	311331.2
	0.0	3415.8	18.5	-30555.7	-3313.8	312316.1
	0.0	2022.9	-18.8	-92430.3	3371.2	269643.3
	0.0	2040.5	-19.8	-89783.6	3538.5	270628.2
	0.0	2648.6	-17.3	-107026.0	3104.4	418427.0
	0.0	2666.2	-18.3	-104379.3	3271.6	419411.9
	0.0	1825.5	-7.6	-123635.0	1408.2	260299.2
	0.0	1843.1	-8.6	-120988.3	1575.4	261284.1
	0.0	2451.2	-6.1	-138230.7	1141.3	409083.0
	0.0	2468.8	-7.1	-135584.1	1308.6	410067.8

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3192.3	6.5	-101363.9	1199.7	234550.8
	0.0	-3180.4	5.6	-99391.2	1048.5	231567.6
	0.0	-2470.9	7.8	-133901.9	1438.4	214775.6
	0.0	-2459.0	6.9	-131929.3	1287.1	211792.4
	0.0	-3321.6	15.9	-124487.0	2940.2	267880.9
	0.0	-3309.7	15.1	-122514.4	2788.9	264897.7
	0.0	-2600.2	17.3	-157025.1	3178.8	248105.6
	0.0	-2588.3	16.4	-155052.5	3027.5	245122.5
	0.0	-3108.4	-16.7	-160684.7	-3078.6	318865.7
	0.0	-3096.5	-17.5	-158712.0	-3229.9	315882.5
	0.0	-2387.0	-15.4	-193222.8	-2840.0	299090.5

	0.0	-2375.1	-16.2	-191250.1	-2991.2	296107.3
	0.0	-3237.7	-7.2	-183807.8	-1338.2	352195.8
	0.0	-3225.8	-8.1	-181835.2	-1489.4	349212.6
	0.0	-2516.3	-5.9	-216345.9	-1099.5	332420.6
	0.0	-2504.4	-6.8	-214373.3	-1250.8	329437.4
165.	0.0	80.0	6.4	-98096.3	134.5	-21950.2
	0.0	102.8	5.6	-96091.3	120.5	-22104.7
	0.0	856.2	7.7	-130773.4	157.8	82296.4
	0.0	879.1	6.9	-128768.5	143.8	82141.8
	0.0	-177.3	15.9	-121600.3	315.5	-20012.8
	0.0	-154.5	15.0	-119595.4	301.5	-20167.4
	0.0	598.9	17.2	-154277.5	338.8	84233.7
	0.0	621.7	16.3	-152272.6	324.8	84079.1
	0.0	-1001.6	-16.6	-161199.5	-329.4	-16519.2
	0.0	-978.8	-17.4	-159194.6	-343.4	-16673.8
	0.0	-225.4	-15.3	-193876.6	-306.1	87727.3
	0.0	-202.6	-16.1	-191871.7	-320.1	87572.8
	0.0	-1259.0	-7.2	-184703.5	-148.3	-14581.9
	0.0	-1236.1	-8.0	-182698.6	-162.3	-14736.4
	0.0	-482.7	-5.9	-217380.7	-125.0	89664.6
	0.0	-459.9	-6.7	-215375.8	-139.0	89510.1
330.	0.0	3330.0	6.4	-95071.3	-927.5	259831.7
	0.0	3366.9	5.6	-93029.1	-804.6	264568.6
	0.0	4112.0	7.7	-127968.4	-1118.9	493617.1
	0.0	4148.9	6.9	-125926.3	-996.0	498353.9
	0.0	2907.0	15.9	-119014.4	-2301.3	206136.7
	0.0	2943.9	15.0	-116972.2	-2178.4	210873.5
	0.0	3689.0	17.2	-151911.5	-2492.7	439922.0
	0.0	3725.9	16.3	-149869.4	-2369.8	444658.9
	0.0	815.6	-16.6	-162113.5	2411.7	-27839.7
	0.0	852.6	-17.5	-160071.3	2534.6	-23102.9
	0.0	1597.6	-15.3	-195010.7	2220.2	205945.6
	0.0	1634.5	-16.2	-192968.5	2343.1	210682.5
	0.0	392.6	-7.2	-186056.6	1037.8	-81534.7
	0.0	429.6	-8.0	-184014.4	1160.7	-76797.9
	0.0	1174.6	-5.9	-218953.8	846.4	152250.6
	0.0	1211.6	-6.7	-216911.6	969.3	156987.4

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4614.0	4.8	48087.9	860.5	242403.8
	0.0	-4622.8	4.1	50499.1	732.8	241545.0
	0.0	-4162.6	5.9	53480.5	1062.1	271349.6
	0.0	-4171.4	5.2	55891.8	934.4	270490.9
	0.0	-4497.5	12.5	19690.4	2218.5	250566.8
	0.0	-4506.3	11.7	22101.6	2090.8	249708.1
	0.0	-4046.1	13.6	25083.0	2420.1	279512.7
	0.0	-4054.9	12.9	27494.2	2292.4	278654.0
	0.0	-2414.0	-13.1	-112445.6	-2336.1	96205.4
	0.0	-2422.8	-13.9	-110034.4	-2463.8	95346.6
	0.0	-1962.6	-12.0	-107053.0	-2134.5	125151.3
	0.0	-1971.4	-12.7	-104641.8	-2262.2	124292.5
	0.0	-2297.5	-5.5	-140843.2	-978.1	104368.4
	0.0	-2306.3	-6.2	-138431.9	-1105.8	103509.7
	0.0	-1846.1	-4.3	-135450.5	-776.5	133314.3
	0.0	-1854.9	-5.0	-133039.3	-904.2	132455.6
210.	0.0	-536.5	4.8	51889.1	-144.0	-297131.6
	0.0	-523.4	4.1	54355.8	-119.1	-297613.9
	0.0	-227.2	5.9	56960.4	-185.5	-184819.5
	0.0	-214.1	5.2	59427.1	-160.6	-185301.8
	0.0	-678.6	12.5	22837.5	-396.0	-290691.6
	0.0	-665.4	11.7	25304.2	-371.2	-291173.9
	0.0	-369.3	13.6	27908.9	-437.5	-178379.4
	0.0	-356.1	12.9	30375.6	-412.7	-178861.8
	0.0	-495.9	-13.1	-114093.2	421.0	-202278.2
	0.0	-482.8	-13.9	-111626.5	445.9	-202760.6
	0.0	-186.7	-12.0	-109021.8	379.6	-89966.1
	0.0	-173.5	-12.7	-106555.1	404.4	-90448.5
	0.0	-638.0	-5.5	-143144.7	169.0	-195838.2
	0.0	-624.8	-6.2	-140678.0	193.8	-196320.5
	0.0	-328.7	-4.3	-138073.4	127.5	-83526.1
	0.0	-315.6	-5.0	-135606.7	152.4	-84008.4
420.	0.0	3545.4	4.9	55898.1	-1157.9	18130.6
	0.0	3585.1	4.1	58430.2	-978.9	23115.5
	0.0	3477.9	6.0	60668.5	-1445.2	160669.0
	0.0	3517.6	5.3	63200.6	-1266.1	165653.8
	0.0	3089.8	12.7	26076.2	-3036.6	-37270.6
	0.0	3129.5	11.9	28608.3	-2857.5	-32285.8
	0.0	3022.3	13.8	30846.6	-3323.8	105267.7
	0.0	3062.0	13.1	33378.7	-3144.8	110252.6
	0.0	1038.8	-13.4	-116197.9	3205.8	-140129.2
	0.0	1078.5	-14.1	-113665.8	3384.9	-135144.3
	0.0	971.3	-12.2	-111427.5	2918.5	2409.1
	0.0	1011.0	-12.9	-108895.4	3097.6	7394.0
	0.0	583.2	-5.6	-146019.8	1327.1	-195530.4
	0.0	622.9	-6.3	-143487.8	1506.2	-190545.6
	0.0	515.7	-4.4	-141249.4	1039.9	-52992.1
	0.0	555.4	-5.1	-138717.3	1218.9	-48007.3

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2004.6	130.6	1487.9	45.9	266508.9	-25890.1
	-2028.4	142.5	1443.8	-212.6	258958.1	-27888.0
	-2391.6	-463.9	1564.2	460.9	279611.3	74534.1
	-2415.4	-452.0	1520.1	202.4	272060.5	72536.2
	-1722.8	6.8	1994.0	2756.0	353199.4	-5096.8
	-1746.5	18.7	1949.9	2497.4	345648.6	-7094.7
	-2109.8	-587.7	2070.3	3170.9	366301.8	95327.4
	-2133.5	-575.8	2026.2	2912.4	358751.0	93329.5
	-4784.9	313.4	-2339.4	-3009.1	-393555.9	-56938.0
	-4808.6	325.3	-2383.5	-3267.6	-401106.8	-58935.9
	-5171.9	-281.2	-2263.1	-2594.1	-380453.5	43486.2
	-5195.6	-269.3	-2307.2	-2852.7	-388004.4	41488.3
	-4503.0	189.6	-1833.3	-299.1	-306865.4	-36144.7
	-4526.8	201.5	-1877.4	-557.6	-314416.3	-38142.6
	-4890.0	-405.0	-1757.0	115.9	-293763.1	64279.5
	-4913.8	-393.1	-1801.1	-142.6	-301313.9	62281.6
160.	-1721.9	130.6	1487.9	45.9	28447.4	-4989.4
	-1745.6	142.5	1443.8	-212.6	27952.5	-5083.7
	-2108.9	-463.9	1564.2	460.9	29335.7	305.3
	-2132.6	-452.0	1520.1	202.4	28840.8	211.1
	-1440.0	6.8	1994.0	2756.0	34161.4	-4004.7
	-1463.8	18.7	1949.9	2497.4	33666.5	-4098.9
	-1827.0	-587.7	2070.3	3170.9	35049.8	1290.1
	-1850.8	-575.8	2026.2	2912.4	34554.8	1195.8
	-4502.1	313.4	-2339.4	-3009.1	-19244.6	-6798.0
	-4525.9	325.3	-2383.5	-3267.6	-19739.6	-6892.2
	-4889.1	-281.2	-2263.1	-2594.1	-18356.3	-1503.2
	-4912.9	-269.3	-2307.2	-2852.7	-18851.3	-1597.5
	-4220.3	189.6	-1833.3	-299.1	-13530.6	-5813.2
	-4244.0	201.5	-1877.4	-557.6	-14025.6	-5907.5
	-4607.3	-405.0	-1757.0	115.9	-12642.3	-518.5
	-4631.1	-393.1	-1801.1	-142.6	-13137.2	-612.8
320.	-1439.1	130.6	1487.9	45.9	-209614.2	15910.9
	-1462.9	142.5	1443.8	-212.6	-203053.3	17720.3
	-1826.2	-463.9	1564.2	460.9	-220939.9	-73923.9
	-1849.9	-452.0	1520.1	202.4	-214379.0	-72114.4
	-1157.3	6.8	1994.0	2756.0	-284876.6	-2912.9
	-1181.1	18.7	1949.9	2497.4	-278315.7	-1103.5
	-1544.3	-587.7	2070.3	3170.9	-296202.4	-92747.7
	-1568.1	-575.8	2026.2	2912.4	-289641.5	-90938.3
	-4219.4	313.4	-2339.4	-3009.1	355066.8	43342.4

	-4243.2	325.3	-2383.5	-3267.6	361627.7	45151.8
	-4606.4	-281.2	-2263.1	-2594.1	343741.0	-46492.4
	-4630.2	-269.3	-2307.2	-2852.7	350301.9	-44682.9
	-3937.5	189.6	-1833.3	-299.1	279804.3	24518.6
	-3961.3	201.5	-1877.4	-557.6	286365.2	26328.0
	-4324.6	-405.0	-1757.0	115.9	268478.6	-65316.2
	-4348.3	-393.1	-1801.1	-142.6	275039.5	-63506.8

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11269.0	-95.4	2397.5	-90.8	443396.0	-10203.2
	-11306.5	-74.8	2346.7	-452.7	434312.8	-13642.3
	-11127.1	-1129.5	2493.3	504.4	460384.9	164157.9
	-11164.6	-1108.9	2442.5	142.5	451301.7	160718.8
	-10830.4	-310.7	2993.8	3830.0	549955.4	25755.2
	-10868.0	-290.2	2943.0	3468.1	540872.2	22316.1
	-10688.5	-1344.9	3089.6	4425.1	566944.3	200116.3
	-10726.0	-1324.3	3038.7	4063.3	557861.1	196677.2
	-15627.2	253.6	-3178.5	-4197.3	-567275.2	-68252.1
	-15664.7	274.2	-3229.3	-4559.2	-576358.3	-71691.1
	-15485.3	-780.5	-3082.7	-3602.1	-550286.3	106109.1
	-15522.8	-759.9	-3133.6	-3964.0	-559369.4	102670.0
	-15188.6	38.2	-2582.2	-276.5	-460715.8	-32293.7
	-15226.2	58.8	-2633.1	-638.4	-469799.0	-35732.8
	-15046.7	-995.9	-2486.5	318.7	-443726.9	142067.4
	-15084.2	-975.3	-2537.3	-43.2	-452810.1	138628.4
160.	-10909.0	-95.4	2397.5	-90.8	59789.3	-25465.1
	-10946.5	-74.8	2346.7	-452.7	58839.7	-25609.1
	-10767.1	-1129.5	2493.3	504.4	61457.1	-16567.3
	-10804.6	-1108.9	2442.5	142.5	60507.5	-16711.3
	-10470.4	-310.7	2993.8	3830.0	70946.9	-23964.7
	-10508.0	-290.2	2943.0	3468.1	69997.3	-24108.7
	-10328.5	-1344.9	3089.6	4425.1	72614.8	-15066.8
	-10366.0	-1324.3	3038.7	4063.3	71665.1	-15210.8
	-15267.2	253.6	-3178.5	-4197.3	-58715.1	-27675.7
	-15304.7	274.2	-3229.3	-4559.2	-59664.7	-27819.7
	-15125.3	-780.5	-3082.7	-3602.1	-57047.2	-18777.9
	-15162.8	-759.9	-3133.6	-3964.0	-57996.9	-18921.9
	-14828.6	38.2	-2582.2	-276.5	-47557.4	-26175.3
	-14866.2	58.8	-2633.1	-638.4	-48507.1	-26319.3
	-14686.7	-995.9	-2486.5	318.7	-45889.6	-17277.4
	-14724.2	-975.3	-2537.3	-43.2	-46839.2	-17421.4
320.	-10549.0	-95.4	2397.5	-90.8	-323817.7	-40727.2
	-10586.5	-74.8	2346.7	-452.7	-316633.8	-37576.1
	-10407.1	-1129.5	2493.3	504.4	-337470.9	-197292.5
	-10444.6	-1108.9	2442.5	142.5	-330287.0	-194141.5
	-10110.4	-310.7	2993.8	3830.0	-408061.7	-73684.7
	-10148.0	-290.2	2943.0	3468.1	-400877.8	-70533.6
	-9968.5	-1344.9	3089.6	4425.1	-421715.0	-230250.0
	-10006.0	-1324.3	3038.7	4063.3	-414531.1	-227099.0
	-14907.2	253.6	-3178.5	-4197.3	449845.3	12900.7
	-14944.7	274.2	-3229.3	-4559.2	457029.2	16051.8
	-14765.3	-780.5	-3082.7	-3602.1	436192.0	-143664.7
	-14802.8	-759.9	-3133.6	-3964.0	443375.9	-140513.6
	-14468.6	38.2	-2582.2	-276.5	365601.2	-20056.8
	-14506.2	58.8	-2633.1	-638.4	372785.1	-16905.7
	-14326.7	-995.9	-2486.5	318.7	351947.9	-176622.2
	-14364.2	-975.3	-2537.3	-43.2	359131.8	-173471.1

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14926.9	534.5	1329.0	-103.7	341074.0	-80309.3
	-14926.3	554.7	1309.1	-442.9	336459.1	-83708.1
	-14965.5	-540.1	1363.6	447.5	348949.1	100371.9
	-14964.9	-519.9	1343.7	108.3	344334.3	96973.1
	-14933.8	320.8	1567.9	3851.3	396327.4	-44373.7
	-14933.2	341.0	1548.0	3512.1	391712.6	-47772.5
	-14972.4	-753.8	1602.6	4402.6	404202.5	136307.5
	-14971.8	-733.6	1582.6	4063.4	399587.7	132908.7
	-14961.0	904.9	-1522.7	-4196.0	-373798.7	-142170.2
	-14960.4	925.2	-1542.6	-4535.2	-378413.5	-145569.0
	-14999.6	-169.6	-1488.1	-3644.8	-365923.5	38511.0
	-14999.0	-149.4	-1508.0	-3984.0	-370538.3	35112.2
	-14967.9	691.3	-1283.8	-241.0	-318545.2	-106234.6
	-14967.3	711.5	-1303.7	-580.2	-323160.0	-109633.4
	-15006.5	-383.3	-1249.2	310.3	-310670.1	74446.6
	-15005.9	-363.1	-1269.1	-28.9	-315284.9	71047.8
160.	-14566.9	534.5	1329.0	-103.7	128430.2	5203.6
	-14566.3	554.7	1309.1	-442.9	127002.2	5037.8
	-14605.5	-540.1	1363.6	447.5	130765.5	13956.2
	-14604.9	-519.9	1343.7	108.3	129337.5	13790.5
	-14573.8	320.8	1567.9	3851.3	145458.2	6950.1
	-14573.2	341.0	1548.0	3512.1	144030.2	6784.4
	-14612.4	-753.8	1602.6	4402.6	147793.5	15702.8
	-14611.8	-733.6	1582.6	4063.4	146365.5	15537.0
	-14601.0	904.9	-1522.7	-4196.0	-130168.7	2621.4
	-14600.4	925.2	-1542.6	-4535.2	-131596.7	2455.6
	-14639.6	-169.6	-1488.1	-3644.8	-127833.5	11374.1
	-14639.0	-149.4	-1508.0	-3984.0	-129261.5	11208.3
	-14607.9	691.3	-1283.8	-241.0	-113140.7	4368.0
	-14607.3	711.5	-1303.7	-580.2	-114568.7	4202.2
	-14646.5	-383.3	-1249.2	310.3	-110805.5	13120.6
	-14645.9	-363.1	-1269.1	-28.9	-112233.5	12954.9
320.	-14206.9	534.5	1329.0	-103.7	-84214.9	90716.2
	-14206.3	554.7	1309.1	-442.9	-82456.1	93783.5
	-14245.5	-540.1	1363.6	447.5	-87419.6	-72459.7
	-14244.9	-519.9	1343.7	108.3	-85660.8	-69392.4
	-14213.8	320.8	1567.9	3851.3	-105412.4	58273.7
	-14213.2	341.0	1548.0	3512.1	-103653.6	61340.9
	-14252.4	-753.8	1602.6	4402.6	-108617.1	-104902.2
	-14251.8	-733.6	1582.6	4063.4	-106858.3	-101834.9
	-14241.0	904.9	-1522.7	-4196.0	113462.7	147413.3
	-14240.4	925.2	-1542.6	-4535.2	115221.5	150480.6
	-14279.6	-169.6	-1488.1	-3644.8	110258.0	-15762.5
	-14279.0	-149.4	-1508.0	-3984.0	112016.8	-12695.2
	-14247.9	691.3	-1283.8	-241.0	92265.3	114970.8
	-14247.3	711.5	-1303.7	-580.2	94024.1	118038.1
	-14286.5	-383.3	-1249.2	310.3	89060.6	-48205.1
	-14285.9	-363.1	-1269.1	-28.9	90819.4	-45137.8

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13795.9	427.6	1082.6	489.3	319324.3	-72795.3
	-13796.5	447.2	1074.0	152.9	316988.3	-76096.6
	-13779.0	-654.2	1096.7	1034.2	323077.8	108754.1
	-13779.5	-634.5	1088.0	697.8	320741.8	105452.8
	-13790.9	217.5	1187.8	4532.7	347541.6	-37553.9
	-13791.5	237.2	1179.1	4196.3	345205.6	-40855.1
	-13774.0	-864.2	1201.8	5077.6	351295.1	143995.5
	-13774.5	-844.5	1193.2	4741.2	348959.1	140694.3
	-13794.3	771.2	-1077.2	-4881.7	-311354.3	-130438.5
	-13794.8	790.8	-1085.8	-5218.1	-313690.3	-133739.7
	-13777.4	-310.6	-1063.1	-4336.8	-307600.8	51110.9
	-13777.9	-290.9	-1071.8	-4673.2	-309936.8	47809.7
	-13789.3	561.1	-972.0	-838.3	-283137.0	-95197.1
	-13789.8	580.8	-980.6	-1174.7	-285473.0	-98498.3
	-13772.4	-520.6	-958.0	-293.4	-279383.5	86352.4
	-13772.9	-500.9	-966.6	-629.8	-281719.5	83051.1
160.	-13435.9	427.6	1082.6	489.3	146104.3	-4385.1
	-13436.5	447.2	1074.0	152.9	145152.5	-4538.2
	-13419.0	-654.2	1096.7	1034.2	147612.8	4089.1
	-13419.5	-634.5	1088.0	697.8	146661.1	3936.1

	-13430.9	217.5	1187.8	4532.7	157493.8	-2748.7
	-13431.5	237.2	1179.1	4196.3	156542.0	-2901.8
	-13414.0	-864.2	1201.8	5077.6	159002.3	5725.5
	-13414.5	-844.5	1193.2	4741.2	158050.6	5572.4
	-13434.3	771.2	-1077.2	-4881.7	-139006.9	-7051.6
	-13434.8	790.8	-1085.8	-5218.1	-139958.7	-7204.7
	-13417.4	-310.6	-1063.1	-4336.8	-137498.3	1422.6
	-13417.9	-290.9	-1071.8	-4673.2	-138450.1	1269.5
	-13429.3	561.1	-972.0	-838.3	-127617.4	-5415.3
	-13429.8	580.8	-980.6	-1174.7	-128569.1	-5568.4
	-13412.4	-520.6	-958.0	-293.4	-126108.8	3058.9
	-13412.9	-500.9	-966.6	-629.8	-127060.6	2905.8
320.	-13075.9	427.6	1082.6	489.3	-27116.6	64025.2
	-13076.5	447.2	1074.0	152.9	-26684.1	67020.2
	-13059.0	-654.2	1096.7	1034.2	-27853.0	-100575.8
	-13059.5	-634.5	1088.0	697.8	-27420.5	-97580.7
	-13070.9	217.5	1187.8	4532.7	-32554.8	32056.4
	-13071.5	237.2	1179.1	4196.3	-32122.3	35051.5
	-13054.0	-864.2	1201.8	5077.6	-33291.2	-132544.6
	-13054.5	-844.5	1193.2	4741.2	-32858.7	-129549.5
	-13074.3	771.2	-1077.2	-4881.7	33341.3	116335.2
	-13074.8	790.8	-1085.8	-5218.1	33773.8	119330.2
	-13057.4	-310.6	-1063.1	-4336.8	32604.9	-48265.8
	-13057.9	-290.9	-1071.8	-4673.2	33037.4	-45270.7
	-13069.3	561.1	-972.0	-838.3	27903.1	84366.4
	-13069.8	580.8	-980.6	-1174.7	28335.6	87361.5
	-13052.4	-520.6	-958.0	-293.4	27166.7	-80234.6
	-13052.9	-500.9	-966.6	-629.8	27599.2	-77239.5

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16800.8	88.6	1021.9	1168.1	311347.8	-39003.7
	-16802.9	107.6	1020.6	836.1	310927.0	-42218.5
	-16688.9	-971.9	1023.8	1704.6	311978.1	140526.2
	-16691.0	-952.9	1022.5	1372.7	311557.2	137311.5
	-16779.3	-115.2	1037.3	5212.8	316211.6	-4507.8
	-16781.3	-96.2	1036.0	4880.8	315790.8	-7722.5
	-16667.4	-1175.8	1039.2	5749.3	316841.9	175022.1
	-16669.4	-1156.8	1037.9	5417.3	316421.0	171807.4
	-16833.8	432.0	-909.7	-5556.0	-275895.2	-97197.6
	-16835.9	451.0	-911.0	-5888.0	-276316.0	-100412.3
	-16721.9	-628.5	-907.7	-5019.5	-275264.9	82332.3
	-16723.9	-609.5	-909.1	-5351.5	-275685.7	79117.6
	-16812.3	228.2	-894.2	-1511.4	-271031.4	-62701.7
	-16814.3	247.2	-895.6	-1843.3	-271452.2	-65916.4
	-16700.4	-832.4	-892.3	-974.8	-270401.1	116828.2
	-16702.4	-813.4	-893.6	-1306.8	-270821.9	113613.5
160.	-16440.8	88.6	1021.9	1168.1	147845.0	-24823.1
	-16442.9	107.6	1020.6	836.1	147638.2	-24998.4
	-16328.9	-971.9	1023.8	1704.6	148167.1	-14983.2
	-16331.0	-952.9	1022.5	1372.7	147960.3	-15158.5
	-16419.3	-115.2	1037.3	5212.8	150241.5	-22939.6
	-16421.3	-96.2	1036.0	4880.8	150034.7	-23114.9
	-16307.4	-1175.8	1039.2	5749.3	150563.5	-13099.7
	-16309.4	-1156.8	1037.9	5417.3	150356.8	-13275.0
	-16473.8	432.0	-909.7	-5556.0	-130350.9	-28073.6
	-16475.9	451.0	-911.0	-5888.0	-130557.6	-28249.0
	-16361.9	-628.5	-907.7	-5019.5	-130028.8	-18233.7
	-16363.9	-609.5	-909.1	-5351.5	-130235.6	-18409.0
	-16452.3	228.2	-894.2	-1511.4	-127954.4	-26190.1
	-16454.3	247.2	-895.6	-1843.3	-128161.2	-26365.4
	-16340.4	-832.4	-892.3	-974.8	-127632.3	-16350.2
	-16342.4	-813.4	-893.6	-1306.8	-127839.1	-16525.5
320.	-16080.8	88.6	1021.9	1168.1	-15657.8	-10642.5
	-16082.9	107.6	1020.6	836.1	-15650.5	-7778.4
	-15968.9	-971.9	1023.8	1704.6	-15643.9	-170492.6
	-15971.0	-952.9	1022.5	1372.7	-15636.7	-167628.5
	-16059.3	-115.2	1037.3	5212.8	-15728.7	-41371.4
	-16061.3	-96.2	1036.0	4880.8	-15721.4	-38507.3
	-15947.4	-1175.8	1039.2	5749.3	-15714.8	-201221.5
	-15949.4	-1156.8	1037.9	5417.3	-15707.5	-198357.4
	-16113.8	432.0	-909.7	-5556.0	15193.4	41050.3
	-16115.9	451.0	-911.0	-5888.0	15200.7	43914.4
	-16001.9	-628.5	-907.7	-5019.5	15207.3	-118799.8
	-16003.9	-609.5	-909.1	-5351.5	15214.6	-115935.7
	-16092.3	228.2	-894.2	-1511.4	15122.6	10321.4
	-16094.3	247.2	-895.6	-1843.3	15129.9	13185.5
	-15980.4	-832.4	-892.3	-974.8	15136.4	-149528.6
	-15982.4	-813.4	-893.6	-1306.8	15143.7	-146664.5

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15656.7	983.2	1037.3	2009.6	303310.7	-133485.4
	-15652.9	1002.6	1044.5	1677.5	305166.3	-136760.1
	-15854.3	-88.5	1025.5	2539.7	300334.6	47111.3
	-15850.6	-69.0	1032.7	2207.6	302190.3	43836.6
	-15696.2	775.4	947.6	5979.8	280423.7	-98484.5
	-15692.4	794.9	954.8	5647.7	282279.4	-101759.2
	-15893.8	-296.2	935.8	6509.9	277447.7	82112.1
	-15890.0	-276.7	943.0	6177.8	279303.4	78837.4
	-15590.2	1328.9	-836.7	-6317.3	-243821.6	-191647.6
	-15586.4	1348.3	-829.5	-6649.4	-241965.9	-194922.3
	-15787.8	257.2	-848.6	-5787.3	-246797.6	-11051.0
	-15784.1	276.7	-841.4	-6119.4	-244941.9	-14325.7
	-15629.7	1121.1	-926.5	-2347.1	-266708.5	-156646.8
	-15625.9	1140.6	-919.2	-2679.2	-264852.8	-159921.5
	-15827.3	49.5	-938.3	-1817.1	-269684.5	23949.9
	-15823.5	69.0	-931.1	-2149.2	-267828.9	20675.2
160.	-15296.7	983.2	1037.3	2009.6	137341.1	23820.6
	-15292.9	1002.6	1044.5	1677.5	138040.4	23655.8
	-15494.3	-88.5	1025.5	2539.7	136260.3	32958.6
	-15490.6	-69.0	1032.7	2207.6	136959.6	32793.7
	-15336.2	775.4	947.6	5979.8	128808.4	25584.5
	-15332.4	794.9	954.8	5647.7	129507.7	25419.7
	-15533.8	-296.2	935.8	6509.9	127727.7	34722.4
	-15530.0	-276.7	943.0	6177.8	128427.0	34557.6
	-15230.2	1328.9	-836.7	-6317.3	-109942.5	20970.4
	-15226.4	1348.3	-829.5	-6649.4	-109243.2	20805.6
	-15427.8	257.2	-848.6	-5787.3	-111023.2	30108.3
	-15424.1	276.7	-841.4	-6119.4	-110323.9	29943.5
	-15269.7	1121.1	-926.5	-2347.1	-118475.1	22734.3
	-15265.9	1140.6	-919.2	-2679.2	-117775.8	22569.5
	-15467.3	49.5	-938.3	-1817.1	-119555.9	31872.2
	-15463.5	69.0	-931.1	-2149.2	-118856.6	31707.4
320.	-14936.7	983.2	1037.3	2009.6	-28630.2	181126.6
	-14932.9	1002.6	1044.5	1677.5	-29087.3	184071.7
	-15134.3	-88.5	1025.5	2539.7	-27815.6	18805.8
	-15130.6	-69.0	1032.7	2207.6	-28272.7	21750.9
	-14976.2	775.4	947.6	5979.8	-22808.5	149653.5
	-14972.4	794.9	954.8	5647.7	-23265.6	152598.6
	-15173.8	-296.2	935.8	6509.9	-21994.0	-12667.2
	-15170.0	-276.7	943.0	6177.8	-22451.1	-9722.2
	-14870.2	1328.9	-836.7	-6317.3	23938.2	233588.5
	-14866.4	1348.3	-829.5	-6649.4	23481.1	236533.5
	-15067.8	257.2	-848.6	-5787.3	24752.8	71267.7
	-15064.1	276.7	-841.4	-6119.4	24295.7	74212.7
	-14909.7	1121.1	-926.5	-2347.1	29759.9	202115.4
	-14905.9	1140.6	-919.2	-2679.2	29302.8	205060.4
	-15107.3	49.5	-938.3	-1817.1	30574.4	39794.6
	-15103.5	69.0	-931.1	-2149.2	30117.3	42739.6

Asta	38	nodi	7	31		

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11756.2	504.8	1224.5	2544.7	310524.3	-88142.4
	-11755.7	525.2	1241.6	2212.0	314384.2	-91533.7
	-11781.0	-585.2	1193.7	3074.8	303774.5	93480.9
	-11780.4	-564.8	1210.8	2742.1	307634.4	90089.6
	-11762.2	288.9	1017.7	6396.5	264006.7	-52161.6
	-11761.7	309.2	1034.8	6063.9	267866.6	-55552.9
	-11787.0	-801.1	986.9	6926.7	257256.9	129461.7
	-11786.4	-780.8	1004.0	6594.0	261116.7	126070.4
	-11809.9	833.9	-969.5	-6742.2	-239868.2	-143517.7
	-11809.3	854.2	-952.4	-7074.8	-236008.3	-146909.0
	-11834.6	-256.1	-1000.3	-6212.0	-246618.0	38105.7
	-11834.0	-235.8	-983.2	-6544.7	-242758.1	34714.4
	-11815.9	617.9	-1176.3	-2890.3	-286385.8	-107536.9
	-11815.3	638.3	-1159.2	-3223.0	-282525.9	-110928.2
	-11840.6	-472.1	-1207.1	-2360.2	-293135.6	74086.4
	-11840.0	-451.7	-1190.0	-2692.9	-289275.8	70695.1
160.	-11396.2	504.8	1224.5	2544.7	114604.3	-7372.7
	-11395.7	525.2	1241.6	2212.0	115721.1	-7508.0
	-11421.0	-585.2	1193.7	3074.8	112783.8	-146.7
	-11420.4	-564.8	1210.8	2742.1	113900.7	-281.9
	-11402.2	288.9	1017.7	6396.5	101178.0	-5944.9
	-11401.7	309.2	1034.8	6063.9	102294.9	-6080.2
	-11427.0	-801.1	986.9	6926.7	99357.6	1281.1
	-11426.4	-780.8	1004.0	6594.0	100474.4	1145.9
	-11449.9	833.9	-969.5	-6742.2	-84746.3	-10097.8
	-11449.3	854.2	-952.4	-7074.8	-83629.5	-10233.1
	-11474.6	-256.1	-1000.3	-6212.0	-86566.7	-2871.8
	-11474.0	-235.8	-983.2	-6544.7	-85449.9	-3007.0
	-11455.9	617.9	-1176.3	-2890.3	-98172.6	-8670.0
	-11455.3	638.3	-1159.2	-3223.0	-97055.7	-8805.3
	-11480.6	-472.1	-1207.1	-2360.2	-99993.0	-1444.0
	-11480.0	-451.7	-1190.0	-2692.9	-98876.1	-1579.2
320.	-11036.2	504.8	1224.5	2544.7	-81318.3	73396.4
	-11035.7	525.2	1241.6	2212.0	-82944.5	76517.2
	-11061.0	-585.2	1193.7	3074.8	-78209.3	-93774.9
	-11060.4	-564.8	1210.8	2742.1	-79835.5	-90654.1
	-11042.2	288.9	1017.7	6396.5	-61653.3	40271.2
	-11041.7	309.2	1034.8	6063.9	-63279.4	43392.0
	-11067.0	-801.1	986.9	6926.7	-58544.3	-126900.0
	-11066.4	-780.8	1004.0	6594.0	-60170.4	-123779.2
	-11089.9	833.9	-969.5	-6742.2	70378.1	123322.6
	-11089.3	854.2	-952.4	-7074.8	68751.9	126443.4
	-11114.6	-256.1	-1000.3	-6212.0	73487.1	-43848.6
	-11114.0	-235.8	-983.2	-6544.7	71860.9	-40727.8
	-11095.9	617.9	-1176.3	-2890.3	90043.1	90197.4
	-11095.3	638.3	-1159.2	-3223.0	88417.0	93318.2
	-11120.6	-472.1	-1207.1	-2360.2	93152.1	-76973.8
	-11120.0	-451.7	-1190.0	-2692.9	91526.0	-73853.0

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8482.0	800.5	1996.8	2524.7	376577.1	-119655.0
	-8452.2	821.2	2036.2	2175.4	383681.8	-123076.2
	-8534.2	-256.2	1918.5	3089.0	362640.4	56452.9
	-8504.3	-235.5	1957.9	2739.7	369745.1	53031.7
	-8834.6	582.6	1531.6	6340.0	292716.7	-83627.3
	-8804.7	603.3	1571.0	5990.7	299821.4	-87048.5
	-8886.7	-474.1	1453.3	6904.3	278780.0	92480.5
	-8856.9	-453.4	1492.7	6555.0	285884.7	89059.4
	-11656.5	1157.4	-1663.3	-6704.5	-298760.0	-179212.7
	-11626.6	1178.1	-1623.9	-7053.9	-291655.3	-182633.9
	-11708.6	100.7	-1741.6	-6140.3	-312696.7	-3104.8
	-11678.7	121.3	-1702.1	-6489.6	-305592.0	-6526.0
	-12009.0	939.5	-2128.5	-2889.2	-382620.4	-143185.1
	-11979.2	960.2	-2089.1	-3238.6	-375515.7	-146606.2
	-12061.2	-117.2	-2206.8	-2325.0	-396557.1	32922.8
	-12031.3	-96.5	-2167.3	-2674.3	-389452.4	29501.7
160.	-8122.0	800.5	1996.8	2524.7	57095.6	8425.8
	-8092.2	821.2	2036.2	2175.4	57893.7	8314.3
	-8174.2	-256.2	1918.5	3089.0	55679.9	15455.8
	-8144.3	-235.5	1957.9	2739.7	56478.0	15344.3
	-8474.6	582.6	1531.6	6340.0	47665.4	9594.8
	-8444.7	603.3	1571.0	5990.7	48463.5	9483.3
	-8526.7	-474.1	1453.3	6904.3	46249.8	16624.8
	-8496.9	-453.4	1492.7	6555.0	47047.9	16513.3
	-11296.5	1157.4	-1663.3	-6704.5	-32631.3	5971.0
	-11266.6	1178.1	-1623.9	-7053.9	-31833.2	5859.5
	-11348.6	100.7	-1741.6	-6140.3	-34046.9	13001.0
	-11318.7	121.3	-1702.1	-6489.6	-33248.9	12889.5
	-11649.0	939.5	-2128.5	-2889.2	-42061.5	7140.0
	-11619.2	960.2	-2089.1	-3238.6	-41263.4	7028.5
	-11701.2	-117.2	-2206.8	-2325.0	-43477.1	14170.1
	-11671.3	-96.5	-2167.3	-2674.3	-42679.0	14058.6
320.	-7762.0	800.5	1996.8	2524.7	-262386.5	136506.1
	-7732.2	821.2	2036.2	2175.4	-267895.0	139704.2
	-7814.2	-256.2	1918.5	3089.0	-251281.1	-25541.8
	-7784.3	-235.5	1957.9	2739.7	-256789.6	-22343.7
	-8114.6	582.6	1531.6	6340.0	-197386.4	102816.5
	-8084.7	603.3	1571.0	5990.7	-202894.9	106014.6
	-8166.7	-474.1	1453.3	6904.3	-186280.9	-59231.4
	-8136.9	-453.4	1492.7	6555.0	-191789.4	-56033.2
	-10936.5	1157.4	-1663.3	-6704.5	233497.9	191155.3
	-10906.6	1178.1	-1623.9	-7053.9	227989.4	194353.4
	-10988.6	100.7	-1741.6	-6140.3	244603.3	29107.4
	-10958.7	121.3	-1702.1	-6489.6	239094.8	32305.6
	-11289.0	939.5	-2128.5	-2889.2	298498.0	157465.7
	-11259.2	960.2	-2089.1	-3238.6	292989.5	160663.8
	-11341.2	-117.2	-2206.8	-2325.0	309603.5	-4582.2
	-11311.3	-96.5	-2167.3	-2674.3	304095.0	-1384.0

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2343.8	508.6	1821.9	2333.6	341580.3	-84574.2
	-2313.5	526.2	1880.1	1976.0	351846.7	-87654.4
	-1921.3	-343.9	1719.4	2879.5	323464.8	67608.7
	-1891.0	-326.4	1777.7	2521.9	333731.2	64528.5
	-2701.1	324.6	1154.1	6074.6	223794.2	-52270.7
	-2670.7	342.2	1212.4	5717.0	234060.7	-55350.9
	-2278.5	-527.9	1051.7	6620.5	205678.7	99912.2
	-2248.2	-510.4	1110.0	6262.9	215945.2	96832.0
	-4986.7	834.0	-1611.5	-6408.5	-272039.9	-140825.1
	-4956.4	851.6	-1553.3	-6766.1	-261773.5	-143905.2
	-4564.2	-18.5	-1713.9	-5862.6	-290155.4	11357.8
	-4533.8	-1.0	-1655.7	-6220.2	-279889.0	8277.7
	-5343.9	650.0	-2279.2	-2667.5	-389826.0	-108521.6
	-5313.6	667.6	-2221.0	-3025.1	-379559.5	-111601.7
	-4921.4	-202.5	-2381.6	-2121.6	-407941.5	43661.4
	-4891.1	-185.0	-2323.4	-2479.2	-397675.0	40581.2
160.	-1983.8	508.6	1821.9	2333.6	50084.0	-3196.1
	-1953.5	526.2	1880.1	1976.0	51034.3	-3468.2
	-1561.3	-343.9	1719.4	2879.5	48354.2	12577.5
	-1531.0	-326.4	1777.7	2521.9	49304.6	12305.4
	-2341.1	324.6	1154.1	6074.6	39132.4	-332.1
	-2310.7	342.2	1212.4	5717.0	40082.8	-604.2
	-1918.5	-527.9	1051.7	6620.5	37402.6	15441.6
	-1888.2	-510.4	1110.0	6262.9	38353.0	15169.4
	-4626.7	834.0	-1611.5	-6408.5	-14198.8	-7381.8
	-4596.4	851.6	-1553.3	-6766.1	-13248.4	-7653.9
	-4204.2	-18.5	-1713.9	-5862.6	-15928.6	8391.9
	-4173.8	-1.0	-1655.7	-6220.2	-14978.2	8119.7
	-4983.9	650.0	-2279.2	-2667.5	-25150.4	-4517.7

	-4953.6	667.6	-2221.0	-3025.1	-24200.0	-4789.8
	-4561.4	-202.5	-2381.6	-2121.6	-26880.1	11255.9
	-4531.1	-185.0	-2323.4	-2479.2	-25929.8	10983.8
320.	-1623.8	508.6	1821.9	2333.6	-241412.8	78181.3
	-1593.5	526.2	1880.1	1976.0	-249778.5	80717.2
	-1201.3	-343.9	1719.4	2879.5	-226756.9	-42454.4
	-1171.0	-326.4	1777.7	2521.9	-235122.6	-39918.5
	-1981.1	324.6	1154.1	6074.6	-145529.9	51605.9
	-1950.7	342.2	1212.4	5717.0	-153895.6	54141.8
	-1558.5	-527.9	1051.7	6620.5	-130874.0	-69029.8
	-1528.2	-510.4	1110.0	6262.9	-139239.7	-66493.9
	-4266.7	834.0	-1611.5	-6408.5	243642.8	126062.3
	-4236.4	851.6	-1553.3	-6766.1	235277.1	128598.2
	-3844.2	-18.5	-1713.9	-5862.6	258298.8	5426.6
	-3813.8	-1.0	-1655.7	-6220.2	249933.1	7962.5
	-4623.9	650.0	-2279.2	-2667.5	339525.7	99486.9
	-4593.6	667.6	-2221.0	-3025.1	331160.0	102022.8
	-4201.4	-202.5	-2381.6	-2121.6	354181.6	-21148.8
	-4171.1	-185.0	-2323.4	-2479.2	345815.9	-18612.9

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7905.1	177.1	1867.1	57.9	306192.8	-33583.1
	-7898.1	178.0	1815.2	-202.8	297786.6	-33730.8
	-8443.3	-409.1	1952.4	480.4	320032.3	64868.8
	-8436.4	-408.2	1900.5	219.7	311626.1	64721.0
	-7984.3	167.9	2462.8	2791.4	402740.5	-32039.2
	-7977.4	168.8	2410.9	2530.7	394334.3	-32187.0
	-8522.5	-418.4	2548.1	3213.8	416580.0	66412.6
	-8515.6	-417.5	2496.2	2953.1	408173.8	66264.9
	-7306.3	196.6	-2747.8	-3055.1	-440520.2	-36848.0
	-7299.4	197.5	-2799.7	-3315.8	-448926.4	-36995.7
	-7844.6	-389.6	-2662.5	-2632.7	-426680.7	61603.8
	-7837.6	-388.7	-2714.4	-2893.4	-435086.9	61456.1
	-7385.6	187.4	-2152.1	-321.7	-343972.5	-35304.2
	-7378.7	188.3	-2203.9	-582.4	-352378.7	-35451.9
	-7923.8	-398.9	-2066.8	100.8	-330133.0	63147.7
	-7916.9	-398.0	-2118.6	-159.9	-338539.2	62999.9
160.	-7622.3	177.1	1867.1	57.9	7461.9	-5242.6
	-7615.4	178.0	1815.2	-202.8	7354.1	-5248.5
	-8160.5	-409.1	1952.4	480.4	7653.1	-588.4
	-8153.6	-408.2	1900.5	219.7	7545.3	-594.3
	-7701.6	167.9	2462.8	2791.4	8693.4	-5180.8
	-7694.6	168.8	2410.9	2530.7	8585.6	-5186.6
	-8239.8	-418.4	2548.1	3213.8	8884.6	-526.6
	-8232.9	-417.5	2496.2	2953.1	8776.8	-532.4
	-7023.6	196.6	-2747.8	-3055.1	-870.7	-5385.6
	-7016.7	197.5	-2799.7	-3315.8	-978.5	-5391.5
	-7561.8	-389.6	-2662.5	-2632.7	-679.5	-731.4
	-7554.9	-388.7	-2714.4	-2893.4	-787.3	-737.3
	-7102.8	187.4	-2152.1	-321.7	360.9	-5323.8
	-7095.9	188.3	-2203.9	-582.4	253.1	-5329.6
	-7641.1	-398.9	-2066.8	100.8	552.0	-669.6
	-7634.1	-398.0	-2118.6	-159.9	444.3	-675.4
320.	-7339.6	177.1	1867.1	57.9	-291269.1	23097.8
	-7332.6	178.0	1815.2	-202.8	-283078.5	23233.8
	-7877.8	-409.1	1952.4	480.4	-304726.2	-66045.6
	-7870.9	-408.2	1900.5	219.7	-296535.6	-65909.6
	-7418.8	167.9	2462.8	2791.4	-385353.7	21677.7
	-7411.9	168.8	2410.9	2530.7	-377163.1	21813.7
	-7957.1	-418.4	2548.1	3213.8	-398810.8	-67465.7
	-7950.1	-417.5	2496.2	2953.1	-390620.2	-67329.7
	-6740.9	196.6	-2747.8	-3055.1	438778.8	26076.7
	-6733.9	197.5	-2799.7	-3315.8	446969.5	26212.7
	-7279.1	-389.6	-2662.5	-2632.7	425321.7	-63066.7
	-7272.2	-388.7	-2714.4	-2893.4	433512.4	-62930.7
	-6820.1	187.4	-2152.1	-321.7	344694.2	24656.6
	-6813.2	188.3	-2203.9	-582.4	352884.9	24792.7
	-7358.3	-398.9	-2066.8	100.8	331237.1	-64486.8
	-7351.4	-398.0	-2118.6	-159.9	339427.8	-64350.8

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8882.3	331.7	3136.6	181.3	518561.5	-58300.0
	-8874.9	333.0	3072.2	-193.3	507995.5	-58533.3
	-8405.0	-565.7	3242.7	792.4	535945.2	98557.8
	-8397.6	-564.3	3178.3	417.7	525379.3	98324.6
	-8970.8	317.6	3892.9	4087.8	642519.2	-55861.0
	-8963.3	318.9	3828.5	3713.1	631953.2	-56094.3
	-8493.5	-579.8	3999.0	4698.9	659902.9	100996.8
	-8486.0	-578.4	3934.6	4324.2	649337.0	100763.6
	-7908.5	362.0	-4267.7	-4468.9	-690626.5	-63495.6
	-7901.0	363.4	-4332.2	-4843.5	-701192.5	-63728.9
	-7431.2	-535.3	-4161.6	-3857.8	-673242.8	93362.2
	-7423.7	-534.0	-4226.0	-4232.4	-683808.7	93128.9
	-7996.9	347.9	-3511.4	-562.4	-566668.8	-61056.6
	-7989.4	349.3	-3575.8	-937.1	-577234.8	-61289.9
	-7519.6	-549.4	-3405.3	48.7	-549285.1	95801.2
	-7512.2	-548.1	-3469.7	-326.0	-559851.0	95567.9
160.	-8522.3	331.7	3136.6	181.3	16700.6	-5234.3
	-8514.9	333.0	3072.2	-193.3	16448.4	-5252.1
	-8045.0	-565.7	3242.7	792.4	17107.7	8047.0
	-8037.6	-564.3	3178.3	417.7	16855.5	8029.2
	-8610.8	317.6	3892.9	4087.8	19648.4	-5049.7
	-8603.3	318.9	3828.5	3713.1	19396.2	-5067.5
	-8133.5	-579.8	3999.0	4698.9	20055.5	8231.6
	-8126.0	-578.4	3934.6	4324.2	19803.3	8213.7
	-7548.5	362.0	-4267.7	-4468.9	-7796.2	-5573.4
	-7541.0	363.4	-4332.2	-4843.5	-8048.4	-5591.2
	-7071.2	-535.3	-4161.6	-3857.8	-7389.1	7707.9
	-7063.7	-534.0	-4226.0	-4232.4	-7641.3	7690.1
	-7636.9	347.9	-3511.4	-562.4	-4848.4	-5388.8
	-7629.4	349.3	-3575.8	-937.1	-5100.6	-5406.6
	-7159.6	-549.4	-3405.3	48.7	-4441.3	7892.5
	-7152.2	-548.1	-3469.7	-326.0	-4693.5	7874.7
320.	-8162.3	331.7	3136.6	181.3	-485160.4	47831.4
	-8154.9	333.0	3072.2	-193.3	-475098.9	48029.0
	-7685.0	-565.7	3242.7	792.4	-501730.0	-82463.9
	-7677.6	-564.3	3178.3	417.7	-491668.4	-82266.3
	-8250.8	317.6	3892.9	4087.8	-603222.4	45761.5
	-8243.3	318.9	3828.5	3713.1	-593160.9	45959.2
	-7773.5	-579.8	3999.0	4698.9	-619792.0	-84533.7
	-7766.0	-578.4	3934.6	4324.2	-609730.4	-84336.1
	-7188.5	362.0	-4267.7	-4468.9	675034.2	52348.9
	-7181.0	363.4	-4332.2	-4843.5	685095.7	52546.5
	-6711.2	-535.3	-4161.6	-3857.8	658464.6	-77946.4
	-6703.7	-534.0	-4226.0	-4232.4	668526.2	-77748.7
	-7276.9	347.9	-3511.4	-562.4	556972.2	50279.0
	-7269.4	349.3	-3575.8	-937.1	567033.7	50476.7
	-6799.6	-549.4	-3405.3	48.7	540402.6	-80016.2
	-6792.2	-548.1	-3469.7	-326.0	550464.2	-79818.6

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8609.6	475.2	2707.0	2176.0	448049.1	-86743.7
	-8615.7	476.5	2758.2	1811.2	456435.5	-86961.2
	-9129.0	-440.6	2622.5	2753.0	434203.0	71509.6
	-9135.1	-439.3	2673.6	2388.1	442589.4	71292.1
	-8537.1	461.2	2103.3	5976.9	349090.0	-84335.7
	-8543.1	462.5	2154.4	5612.0	357476.4	-84553.1
	-9056.4	-454.6	2018.7	6553.9	335243.9	73917.7
	-9062.5	-453.3	2069.9	6189.0	343630.3	73700.2

	-7865.4	492.5	-2410.1	-6320.4	-385465.2	-89777.2
	-7871.5	493.7	-2359.0	-6685.3	-377078.8	-89994.7
	-8384.8	-423.3	-2494.7	-5743.4	-399311.3	68476.1
	-8390.9	-422.1	-2443.5	-6108.3	-390924.9	68258.6
	-7792.8	478.4	-3013.9	-2519.6	-484424.3	-87369.1
	-7798.9	479.7	-2962.7	-2884.4	-476037.9	-87586.6
	-8312.2	-437.4	-3098.4	-1942.6	-498270.4	70884.2
	-8318.3	-436.1	-3047.3	-2307.4	-489884.0	70666.7
160.	-8249.6	475.2	2707.0	2176.0	14929.0	-10705.3
	-8255.7	476.5	2758.2	1811.2	15130.4	-10719.9
	-8769.0	-440.6	2622.5	2753.0	14608.8	1019.2
	-8775.1	-439.3	2673.6	2388.1	14810.1	1004.6
	-8177.1	461.2	2103.3	5976.9	12566.5	-10544.1
	-8183.1	462.5	2154.4	5612.0	12767.9	-10558.8
	-8696.4	-454.6	2018.7	6553.9	12246.3	1180.4
	-8702.5	-453.3	2069.9	6189.0	12447.6	1165.7
	-7505.4	492.5	-2410.1	-6320.4	157.4	-10980.3
	-7511.5	493.7	-2359.0	-6685.3	358.8	-10994.9
	-8024.8	-423.3	-2494.7	-5743.4	-162.9	744.2
	-8030.9	-422.1	-2443.5	-6108.3	38.5	729.6
	-7432.8	478.4	-3013.9	-2519.6	-2205.1	-10819.1
	-7438.9	479.7	-2962.7	-2884.4	-2003.7	-10833.8
	-7952.2	-437.4	-3098.4	-1942.6	-2525.4	905.4
	-7958.3	-436.1	-3047.3	-2307.4	-2324.0	890.7
320.	-7889.6	475.2	2707.0	2176.0	-418191.4	65333.0
	-7895.7	476.5	2758.2	1811.2	-426175.1	65521.2
	-8409.0	-440.6	2622.5	2753.0	-404985.8	-69471.4
	-8415.1	-439.3	2673.6	2388.1	-412969.5	-69283.2
	-7817.1	461.2	2103.3	5976.9	-323957.3	63247.2
	-7823.1	462.5	2154.4	5612.0	-331941.0	63435.4
	-8336.4	-454.6	2018.7	6553.9	-310751.7	-71557.1
	-8342.5	-453.3	2069.9	6189.0	-318735.4	-71368.9
	-7145.4	492.5	-2410.1	-6320.4	385780.3	67816.8
	-7151.5	493.7	-2359.0	-6685.3	377796.6	68005.0
	-7664.8	-423.3	-2494.7	-5743.4	398985.9	-66987.5
	-7670.9	-422.1	-2443.5	-6108.3	391002.2	-66799.3
	-7072.8	478.4	-3013.9	-2519.6	480014.4	65731.1
	-7078.9	479.7	-2962.7	-2884.4	472030.7	65919.3
	-7592.2	-437.4	-3098.4	-1942.6	493220.0	-69073.3
	-7598.3	-436.1	-3047.3	-2307.4	485236.3	-68885.1

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9022.7	588.8	2428.3	2323.3	404989.6	-94687.7
	-9031.6	590.0	2499.4	1961.5	416674.1	-94898.4
	-8432.5	-253.3	2312.0	2888.9	385835.5	54696.9
	-8441.4	-252.1	2383.1	2527.0	397520.0	54486.2
	-8920.0	575.4	1612.3	6121.4	270837.5	-92348.9
	-8928.9	576.6	1683.4	5759.6	282522.0	-92559.6
	-8329.8	-266.7	1495.9	6687.0	251683.4	57035.8
	-8338.7	-265.5	1567.0	6325.2	263367.9	56825.0
	-8496.7	605.6	-1948.4	-6457.9	-312656.5	-97590.9
	-8505.7	606.8	-1877.3	-6819.7	-300972.0	-97801.6
	-7906.5	-236.5	-2064.8	-5892.3	-331810.6	51793.7
	-7915.5	-235.3	-1993.7	-6254.1	-320126.1	51583.0
	-8394.0	592.2	-2764.5	-2659.8	-446808.6	-95252.0
	-8403.0	593.5	-2693.4	-3021.6	-435124.1	-95462.7
	-7803.8	-249.9	-2880.8	-2094.2	-465962.7	54132.6
	-7812.8	-248.7	-2809.7	-2456.0	-454278.2	53921.9
160.	-8662.7	588.8	2428.3	2323.3	16455.2	-485.5
	-8671.6	590.0	2499.4	1961.5	16768.0	-503.2
	-8072.5	-253.3	2312.0	2888.9	15916.3	14161.6
	-8081.4	-252.1	2383.1	2527.0	16229.1	14144.0
	-8560.0	575.4	1612.3	6121.4	12871.3	-285.4
	-8568.9	576.6	1683.4	5759.6	13184.1	-303.1
	-7969.8	-266.7	1495.9	6687.0	12332.3	14361.7
	-7978.7	-265.5	1567.0	6325.2	12645.2	14344.0
	-8136.7	605.6	-1948.4	-6457.9	-911.6	-693.0
	-8145.7	606.8	-1877.3	-6819.7	-598.7	-710.7
	-7546.5	-236.5	-2064.8	-5892.3	-1450.5	13954.1
	-7555.5	-235.3	-1993.7	-6254.1	-1137.6	13936.5
	-8034.0	592.2	-2764.5	-2659.8	-4495.5	-492.9
	-8043.0	593.5	-2693.4	-3021.6	-4182.7	-510.6
	-7443.8	-249.9	-2880.8	-2094.2	-5034.4	14154.2
	-7452.8	-248.7	-2809.7	-2456.0	-4721.6	14136.5
320.	-8302.7	588.8	2428.3	2323.3	-372079.2	93716.7
	-8311.6	590.0	2499.4	1961.5	-383138.1	93892.0
	-7712.5	-253.3	2312.0	2888.9	-354003.0	-26373.7
	-7721.4	-252.1	2383.1	2527.0	-365061.8	-26198.3
	-8200.0	575.4	1612.3	6121.4	-245095.0	91777.9
	-8208.9	576.6	1683.4	5759.6	-256153.9	91953.3
	-7609.8	-266.7	1495.9	6687.0	-227018.8	-28312.4
	-7618.7	-265.5	1567.0	6325.2	-238077.6	-28137.0
	-7776.7	605.6	-1948.4	-6457.9	310833.5	96205.0
	-7785.7	606.8	-1877.3	-6819.7	299774.6	96380.4
	-7186.5	-236.5	-2064.8	-5892.3	328909.7	-23885.4
	-7195.5	-235.3	-1993.7	-6254.1	317850.9	-23710.0
	-7674.0	592.2	-2764.5	-2659.8	437817.7	94266.2
	-7683.0	593.5	-2693.4	-3021.6	426758.9	94441.6
	-7083.8	-249.9	-2880.8	-2094.2	455894.0	-25824.1
	-7092.8	-248.7	-2809.7	-2456.0	444835.1	-25648.7

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4346.8	240.4	1839.9	59.7	300323.6	-41935.9
	-4329.4	228.1	1796.7	-198.9	292850.6	-39870.8
	-4792.5	-310.2	1905.9	484.6	311703.9	51498.5
	-4775.1	-322.5	1862.8	226.0	304230.8	53563.6
	-4554.9	367.8	2334.8	2769.4	386075.1	-63425.4
	-4537.6	355.6	2291.7	2510.8	378602.1	-61360.3
	-5000.6	-182.8	2400.9	3194.3	397455.4	30009.0
	-4983.3	-195.0	2357.7	2935.7	389982.4	32074.1
	-2150.2	57.7	-1903.1	-3037.3	-352959.5	-10817.5
	-2132.8	45.5	-1946.2	-3295.9	-360432.6	-8752.4
	-2595.9	-492.9	-1837.0	-2612.4	-341579.3	82616.9
	-2578.5	-505.1	-1880.2	-2871.0	-349052.3	84682.0
	-2358.3	185.2	-1408.1	-327.6	-267208.0	-32307.0
	-2340.9	172.9	-1451.3	-586.2	-274681.0	-30241.9
	-2804.0	-365.4	-1342.1	97.3	-255827.7	61127.4
	-2786.6	-377.7	-1385.2	-161.3	-263300.8	63192.5
160.	-4064.1	240.4	1839.9	59.7	5944.6	-3477.7
	-4046.7	228.1	1796.7	-198.9	5376.0	-3372.6
	-4509.8	-310.2	1905.9	484.6	6755.3	1860.7
	-4492.4	-322.5	1862.8	226.0	6186.8	1965.9
	-4272.2	367.8	2334.8	2769.4	12502.7	-4573.8
	-4254.8	355.6	2291.7	2510.8	11934.1	-4468.7
	-4717.9	-182.8	2400.9	3194.3	13313.4	764.7
	-4700.5	-195.0	2357.7	2935.7	12744.9	869.8
	-1867.4	57.7	-1903.1	-3037.3	-48467.3	-1584.7
	-1850.1	45.5	-1946.2	-3295.9	-49035.9	-1479.5
	-2313.1	-492.9	-1837.0	-2612.4	-47656.5	3753.8
	-2295.8	-505.1	-1880.2	-2871.0	-48225.1	3858.9
	-2075.5	185.2	-1408.1	-327.6	-41909.2	-2680.8
	-2058.2	172.9	-1451.3	-586.2	-42477.8	-2575.6
	-2521.2	-365.4	-1342.1	97.3	-41098.4	2657.7
	-2503.9	-377.7	-1385.2	-161.3	-41667.0	2762.8
320.	-3781.3	240.4	1839.9	59.7	-288434.6	34980.9
	-3764.0	228.1	1796.7	-198.9	-282098.7	33126.0
	-4227.0	-310.2	1905.9	484.6	-298193.3	-47776.7
	-4209.7	-322.5	1862.8	226.0	-291857.4	-49631.6
	-3989.4	367.8	2334.8	2769.4	-361069.9	54278.2
	-3972.1	355.6	2291.7	2510.8	-354734.0	52423.3

	-4435.1	-182.8	2400.9	3194.3	-370828.6	-28479.3
	-4417.8	-195.0	2357.7	2935.7	-364492.7	-30334.2
	-1584.7	57.7	-1903.1	-3037.3	256025.0	7647.8
	-1567.3	45.5	-1946.2	-3295.9	262360.9	5793.0
	-2030.4	-492.9	-1837.0	-2612.4	246266.3	-75109.7
	-2013.0	-505.1	-1880.2	-2871.0	252602.2	-76964.6
	-1792.8	185.2	-1408.1	-327.6	183389.7	26945.2
	-1775.4	172.9	-1451.3	-586.2	189725.6	25090.3
	-2238.5	-365.4	-1342.1	97.3	173631.0	-55812.3
	-2221.1	-377.7	-1385.2	-161.3	179966.9	-57667.2

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11028.8	91.7	2682.9	-23.8	462635.8	-38830.6
	-10999.3	70.5	2633.6	-386.7	453682.5	-35284.6
	-10999.8	-867.6	2750.3	562.2	474979.2	123563.8
	-10970.3	-888.8	2701.0	199.2	466025.9	127109.8
	-11373.0	313.6	3261.0	3885.7	567643.4	-76014.7
	-11343.5	292.5	3211.7	3522.8	558690.1	-72468.7
	-11344.1	-645.7	3328.5	4471.6	579986.8	86379.7
	-11314.5	-666.8	3279.2	4108.7	571033.4	89925.8
	-7650.8	-256.7	-2729.3	-4257.3	-534271.0	19376.3
	-7621.3	-277.9	-2778.6	-4620.2	-543224.3	22922.4
	-7621.9	-1216.0	-2661.9	-3671.3	-521927.6	181770.8
	-7592.4	-1237.2	-2711.2	-4034.2	-530881.0	185316.8
	-7995.1	-34.8	-2151.1	-347.8	-429263.4	-17807.7
	-7965.6	-55.9	-2200.4	-710.7	-438216.8	-14261.7
	-7966.1	-994.1	-2083.7	238.1	-416920.1	144586.7
	-7936.6	-1015.2	-2133.0	-124.8	-425873.4	148132.7
160.	-10668.8	91.7	2682.9	-23.8	33379.3	-24163.6
	-10639.3	70.5	2633.6	-386.7	32314.3	-24004.2
	-10639.8	-867.6	2750.3	562.2	34933.8	-15257.1
	-10610.3	-888.8	2701.0	199.2	33868.8	-15097.7
	-11013.0	313.6	3261.0	3885.7	45879.5	-25831.6
	-10983.5	292.5	3211.7	3522.8	44814.5	-25672.3
	-10984.1	-645.7	3328.5	4471.6	47434.0	-16925.1
	-10954.5	-666.8	3279.2	4108.7	46369.0	-16765.8
	-7290.8	-256.7	-2729.3	-4257.3	-97581.4	-21702.8
	-7261.3	-277.9	-2778.6	-4620.2	-98646.4	-21543.4
	-7261.9	-1216.0	-2661.9	-3671.3	-96026.8	-12796.3
	-7232.4	-1237.2	-2711.2	-4034.2	-97091.9	-12636.9
	-7635.1	-34.8	-2151.1	-347.8	-85081.2	-23370.9
	-7605.6	-55.9	-2200.4	-710.7	-86146.2	-23211.5
	-7606.1	-994.1	-2083.7	238.1	-83526.7	-14464.4
	-7576.6	-1015.2	-2133.0	-124.8	-84591.7	-14305.0
320.	-10308.8	91.7	2682.9	-23.8	-395877.4	-9496.5
	-10279.3	70.5	2633.6	-386.7	-389054.1	-12723.8
	-10279.8	-867.6	2750.3	562.2	-405111.7	-154077.9
	-10250.3	-888.8	2701.0	199.2	-398288.4	-157305.2
	-10653.0	313.6	3261.0	3885.7	-475884.6	24351.4
	-10623.5	292.5	3211.7	3522.8	-469061.4	21124.2
	-10624.1	-645.7	3328.5	4471.6	-485118.9	-120230.0
	-10594.5	-666.8	3279.2	4108.7	-478295.7	-123457.3
	-6930.8	-256.7	-2729.3	-4257.3	339108.5	-62782.0
	-6901.3	-277.9	-2778.6	-4620.2	345931.7	-66009.3
	-6901.9	-1216.0	-2661.9	-3671.3	329874.2	-207363.4
	-6872.4	-1237.2	-2711.2	-4034.2	336697.5	-210590.7
	-7275.1	-34.8	-2151.1	-347.8	259101.2	-28934.1
	-7245.6	-55.9	-2200.4	-710.7	265924.5	-32161.3
	-7246.1	-994.1	-2083.7	238.1	249867.0	-173515.5
	-7216.6	-1015.2	-2133.0	-124.8	256690.2	-176742.8

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10995.8	655.5	1257.1	-121.4	309800.1	-102420.8
	-10996.6	634.9	1238.1	-458.8	305264.9	-98936.4
	-11035.3	-339.9	1285.4	429.9	316642.6	65678.4
	-11036.1	-360.5	1266.4	92.4	312107.3	69162.8
	-10987.1	874.7	1484.5	3822.1	363959.4	-139455.1
	-10987.9	854.0	1465.5	3484.7	359424.1	-135970.7
	-11026.6	-120.7	1512.7	4373.4	370801.8	28644.1
	-11027.4	-141.3	1493.7	4035.9	366266.5	32128.5
	-10973.6	285.8	-1487.4	-4197.3	-395151.8	-40304.2
	-10974.4	265.2	-1506.4	-4534.7	-399687.1	-36819.9
	-11013.1	-709.6	-1459.2	-3646.1	-388309.3	127795.0
	-11013.9	-730.2	-1478.2	-3983.5	-392844.6	131279.3
	-10964.9	504.9	-1260.1	-253.8	-340992.6	-77338.5
	-10965.6	484.3	-1279.1	-591.2	-345527.9	-73854.2
	-11004.3	-490.4	-1231.8	297.4	-334150.1	90760.7
	-11005.1	-511.0	-1250.8	-40.0	-338685.4	94245.0
160.	-10635.8	655.5	1257.1	-121.4	108659.5	2458.7
	-10636.6	634.9	1238.1	-458.8	107165.4	2644.3
	-10675.3	-339.9	1285.4	429.9	110983.1	11301.4
	-10676.1	-360.5	1266.4	92.4	109489.0	11486.9
	-10627.1	874.7	1484.5	3822.1	126439.5	491.2
	-10627.9	854.0	1465.5	3484.7	124945.4	676.7
	-10666.6	-120.7	1512.7	4373.4	128763.1	9333.8
	-10667.4	-141.3	1493.7	4035.9	127269.0	9519.4
	-10613.6	285.8	-1487.4	-4197.3	-157161.8	5419.3
	-10614.4	265.2	-1506.4	-4534.7	-158655.9	5604.9
	-10653.1	-709.6	-1459.2	-3646.1	-154838.2	14262.0
	-10653.9	-730.2	-1478.2	-3983.5	-156332.4	14447.5
	-10604.9	504.9	-1260.1	-253.8	-139381.8	3451.8
	-10605.6	484.3	-1279.1	-591.2	-140875.9	3637.4
	-10644.3	-490.4	-1231.8	297.4	-137058.2	12294.5
	-10645.1	-511.0	-1250.8	-40.0	-138552.4	12480.0
320.	-10275.8	655.5	1257.1	-121.4	-92482.4	107338.4
	-10276.6	634.9	1238.1	-458.8	-90935.3	104225.2
	-10315.3	-339.9	1285.4	429.9	-94677.7	-43075.5
	-10316.1	-360.5	1266.4	92.4	-93130.7	-46188.8
	-10267.1	874.7	1484.5	3822.1	-111081.6	140437.7
	-10267.9	854.0	1465.5	3484.7	-109534.5	137324.4
	-10306.6	-120.7	1512.7	4373.4	-113277.0	-9976.3
	-10307.4	-141.3	1493.7	4035.9	-111729.9	-13089.5
	-10253.6	285.8	-1487.4	-4197.3	80829.5	51142.7
	-10254.4	265.2	-1506.4	-4534.7	82376.6	48029.5
	-10293.1	-709.6	-1459.2	-3646.1	78634.1	-99271.2
	-10293.9	-730.2	-1478.2	-3983.5	80181.2	-102384.5
	-10244.9	504.9	-1260.1	-253.8	62230.3	84242.0
	-10245.6	484.3	-1279.1	-591.2	63777.3	81128.7
	-10284.3	-490.4	-1231.8	297.4	60034.9	-66172.0
	-10285.1	-511.0	-1250.8	-40.0	61582.0	-69285.2

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10113.6	543.2	943.6	492.1	276006.8	-92479.3
	-10113.0	523.1	935.3	155.8	273702.1	-89085.9
	-10098.1	-461.8	956.5	1041.2	279628.4	76893.7
	-10097.5	-482.0	948.2	704.9	277323.7	80287.1
	-10118.8	759.6	1044.4	4516.6	303804.9	-128926.7
	-10118.3	739.4	1036.1	4180.3	301500.2	-125533.3
	-10103.4	-245.5	1057.4	5065.7	307426.5	40446.3
	-10102.8	-265.6	1049.0	4729.4	305121.8	43839.7
	-10114.4	193.7	-1165.7	-4880.4	-349819.9	-33625.6
	-10113.8	173.6	-1174.0	-5216.7	-352124.6	-30232.3
	-10098.9	-811.3	-1152.7	-4331.3	-346198.3	135747.3
	-10098.4	-831.5	-1161.0	-4667.6	-348503.0	139140.7
	-10119.7	410.0	-1064.9	-855.9	-322021.8	-70073.0
	-10119.1	389.9	-1073.2	-1192.2	-324326.5	-66679.7
	-10104.2	-595.0	-1051.9	-306.8	-318400.2	99299.9
	-10103.6	-615.1	-1060.2	-643.1	-320704.9	102693.3
160.	-9753.6	543.2	943.6	492.1	125034.3	-5563.0

	-9753.0	523.1	935.3	155.8	124057.9	-5392.7
	-9738.1	-461.8	956.5	1041.2	126580.5	3004.7
	-9737.5	-482.0	948.2	704.9	125604.1	3175.0
	-9758.8	759.6	1044.4	4516.6	136704.3	-7394.9
	-9758.3	739.4	1036.1	4180.3	135727.9	-7224.6
	-9743.4	-245.5	1057.4	5065.7	138250.4	1172.8
	-9742.8	-265.6	1049.0	4729.4	137274.0	1343.1
	-9754.4	193.7	-1165.7	-4880.4	-163311.4	-2634.2
	-9753.8	173.6	-1174.0	-5216.7	-164287.8	-2463.9
	-9738.9	-811.3	-1152.7	-4331.3	-161765.3	5933.5
	-9738.4	-831.5	-1161.0	-4667.6	-162741.7	6103.8
	-9759.7	410.0	-1064.9	-855.9	-151641.5	-4466.1
	-9759.1	389.9	-1073.2	-1192.2	-152617.9	-4295.8
	-9744.2	-595.0	-1051.9	-306.8	-150095.3	4101.6
	-9743.6	-615.1	-1060.2	-643.1	-151071.7	4271.9
320.	-9393.6	543.2	943.6	492.1	-25938.9	81353.2
	-9393.0	523.1	935.3	155.8	-25587.0	78300.4
	-9378.1	-461.8	956.5	1041.2	-26468.2	-70884.3
	-9377.5	-482.0	948.2	704.9	-26116.2	-73937.1
	-9398.8	759.6	1044.4	4516.6	-30397.1	114136.8
	-9398.3	739.4	1036.1	4180.3	-30045.2	111084.1
	-9383.4	-245.5	1057.4	5065.7	-30926.4	-38100.7
	-9382.8	-265.6	1049.0	4729.4	-30574.4	-41153.4
	-9394.4	193.7	-1165.7	-4880.4	23197.7	28357.2
	-9393.8	173.6	-1174.0	-5216.7	23549.7	25304.4
	-9378.9	-811.3	-1152.7	-4331.3	22668.5	-123880.3
	-9378.4	-831.5	-1161.0	-4667.6	23020.4	-126933.1
	-9399.7	410.0	-1064.9	-855.9	18739.5	61140.8
	-9399.1	389.9	-1073.2	-1192.2	19091.5	58088.1
	-9384.2	-595.0	-1051.9	-306.8	18210.3	-91096.7
	-9383.6	-615.1	-1060.2	-643.1	18562.2	-94149.4

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12288.0	288.7	874.0	1161.8	265986.8	-67575.9
	-12286.0	269.3	872.7	831.2	265568.1	-64268.1
	-12184.0	-696.5	875.8	1698.0	266584.4	99986.3
	-12181.9	-715.9	874.5	1367.4	266165.7	103294.1
	-12310.3	498.5	889.2	5186.1	270831.2	-103254.5
	-12308.2	479.1	887.9	4855.5	270412.4	-99946.7
	-12206.2	-486.7	891.1	5722.4	271428.8	64307.7
	-12204.2	-506.1	889.8	5391.7	271010.0	67615.5
	-12255.7	-63.6	-1027.1	-5532.0	-318263.5	-7590.1
	-12253.6	-83.1	-1028.4	-5862.6	-318682.2	-4282.4
	-12151.6	-1048.8	-1025.2	-4995.7	-317665.9	159972.1
	-12149.5	-1068.2	-1026.5	-5326.4	-318084.6	163279.9
	-12277.9	146.2	-1011.9	-1507.6	-313419.1	-43268.7
	-12275.8	126.8	-1013.2	-1838.3	-313837.8	-39961.0
	-12173.8	-839.0	-1010.0	-971.4	-312821.5	124293.5
	-12171.8	-858.4	-1011.3	-1302.0	-313240.3	127601.3
160.	-11928.0	288.7	874.0	1161.8	126150.9	-21382.7
	-11926.0	269.3	872.7	831.2	125943.4	-21187.5
	-11824.0	-696.5	875.8	1698.0	126450.0	-11449.2
	-11821.9	-715.9	874.5	1367.4	126242.5	-11254.1
	-11950.3	498.5	889.2	5186.1	128557.9	-23491.3
	-11948.2	479.1	887.9	4855.5	128350.3	-23296.1
	-11846.2	-486.7	891.1	5722.4	128857.0	-13557.8
	-11844.2	-506.1	889.8	5391.7	128649.4	-13362.7
	-11895.7	-63.6	-1027.1	-5532.0	-153928.5	-17766.3
	-11893.6	-83.1	-1028.4	-5862.6	-154136.0	-17571.1
	-11791.6	-1048.8	-1025.2	-4995.7	-153629.4	-7832.9
	-11789.5	-1068.2	-1026.5	-5326.4	-153836.9	-7637.7
	-11917.9	146.2	-1011.9	-1507.6	-151521.5	-19874.9
	-11915.8	126.8	-1013.2	-1838.3	-151729.1	-19679.7
	-11813.8	-839.0	-1010.0	-971.4	-151222.4	-9941.5
	-11811.8	-858.4	-1011.3	-1302.0	-151430.0	-9746.3
320.	-11568.0	288.7	874.0	1161.8	-13685.1	24810.6
	-11566.0	269.3	872.7	831.2	-13681.4	21893.2
	-11464.0	-696.5	875.8	1698.0	-13684.4	-122884.8
	-11461.9	-715.9	874.5	1367.4	-13680.7	-125802.2
	-11590.3	498.5	889.2	5186.1	-13715.5	56272.0
	-11588.2	479.1	887.9	4855.5	-13711.9	53354.6
	-11486.2	-486.7	891.1	5722.4	-13714.9	-91423.4
	-11484.2	-506.1	889.8	5391.7	-13711.2	-94340.8
	-11535.7	-63.6	-1027.1	-5532.0	10406.5	-27942.5
	-11533.6	-83.1	-1028.4	-5862.6	10410.2	-30859.9
	-11431.6	-1048.8	-1025.2	-4995.7	10407.2	-175637.9
	-11429.5	-1068.2	-1026.5	-5326.4	10410.8	-178555.3
	-11557.9	146.2	-1011.9	-1507.6	10376.0	3518.9
	-11555.8	126.8	-1013.2	-1838.3	10379.7	601.5
	-11453.8	-839.0	-1010.0	-971.4	10376.7	-144176.5
	-11451.8	-858.4	-1011.3	-1302.0	10380.4	-147093.9

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11404.7	961.5	911.9	1999.2	262752.1	-137957.9
	-11408.6	941.5	918.8	1667.4	264578.3	-134581.0
	-11588.5	-34.2	900.6	2533.5	259708.7	30581.1
	-11592.4	-54.2	907.4	2201.6	261534.9	33958.0
	-11363.9	1175.1	826.7	5950.3	240298.4	-174116.6
	-11367.8	1155.2	833.6	5618.5	242124.7	-170739.7
	-11547.7	179.4	815.4	6484.6	237255.0	-5577.5
	-11551.6	159.5	822.3	6152.7	239081.3	-2200.7
	-11473.0	602.2	-919.2	-6274.3	-280334.7	-77227.3
	-11476.9	582.3	-912.3	-6606.2	-278508.5	-73850.4
	-11656.8	-393.5	-930.5	-5740.1	-283378.1	91311.7
	-11660.7	-413.4	-923.6	-6071.9	-281551.9	94688.6
	-11432.2	815.9	-1004.4	-2323.2	-302788.4	-113386.0
	-11436.1	796.0	-997.5	-2655.1	-300962.2	-110009.1
	-11616.0	-179.8	-1015.7	-1789.0	-305831.8	55153.0
	-11619.9	-199.7	-1008.8	-2120.8	-304005.6	58529.9
160.	-11044.7	961.5	911.9	1999.2	116848.4	15875.6
	-11048.6	941.5	918.8	1667.4	117573.8	16059.3
	-11228.5	-34.2	900.6	2533.5	115618.1	25101.9
	-11232.4	-54.2	907.4	2201.6	116343.5	25285.5
	-11003.9	1175.1	826.7	5950.3	108022.7	13907.0
	-11007.8	1155.2	833.6	5618.5	108748.1	14090.7
	-11187.7	179.4	815.4	6484.6	106792.3	23133.3
	-11191.6	159.5	822.3	6152.7	107517.7	23316.9
	-11113.0	602.2	-919.2	-6274.3	-133265.5	19130.5
	-11116.9	582.3	-912.3	-6606.2	-132540.1	19314.1
	-11296.8	-393.5	-930.5	-5740.1	-134495.8	28356.7
	-11300.7	-413.4	-923.6	-6071.9	-133770.4	28540.4
	-11072.2	815.9	-1004.4	-2323.2	-142091.2	17161.9
	-11076.1	796.0	-997.5	-2655.1	-141365.8	17345.5
	-11256.0	-179.8	-1015.7	-1789.0	-143321.6	26388.1
	-11259.9	-199.7	-1008.8	-2120.8	-142596.1	26571.8
320.	-10684.7	961.5	911.9	1999.2	-29056.7	169709.1
	-10688.6	941.5	918.8	1667.4	-29432.1	166699.6
	-10868.5	-34.2	900.6	2533.5	-28473.9	19622.6
	-10872.4	-54.2	907.4	2201.6	-28849.3	16613.0
	-10643.9	1175.1	826.7	5950.3	-24254.5	201930.7
	-10647.8	1155.2	833.6	5618.5	-24629.9	198921.1
	-10827.7	179.4	815.4	6484.6	-23671.8	51844.1
	-10831.6	159.5	822.3	6152.7	-24047.2	48834.5
	-10753.0	602.2	-919.2	-6274.3	13805.2	115488.2
	-10756.9	582.3	-912.3	-6606.2	13429.8	112478.7
	-10936.8	-393.5	-930.5	-5740.1	14387.9	-34598.3
	-10940.7	-413.4	-923.6	-6071.9	14012.5	-37607.9
	-10712.2	815.9	-1004.4	-2323.2	18607.3	147709.8
	-10716.1	796.0	-997.5	-2655.1	18231.9	144700.2
	-10896.0	-179.8	-1015.7	-1789.0	19190.1	-2376.8

	-10899.9	-199.7	-1008.8	-2120.8	18814.7	-5386.4

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8688.0	572.8	1185.5	2551.2	284321.5	-99104.6
	-8688.5	551.8	1201.8	2220.3	288112.5	-95601.0
	-8708.7	-440.5	1161.9	3076.3	278690.0	70353.9
	-8709.2	-461.4	1178.2	2745.4	282481.1	73857.4
	-8683.5	794.5	989.0	6398.9	238755.1	-136206.5
	-8684.0	773.6	1005.3	6068.0	242546.2	-132702.9
	-8704.2	-218.7	965.4	6924.0	233123.7	33252.0
	-8704.7	-239.7	981.7	6593.1	236914.8	36755.5
	-8645.6	224.3	-929.1	-6705.9	-258922.4	-40375.7
	-8646.1	203.3	-912.8	-7036.8	-255131.3	-36872.1
	-8666.4	-789.0	-952.7	-6180.8	-264553.8	129082.7
	-8666.8	-809.9	-936.4	-6511.7	-260762.7	132586.3
	-8641.1	446.1	-1125.6	-2858.2	-304488.7	-77477.6
	-8641.6	425.1	-1109.3	-3189.1	-300697.6	-73974.0
	-8661.9	-567.2	-1149.2	-2333.1	-310120.2	91980.8
	-8662.4	-588.1	-1132.9	-2664.0	-306329.1	95484.4
160.	-8328.0	572.8	1185.5	2551.2	94648.1	-7463.1
	-8328.5	551.8	1201.8	2220.3	95826.3	-7310.0
	-8348.7	-440.5	1161.9	3076.3	92792.3	-127.2
	-8349.2	-461.4	1178.2	2745.4	93970.5	26.0
	-8323.5	794.5	989.0	6398.9	80520.5	-9079.0
	-8324.0	773.6	1005.3	6068.0	81698.8	-8925.8
	-8344.2	-218.7	965.4	6924.0	78664.7	-1743.0
	-8344.7	-239.7	981.7	6593.1	79843.0	-1589.9
	-8285.6	224.3	-929.1	-6705.9	-110266.2	-4491.0
	-8286.1	203.3	-912.8	-7036.8	-109087.9	-4337.8
	-8306.4	-789.0	-952.7	-6180.8	-112122.0	2845.0
	-8306.8	-809.9	-936.4	-6511.7	-110943.7	2998.1
	-8281.1	446.1	-1125.6	-2858.2	-124393.7	-6106.9
	-8281.6	425.1	-1109.3	-3189.1	-123215.5	-5953.7
	-8301.9	-567.2	-1149.2	-2333.1	-126249.5	1229.1
	-8302.4	-588.1	-1132.9	-2664.0	-125071.3	1382.3
320.	-7968.0	572.8	1185.5	2551.2	-95027.6	84178.6
	-7968.5	551.8	1201.8	2220.3	-96462.1	80981.4
	-7988.7	-440.5	1161.9	3076.3	-93107.7	-70607.9
	-7989.2	-461.4	1178.2	2745.4	-94542.2	-73805.1
	-7963.5	794.5	989.0	6398.9	-77716.3	118048.8
	-7964.0	773.6	1005.3	6068.0	-79150.8	114851.6
	-7984.2	-218.7	965.4	6924.0	-75796.5	-36737.7
	-7984.7	-239.7	981.7	6593.1	-77231.0	-39934.9
	-7925.6	224.3	-929.1	-6705.9	38392.2	31393.4
	-7926.1	203.3	-912.8	-7036.8	36957.7	28196.2
	-7946.4	-789.0	-952.7	-6180.8	40312.1	-123393.1
	-7946.8	-809.9	-936.4	-6511.7	38877.6	-126590.3
	-7921.1	446.1	-1125.6	-2858.2	55703.5	65263.6
	-7921.6	425.1	-1109.3	-3189.1	54269.0	62066.3
	-7941.9	-567.2	-1149.2	-2333.1	57623.3	-89522.9
	-7942.4	-588.1	-1132.9	-2664.0	56188.8	-92720.2

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9778.7	799.1	2297.7	2449.0	396352.7	-124484.5
	-9801.8	777.7	2336.0	2097.6	403364.0	-120927.6
	-9736.4	-184.9	2249.6	2998.5	387372.2	40065.5
	-9759.5	-206.3	2287.8	2647.1	394383.5	43622.4
	-9506.5	1023.6	1846.8	6251.9	313652.4	-161716.2
	-9529.6	1002.1	1885.0	5900.6	320663.7	-158159.2
	-9464.2	39.6	1798.6	6801.5	304671.9	2833.8
	-9487.4	18.1	1836.8	6450.1	311683.2	6390.8
	-7327.3	419.6	-1258.0	-6570.6	-270769.8	-61130.4
	-7350.5	398.2	-1219.8	-6922.0	-263758.5	-57573.4
	-7285.1	-564.3	-1306.1	-6021.1	-279750.3	103419.6
	-7308.2	-585.8	-1267.9	-6372.5	-272739.0	106976.6
	-7055.2	644.1	-1709.0	-2767.6	-353470.1	-98362.0
	-7078.3	622.7	-1670.7	-3119.0	-346458.8	-94805.1
	-7012.9	-339.9	-1757.1	-2218.1	-362450.6	66188.0
	-7036.0	-361.3	-1718.9	-2569.5	-355439.3	69744.9
160.	-9418.7	799.1	2297.7	2449.0	28717.5	3370.8
	-9441.8	777.7	2336.0	2097.6	29611.3	3497.2
	-9376.4	-184.9	2249.6	2998.5	27440.9	10485.4
	-9399.5	-206.3	2287.8	2647.1	28334.7	10611.7
	-9146.5	1023.6	1846.8	6251.9	18172.3	2052.0
	-9169.6	1002.1	1885.0	5900.6	19066.2	2178.4
	-9104.2	39.6	1798.6	6801.5	16895.7	9166.6
	-9127.4	18.1	1836.8	6450.1	17789.6	9293.0
	-6967.3	419.6	-1258.0	-6570.6	-69492.3	6013.1
	-6990.5	398.2	-1219.8	-6922.0	-68598.4	6139.5
	-6925.1	-564.3	-1306.1	-6021.1	-70768.8	13127.7
	-6948.2	-585.8	-1267.9	-6372.5	-69875.0	13254.1
	-6695.2	644.1	-1709.0	-2767.6	-80037.4	4694.3
	-6718.3	622.7	-1670.7	-3119.0	-79143.6	4820.7
	-6652.9	-339.9	-1757.1	-2218.1	-81314.0	11808.9
	-6676.0	-361.3	-1718.9	-2569.5	-80420.1	11935.3
320.	-9058.7	799.1	2297.7	2449.0	-338918.2	131226.3
	-9081.8	777.7	2336.0	2097.6	-344141.8	127922.2
	-9016.4	-184.9	2249.6	2998.5	-332490.9	-19094.5
	-9039.5	-206.3	2287.8	2647.1	-337714.5	-22398.7
	-8786.5	1023.6	1846.8	6251.9	-277308.2	165820.5
	-8809.6	1002.1	1885.0	5900.6	-282531.8	162516.3
	-8744.2	39.6	1798.6	6801.5	-270880.9	15499.7
	-8767.4	18.1	1836.8	6450.1	-276104.5	12195.5
	-6607.3	419.6	-1258.0	-6570.6	131785.8	73156.3
	-6630.5	398.2	-1219.8	-6922.0	126562.1	69852.1
	-6565.1	-564.3	-1306.1	-6021.1	138213.1	-77164.5
	-6588.2	-585.8	-1267.9	-6372.5	132989.4	-80468.7
	-6335.2	644.1	-1709.0	-2767.6	193395.8	107750.4
	-6358.3	622.7	-1670.7	-3119.0	188172.1	104446.3
	-6292.9	-339.9	-1757.1	-2218.1	199823.1	-42570.4
	-6316.0	-361.3	-1718.9	-2569.5	194599.4	-45874.6

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5586.9	607.3	2352.4	2297.0	391585.6	-101138.7
	-5608.8	589.2	2409.0	1939.5	401719.4	-97936.1
	-5091.0	-178.1	2269.0	2871.2	376757.8	40212.5
	-5113.0	-196.2	2325.6	2513.6	386891.6	43415.2
	-5325.6	795.6	1703.8	6040.9	275332.1	-134409.1
	-5347.5	777.5	1760.4	5683.4	285466.0	-131206.4
	-4829.7	10.3	1620.4	6615.0	260504.4	6942.1
	-4851.7	-7.9	1677.0	6257.5	270638.2	10144.8
	-3475.5	266.8	-981.9	-6379.8	-214598.3	-41807.5
	-3497.4	248.7	-925.3	-6737.3	-204464.5	-38604.8
	-2979.6	-518.5	-1065.2	-5805.7	-229426.0	99543.7
	-3001.5	-536.6	-1008.7	-6163.2	-219292.2	102746.4
	-3214.2	455.2	-1630.5	-2636.0	-330851.7	-75077.8
	-3236.1	437.0	-1573.9	-2993.5	-320717.9	-71875.2
	-2718.3	-330.2	-1713.8	-2061.8	-345679.5	66273.4
	-2740.2	-348.3	-1657.3	-2419.4	-335545.7	69476.1
160.	-5226.9	607.3	2352.4	2297.0	15202.1	-3972.5
	-5248.8	589.2	2409.0	1939.5	16285.6	-3670.7
	-4731.0	-178.1	2269.0	2871.2	13713.6	11723.0
	-4753.0	-196.2	2325.6	2513.6	14797.1	12024.7
	-4965.6	795.6	1703.8	6040.9	2722.0	-7110.4
	-4987.5	777.5	1760.4	5683.4	3805.5	-6808.6
	-4469.7	10.3	1620.4	6615.0	1233.4	8585.0
	-4491.7	-7.9	1677.0	6257.5	2316.9	8886.8
	-3115.5	266.8	-981.9	-6379.8	-57498.7	887.4
	-3137.4	248.7	-925.3	-6737.3	-56415.2	1189.2

	-2619.6	-518.5	-1065.2	-5805.7	-58987.2	16582.8
	-2641.5	-536.6	-1008.7	-6163.2	-57903.7	16884.6
	-2854.2	455.2	-1630.5	-2636.0	-69978.8	-2250.6
	-2876.1	437.0	-1573.9	-2993.5	-68895.3	-1948.8
	-2358.3	-330.2	-1713.8	-2061.8	-71467.4	13444.9
	-2380.2	-348.3	-1657.3	-2419.4	-70383.9	13746.7
320.	-4866.9	607.3	2352.4	2297.0	-361181.8	93194.3
	-4888.8	589.2	2409.0	1939.5	-369148.6	90595.1
	-4371.0	-178.1	2269.0	2871.2	-349331.2	-16766.1
	-4393.0	-196.2	2325.6	2513.6	-357298.0	-19365.2
	-4605.6	795.6	1703.8	6040.9	-269888.6	120188.7
	-4627.5	777.5	1760.4	5683.4	-277855.4	117589.6
	-4109.7	10.3	1620.4	6615.0	-258038.0	10228.4
	-4131.7	-7.9	1677.0	6257.5	-266004.8	7629.3
	-2755.5	266.8	-981.9	-6379.8	99601.4	43581.8
	-2777.4	248.7	-925.3	-6737.3	91634.6	40982.7
	-2259.6	-518.5	-1065.2	-5805.7	111452.0	-66378.6
	-2281.5	-536.6	-1008.7	-6163.2	103485.2	-68977.7
	-2494.2	455.2	-1630.5	-2636.0	190894.6	70576.2
	-2516.1	437.0	-1573.9	-2993.5	182927.8	67977.1
	-1998.3	-330.2	-1713.8	-2061.8	202745.2	-39384.1
	-2020.2	-348.3	-1657.3	-2419.4	194778.4	-41983.2

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	68.3	0.0	19.3	0.0	0.0	0.0
	69.6	0.0	18.3	0.0	0.0	0.0
	73.0	0.0	20.6	0.0	0.0	0.0
	74.3	0.0	19.7	0.0	0.0	0.0
	65.8	0.0	13.3	0.0	0.0	0.0
	67.1	0.0	12.4	0.0	0.0	0.0
	70.5	0.0	14.7	0.0	0.0	0.0
	71.8	0.0	13.8	0.0	0.0	0.0
	-39.3	0.0	-15.0	0.0	0.0	0.0
	-38.0	0.0	-15.9	0.0	0.0	0.0
	-34.6	0.0	-13.6	0.0	0.0	0.0
	-33.3	0.0	-14.6	0.0	0.0	0.0
	-41.8	0.0	-20.9	0.0	0.0	0.0
	-40.5	0.0	-21.9	0.0	0.0	0.0
	-37.1	0.0	-19.6	0.0	0.0	0.0
	-35.8	0.0	-20.5	0.0	0.0	0.0
88.	68.3	-393.7	19.3	0.0	-1686.2	-17226.6
	69.6	-393.7	18.3	0.0	-1604.1	-17226.6
	73.0	-393.7	20.6	0.0	-1806.3	-17226.6
	74.3	-393.7	19.7	0.0	-1724.3	-17226.6
	65.8	-393.7	13.3	0.0	-1166.8	-17226.6
	67.1	-393.7	12.4	0.0	-1084.7	-17226.6
	70.5	-393.7	14.7	0.0	-1286.9	-17226.6
	71.8	-393.7	13.8	0.0	-1204.8	-17226.6
	-39.3	-393.8	-15.0	0.0	1312.7	-17226.6
	-38.0	-393.8	-15.9	0.0	1394.8	-17226.6
	-34.6	-393.8	-13.6	0.0	1192.6	-17226.6
	-33.3	-393.8	-14.6	0.0	1274.7	-17226.6
	-41.8	-393.8	-20.9	0.0	1832.2	-17226.6
	-40.5	-393.8	-21.9	0.0	1914.2	-17226.6
	-37.1	-393.8	-19.6	0.0	1712.0	-17226.6
	-35.8	-393.8	-20.5	0.0	1794.1	-17226.6
175.	68.3	-787.5	19.3	0.0	-3372.4	-68906.2
	69.6	-787.5	18.3	0.0	-3208.2	-68906.2
	73.0	-787.5	20.6	0.0	-3612.7	-68906.2
	74.3	-787.5	19.7	0.0	-3448.5	-68906.2
	65.8	-787.5	13.3	0.0	-2333.5	-68906.2
	67.1	-787.5	12.4	0.0	-2169.3	-68906.2
	70.5	-787.5	14.7	0.0	-2573.8	-68906.2
	71.8	-787.5	13.8	0.0	-2409.7	-68906.2
	-39.3	-787.5	-15.0	0.0	2625.5	-68906.3
	-38.0	-787.5	-15.9	0.0	2789.6	-68906.3
	-34.6	-787.5	-13.6	0.0	2385.1	-68906.3
	-33.3	-787.5	-14.6	0.0	2549.3	-68906.3
	-41.8	-787.5	-20.9	0.0	3664.3	-68906.3
	-40.5	-787.5	-21.9	0.0	3828.5	-68906.3
	-37.1	-787.5	-19.6	0.0	3424.0	-68906.3
	-35.8	-787.5	-20.5	0.0	3588.2	-68906.3

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	55.7	0.0	-32.3	0.0	0.0	0.0
	55.9	0.0	-33.8	0.0	0.0	0.0
	39.2	0.0	-32.6	0.0	0.0	0.0
	39.4	0.0	-34.1	0.0	0.0	0.0
	55.6	0.0	-41.1	0.0	0.0	0.0
	55.8	0.0	-42.6	0.0	0.0	0.0
	39.2	0.0	-41.5	0.0	0.0	0.0
	39.4	0.0	-42.9	0.0	0.0	0.0
	-16.8	0.0	43.4	0.0	0.0	0.0
	-16.6	0.0	42.0	0.0	0.0	0.0
	-33.3	0.0	43.1	0.0	0.0	0.0
	-33.1	0.0	41.7	0.0	0.0	0.0
	-16.9	0.0	34.6	0.0	0.0	0.0
	-16.7	0.0	33.2	0.0	0.0	0.0
	-33.4	0.0	34.3	0.0	0.0	0.0
	-33.2	0.0	32.9	0.0	0.0	0.0
88.	55.7	-393.7	-32.3	0.0	2828.9	-17226.6
	55.9	-393.7	-33.8	0.0	2955.0	-17226.6
	39.2	-393.7	-32.6	0.0	2856.5	-17226.6
	39.4	-393.7	-34.1	0.0	2982.6	-17226.6
	55.6	-393.7	-41.1	0.0	3599.9	-17226.6
	55.8	-393.7	-42.6	0.0	3726.0	-17226.6
	39.2	-393.7	-41.5	0.0	3627.5	-17226.6
	39.4	-393.7	-42.9	0.0	3753.6	-17226.6
	-16.8	-393.8	43.4	0.0	-3801.1	-17226.6
	-16.6	-393.8	42.0	0.0	-3675.0	-17226.6
	-33.3	-393.8	43.1	0.0	-3773.4	-17226.6
	-33.1	-393.8	41.7	0.0	-3647.3	-17226.6
	-16.9	-393.8	34.6	0.0	-3030.1	-17226.6
	-16.7	-393.8	33.2	0.0	-2904.0	-17226.6
	-33.4	-393.8	34.3	0.0	-3002.5	-17226.6
	-33.2	-393.8	32.9	0.0	-2876.4	-17226.6
175.	55.7	-787.5	-32.3	0.0	5657.8	-68906.3
	55.9	-787.5	-33.8	0.0	5910.0	-68906.3
	39.2	-787.5	-32.6	0.0	5713.1	-68906.3
	39.4	-787.5	-34.1	0.0	5965.3	-68906.3
	55.6	-787.5	-41.1	0.0	7199.8	-68906.3
	55.8	-787.5	-42.6	0.0	7452.0	-68906.3
	39.2	-787.5	-41.5	0.0	7255.0	-68906.3
	39.4	-787.5	-42.9	0.0	7507.2	-68906.3
	-16.8	-787.5	43.4	0.0	-7602.1	-68906.3
	-16.6	-787.5	42.0	0.0	-7349.9	-68906.3
	-33.3	-787.5	43.1	0.0	-7546.9	-68906.3
	-33.1	-787.5	41.7	0.0	-7294.7	-68906.3
	-16.9	-787.5	34.6	0.0	-6060.2	-68906.3
	-16.7	-787.5	33.2	0.0	-5808.0	-68906.3
	-33.4	-787.5	34.3	0.0	-6004.9	-68906.3
	-33.2	-787.5	32.9	0.0	-5752.7	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-453.2	671.7	16.9	17404.6	4718.7	12224.6
	-458.2	664.1	16.5	17231.2	4560.1	13740.3
	-570.0	1112.9	17.3	17384.8	4794.4	-75285.2
	-575.0	1105.3	16.9	17211.4	4635.8	-73769.6
	-544.1	750.7	13.1	19778.5	3689.0	-3595.0

	-549.2	743.1	12.7	19605.1	3530.3	-2079.3
	-660.9	1191.8	13.5	19758.7	3764.6	-91104.8
	-666.0	1184.3	13.1	19585.3	3606.0	-89589.2
	551.3	551.8	-15.5	-52612.1	-4105.7	37913.4
	546.3	544.2	-15.9	-52785.5	-4264.3	39429.0
	434.5	993.0	-15.1	-52631.9	-4030.0	-49596.5
	429.5	985.4	-15.5	-52805.3	-4188.6	-48080.8
	460.4	630.8	-19.2	-50238.1	-5135.5	22093.8
	455.3	623.2	-19.6	-50411.5	-5294.1	23609.4
	343.6	1071.9	-18.9	-50258.0	-5059.8	-65416.1
	338.5	1064.4	-19.3	-50431.4	-5218.4	-63900.4
195.	-453.2	-645.1	16.9	17404.6	1422.3	29091.3
	-458.2	-652.7	16.5	17231.2	1341.4	29129.9
	-570.0	-204.0	17.3	17384.8	1423.9	27604.5
	-575.0	-211.6	16.9	17211.4	1343.0	27643.1
	-544.1	-566.2	13.1	19778.5	1128.4	28671.1
	-549.2	-573.7	12.7	19605.1	1047.5	28709.7
	-660.9	-125.0	13.5	19758.7	1130.0	27184.3
	-666.0	-132.6	13.1	19585.3	1049.1	27222.9
	551.3	-765.0	-15.5	-52612.1	-1091.2	31405.7
	546.3	-772.6	-15.9	-52785.5	-1172.1	31444.3
	434.5	-323.9	-15.1	-52631.9	-1089.6	29918.9
	429.5	-331.5	-15.5	-52805.3	-1170.6	29957.5
	460.4	-686.1	-19.2	-50238.1	-1385.1	30985.6
	455.3	-693.6	-19.6	-50411.5	-1466.0	31024.2
	343.6	-244.9	-18.9	-50258.0	-1383.5	29498.8
	338.5	-252.5	-19.3	-50431.4	-1464.5	29537.4
390.	-453.2	-2840.7	16.9	17404.6	-1874.0	-296498.3
	-458.2	-2848.3	16.5	17231.2	-1877.2	-297936.8
	-570.0	-2399.6	17.3	17384.8	-1946.7	-211962.1
	-575.0	-2407.2	16.9	17211.4	-1950.0	-213400.5
	-544.1	-2761.8	13.1	19778.5	-1432.0	-281519.0
	-549.2	-2769.3	12.7	19605.1	-1435.2	-282957.5
	-660.9	-2320.6	13.5	19758.7	-1504.8	-196982.8
	-666.0	-2328.2	13.1	19585.3	-1508.0	-198421.2
	551.3	-2960.6	-15.5	-52612.1	1923.4	-317571.0
	546.3	-2968.2	-15.9	-52785.5	1920.2	-319009.5
	434.5	-2519.5	-15.1	-52631.9	1850.7	-233034.8
	429.5	-2527.1	-15.5	-52805.3	1847.4	-234473.2
	460.4	-2881.7	-19.2	-50238.1	2365.4	-302591.7
	455.3	-2889.2	-19.6	-50411.5	2362.2	-304030.2
	343.6	-2440.5	-18.9	-50258.0	2292.6	-218055.5
	338.5	-2448.1	-19.3	-50431.4	2289.4	-219493.9

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1957.6	6792.2	26.3	113275.4	5765.5	-384016.9
	-1983.6	6785.2	26.3	112495.3	5574.4	-382529.3
	-1962.7	7169.7	26.5	114962.6	6155.0	-466919.6
	-1988.7	7162.7	26.4	114182.5	5963.9	-465432.1
	-2141.1	6866.7	21.7	122888.8	4480.1	-399725.7
	-2167.2	6859.6	21.6	122108.6	4289.0	-398238.1
	-2146.3	7244.1	21.8	124576.0	4869.6	-482628.4
	-2172.3	7237.1	21.8	123795.9	4678.6	-481140.9
	1508.3	6632.4	-22.0	-130154.4	-4739.2	-349869.6
	1482.3	6625.4	-22.1	-130934.5	-4930.3	-348382.0
	1503.2	7009.9	-21.9	-128467.2	-4349.7	-432772.3
	1477.2	7002.9	-21.9	-129247.3	-4540.8	-431284.8
	1324.8	6706.9	-26.7	-120541.0	-6024.6	-365578.4
	1298.7	6699.8	-26.7	-121321.1	-6215.7	-364090.8
	1319.6	7084.3	-26.5	-118853.8	-5635.1	-448481.1
	1293.6	7077.3	-26.5	-119633.9	-5826.1	-446993.6
215.	-1957.6	-375.9	26.3	113275.4	114.2	305745.1
	-1983.6	-382.9	26.3	112495.3	-69.1	305719.3
	-1962.7	1.6	26.5	114962.6	469.9	303995.4
	-1988.7	-5.4	26.4	114182.5	286.6	303969.6
	-2141.1	-301.4	21.7	122888.8	-176.1	306039.6
	-2167.2	-308.5	21.6	122108.6	-359.4	306013.8
	-2146.3	76.0	21.8	124576.0	179.6	304289.9
	-2172.3	69.0	21.8	123795.9	-3.7	304264.1
	1508.3	-535.7	-22.0	-130154.4	-7.1	305531.8
	1482.3	-542.7	-22.1	-130934.5	-190.4	305506.0
	1503.2	-158.2	-21.9	-128467.2	348.6	303782.1
	1477.2	-165.2	-21.9	-129247.3	165.3	303756.3
	1324.8	-461.2	-26.7	-120541.0	-297.5	305826.3
	1298.7	-468.3	-26.7	-121321.1	-480.7	305800.5
	1319.6	-83.8	-26.5	-118853.8	58.3	304076.7
	1293.6	-90.8	-26.5	-119633.9	-125.0	304050.8
430.	-1957.6	-7544.0	26.3	113275.4	-5545.7	-545636.6
	-1983.6	-7551.0	26.3	112495.3	-5721.1	-547175.8
	-1962.7	-7166.5	26.5	114962.6	-5223.8	-466233.2
	-1988.7	-7173.5	26.4	114182.5	-5399.2	-467772.4
	-2141.1	-7469.5	21.7	122888.8	-4841.0	-529338.8
	-2167.2	-7476.6	21.6	122108.6	-5016.4	-530878.0
	-2146.3	-7092.1	21.8	124576.0	-4519.0	-449935.4
	-2172.3	-7099.1	21.8	123795.9	-4694.5	-451474.6
	1508.3	-7703.8	-22.0	-130154.4	4733.5	-580206.1
	1482.3	-7710.8	-22.1	-130934.5	4558.1	-581745.3
	1503.2	-7326.3	-21.9	-128467.2	5055.4	-500802.7
	1477.2	-7333.3	-21.9	-129247.3	4880.0	-502341.9
	1324.8	-7629.3	-26.7	-120541.0	5438.2	-563908.3
	1298.7	-7636.4	-26.7	-121321.1	5262.8	-565447.5
	1319.6	-7251.9	-26.5	-118853.8	5760.2	-484504.9
	1293.6	-7258.9	-26.5	-119633.9	5584.7	-486044.1

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4125.3	6663.1	-1.0	29089.3	-5423.0	-454925.8
	-4160.7	6655.4	-0.1	30068.0	-5259.3	-453397.8
	-4039.7	7079.1	-2.4	27571.8	-5652.4	-538698.3
	-4075.1	7071.5	-1.5	28550.5	-5488.6	-537170.2
	-4326.8	6744.4	-13.4	17505.3	-8673.4	-471070.5
	-4362.3	6736.7	-12.5	18484.0	-8509.6	-469542.5
	-4241.2	7160.5	-14.8	15987.8	-8902.7	-554843.0
	-4276.6	7152.8	-13.9	16966.5	-8739.0	-553314.9
	3620.7	6537.1	14.4	-16720.6	8910.6	-432787.3
	3585.3	6529.5	15.4	-15741.9	9074.4	-431259.3
	3706.3	6953.2	13.0	-18238.0	8681.3	-516559.8
	3670.9	6945.5	13.9	-17259.3	8845.0	-515031.7
	3419.2	6618.4	2.0	-28304.6	5660.3	-448932.1
	3383.8	6610.8	3.0	-27325.9	5824.0	-447404.0
	3504.8	7034.5	0.6	-29822.1	5430.9	-532704.5
	3469.4	7026.9	1.5	-28843.4	5594.7	-531176.4
200.	-4125.3	-4.9	-1.0	29089.3	-5228.6	210893.2
	-4160.7	-12.6	-0.1	30068.0	-5253.7	210888.4
	-4039.7	411.1	-2.4	27571.8	-5172.7	210337.1
	-4075.1	403.5	-1.5	28550.5	-5197.8	210332.4
	-4326.8	76.4	-13.4	17505.3	-5997.7	211011.7
	-4362.3	68.7	-12.5	18484.0	-6022.8	211007.0
	-4241.2	492.5	-14.8	15987.8	-5941.8	210455.7
	-4276.6	484.8	-13.9	16966.5	-5966.9	210450.9
	3620.7	-130.9	14.4	-16720.6	6035.6	207830.5
	3585.3	-138.5	15.4	-15741.9	6010.5	207825.7
	3706.3	285.2	13.0	-18238.0	6091.5	207274.5
	3670.9	277.5	13.9	-17259.3	6066.4	207269.7
	3419.2	-49.6	2.0	-28304.6	5266.5	207949.1
	3383.8	-57.2	3.0	-27325.9	5241.4	207944.3
	3504.8	366.5	0.6	-29822.1	5322.4	207393.0
	3469.4	358.9	1.5	-28843.4	5297.3	207388.3
400.	-4125.3	-6672.9	-1.0	29089.3	-5040.1	-456901.6
	-4160.7	-6680.6	-0.1	30068.0	-5254.1	-458439.2
	-4039.7	-6256.9	-2.4	27571.8	-4698.9	-374241.3

	-4075.1	-6264.5	-1.5	28550.5	-4913.0	-375778.8
	-4326.8	-6591.6	-13.4	17505.3	-3327.9	-440519.8
	-4362.3	-6599.3	-12.5	18484.0	-3542.0	-442057.3
	-4241.2	-6175.5	-14.8	15987.8	-2986.8	-357859.4
	-4276.6	-6183.2	-13.9	16966.5	-3200.8	-359397.0
	3620.7	-6798.9	14.4	-16720.6	3166.6	-485137.9
	3585.3	-6806.5	15.4	-15741.9	2952.6	-486675.5
	3706.3	-6382.8	13.0	-18238.0	3507.8	-402477.5
	3670.9	-6390.5	13.9	-17259.3	3293.7	-404015.1
	3419.2	-6717.6	2.0	-28304.6	4878.7	-468756.0
	3383.8	-6725.2	3.0	-27325.9	4664.7	-470293.6
	3504.8	-6301.5	0.6	-29822.1	5219.9	-386095.7
	3469.4	-6309.1	1.5	-28843.4	5005.9	-387633.3

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5151.4	6402.8	0.8	1840.9	-5511.3	-392876.8
	-5178.9	6395.7	1.5	3252.1	-5388.9	-391419.3
	-4988.5	6802.0	-0.5	-413.0	-5715.0	-474817.4
	-5016.0	6794.9	0.2	998.2	-5592.7	-473359.9
	-5118.3	6479.1	-10.3	-15181.4	-7842.5	-408463.7
	-5145.9	6472.0	-9.5	-13770.2	-7720.2	-407006.2
	-4955.4	6878.3	-11.6	-17435.2	-8046.3	-490404.3
	-4982.9	6871.2	-10.8	-16024.1	-7923.9	-488946.9
	4275.1	6275.6	11.4	16752.6	8030.2	-368802.4
	4247.6	6268.4	12.1	18163.7	8152.6	-367344.9
	4438.1	6674.7	10.1	14498.7	7826.5	-450743.0
	4410.5	6667.6	10.8	15909.8	7948.8	-449285.5
	4308.2	6351.9	0.3	-269.7	5699.0	-384389.3
	4280.7	6344.8	1.1	1141.5	5821.3	-382931.8
	4471.2	6751.0	-1.0	-2523.6	5495.2	-466329.9
	4443.6	6743.9	-0.2	-1112.4	5617.5	-464872.4
210.	-5151.4	-598.6	0.8	1840.9	-5685.6	216574.9
	-5178.9	-605.7	1.5	3252.1	-5722.1	216536.1
	-4988.5	-199.4	-0.5	-413.0	-5616.3	218457.9
	-5016.0	-206.5	0.2	998.2	-5652.7	218419.1
	-5118.3	-522.3	-10.3	-15181.4	-5700.3	217013.7
	-5145.9	-529.4	-9.5	-13770.2	-5736.8	216974.9
	-4955.4	-123.1	-11.6	-17435.2	-5631.0	218896.7
	-4982.9	-130.2	-10.8	-16024.1	-5667.4	218857.9
	4275.1	-725.8	11.4	16752.6	5652.5	213915.6
	4247.6	-733.0	12.1	18163.7	5616.0	213876.9
	4438.1	-326.7	10.1	14498.7	5721.8	215798.6
	4410.5	-333.8	10.8	15909.8	5685.4	215759.9
	4308.2	-649.5	0.3	-269.7	5637.8	214354.5
	4280.7	-656.6	1.1	1141.5	5601.3	214315.7
	4471.2	-250.4	-1.0	-2523.6	5707.1	216237.5
	4443.6	-257.5	-0.2	-1112.4	5670.7	216198.7
420.	-5151.4	-7600.0	0.8	1840.9	-5865.9	-644273.6
	-5178.9	-7607.1	1.5	3252.1	-6061.1	-645808.6
	-4988.5	-7200.8	-0.5	-413.0	-5523.5	-558567.0
	-5016.0	-7207.9	0.2	998.2	-5718.7	-560102.0
	-5118.3	-7523.7	-10.3	-15181.4	-3564.1	-627809.0
	-5145.9	-7530.8	-9.5	-13770.2	-3759.3	-629344.1
	-4955.4	-7124.5	-11.6	-17435.2	-3221.6	-542102.4
	-4982.9	-7131.6	-10.8	-16024.1	-3416.8	-543637.4
	4275.1	-7727.2	11.4	16752.6	3280.7	-673654.2
	4247.6	-7734.4	12.1	18163.7	3085.5	-675189.3
	4438.1	-7328.1	10.1	14498.7	3623.1	-587947.6
	4410.5	-7335.2	10.8	15909.8	3427.9	-589482.6
	4308.2	-7650.9	0.3	-269.7	5582.5	-657189.7
	4280.7	-7658.0	1.1	1141.5	5387.3	-658724.7
	4471.2	-7251.8	-1.0	-2523.6	5925.0	-571483.1
	4443.6	-7258.9	-0.2	-1112.4	5729.8	-573018.1

Asta	60	nodi	29	30		

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5289.8	8480.9	-4.8	-13738.0	-7017.0	-654916.6
	-5306.2	8475.8	-4.3	-12319.6	-6880.2	-653587.5
	-4970.8	8768.1	-5.8	-15978.1	-7211.1	-729060.0
	-4987.2	8763.0	-5.2	-14559.6	-7074.3	-727731.0
	-4911.1	8535.7	-13.7	-30831.2	-8759.8	-669180.9
	-4927.6	8530.5	-13.1	-29412.7	-8623.0	-667851.8
	-4592.1	8822.9	-14.6	-33071.2	-8953.9	-743324.4
	-4608.5	8817.8	-14.1	-31652.7	-8817.1	-741995.3
	3533.8	8386.6	14.1	31867.1	8819.7	-632603.4
	3517.4	8381.5	14.6	33285.6	8956.4	-631274.4
	3852.9	8673.9	13.1	29627.1	8625.6	-706746.9
	3836.5	8668.7	13.6	31045.6	8762.4	-705417.8
	3912.5	8441.4	5.2	14774.0	7076.9	-646867.8
	3896.1	8436.3	5.7	16192.5	7213.6	-645538.7
	4231.6	8728.6	4.3	12534.0	6882.8	-721011.2
	4215.2	8723.5	4.8	13952.4	7019.6	-719682.2
255.	-5289.8	-20.8	-4.8	-13738.0	-5794.8	423748.0
	-5306.2	-25.9	-4.3	-12319.6	-5793.9	423773.5
	-4970.8	266.4	-5.8	-15978.1	-5750.0	422853.8
	-4987.2	261.3	-5.2	-14559.6	-5749.2	422879.3
	-4911.1	34.0	-13.7	-30831.2	-5282.0	423450.3
	-4927.6	28.8	-13.1	-29412.7	-5281.2	423475.9
	-4592.1	321.2	-14.6	-33071.2	-5237.3	422556.2
	-4608.5	316.1	-14.1	-31652.7	-5236.5	422581.7
	3533.8	-115.1	14.1	31867.1	5242.3	422008.0
	3517.4	-120.2	14.6	33285.6	5243.1	422033.5
	3852.9	172.2	13.1	29627.1	5287.0	421113.8
	3836.5	167.0	13.6	31045.6	5287.8	421139.3
	3912.5	-60.3	5.2	14774.0	5755.0	421710.4
	3896.1	-65.4	5.7	16192.5	5755.8	421735.9
	4231.6	226.9	4.3	12534.0	5799.7	420816.2
	4215.2	221.8	4.8	13952.4	5800.5	420841.7
510.	-5289.8	-8522.5	-4.8	-13738.0	-4580.8	-665532.8
	-5306.2	-8527.6	-4.3	-12319.6	-4715.9	-666810.9
	-4970.8	-8235.3	-5.8	-15978.1	-4297.3	-593177.7
	-4987.2	-8240.4	-5.2	-14559.6	-4432.4	-594455.8
	-4911.1	-8467.7	-13.7	-30831.2	-1812.6	-651863.7
	-4927.6	-8472.9	-13.1	-29412.7	-1947.7	-653141.8
	-4592.1	-8180.5	-14.6	-33071.2	-1529.1	-579508.6
	-4608.5	-8185.6	-14.1	-31652.7	-1664.2	-580786.7
	3533.8	-8616.8	14.1	31867.1	1673.2	-691302.2
	3517.4	-8621.9	14.6	33285.6	1538.1	-692580.2
	3852.9	-8329.5	13.1	29627.1	1956.7	-618947.1
	3836.5	-8334.7	13.6	31045.6	1821.6	-620225.1
	3912.5	-8562.0	5.2	14774.0	4441.4	-677633.1
	3896.1	-8567.1	5.7	16192.5	4306.3	-678911.1
	4231.6	-8274.8	4.3	12534.0	4724.9	-605278.0
	4215.2	-8279.9	4.8	13952.4	4589.8	-606556.0

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4105.9	6414.2	-7.6	-42333.8	-6572.2	-484407.7
	-4112.9	6405.3	-6.5	-41372.4	-6375.1	-482740.7
	-3676.7	6899.0	-8.9	-43759.2	-6818.7	-574373.3
	-3683.8	6890.2	-7.9	-42797.9	-6621.7	-572706.4
	-3516.6	6508.4	-20.6	-53605.2	-7774.1	-502211.7
	-3523.6	6499.6	-19.6	-52643.9	-7577.1	-500544.7
	-3087.4	6993.3	-22.0	-55030.7	-8020.7	-592177.3
	-3094.4	6984.4	-21.0	-54069.4	-7823.6	-590510.3
	2541.0	6253.4	21.3	55770.9	7972.2	-457712.3
	2534.0	6244.5	22.4	56732.3	8169.3	-456045.3
	2970.1	6738.3	19.9	54345.5	7725.7	-547677.9
	2963.1	6729.4	21.0	55306.8	7922.7	-546010.9
	3130.3	6347.7	8.2	44499.4	6770.3	-475516.3
	3123.3	6338.8	9.3	45460.8	6967.3	-473849.3

	3559.5	6832.5	6.9	43074.0	6523.7	-565481.9
	3552.4	6823.7	7.9	44035.3	6720.7	-563814.9
180.	-4105.9	413.0	-7.6	-42333.8	-5216.6	130049.9
	-4112.9	404.1	-6.5	-41372.4	-5211.3	130122.2
	-3676.7	897.8	-8.9	-43759.2	-5217.1	127358.0
	-3683.8	889.0	-7.9	-42797.9	-5211.8	127430.3
	-3516.6	507.2	-20.6	-53605.2	-4063.8	129213.6
	-3523.6	498.4	-19.6	-52643.9	-4058.5	129285.9
	-3087.4	992.1	-22.0	-55030.7	-4064.3	126521.7
	-3094.4	983.2	-21.0	-54069.4	-4059.0	126594.0
	2541.0	252.2	21.3	55770.9	4142.8	127778.6
	2534.0	243.3	22.4	56732.3	4148.1	127850.9
	2970.1	737.1	19.9	54345.5	4142.3	125086.7
	2963.1	728.2	21.0	55306.8	4147.5	125159.0
	3130.3	346.5	8.2	44499.4	5295.6	126942.3
	3123.3	337.6	9.3	45460.8	5300.9	127014.6
	3559.5	831.3	6.9	43074.0	5295.1	124250.4
	3552.4	822.5	7.9	44035.3	5300.4	124322.7
360.	-4105.9	-5588.2	-7.6	-42333.8	-3877.8	-335733.4
	-4112.9	-5597.1	-6.5	-41372.4	-4064.3	-337255.7
	-3676.7	-5103.4	-8.9	-43759.2	-3631.8	-251151.5
	-3683.8	-5112.2	-7.9	-42797.9	-3818.3	-252673.9
	-3516.6	-5494.0	-20.6	-53605.2	-370.2	-319602.0
	-3523.6	-5502.8	-19.6	-52643.9	-556.7	-321124.3
	-3087.4	-5009.1	-22.0	-55030.7	-124.3	-235020.1
	-3094.4	-5018.0	-21.0	-54069.4	-310.7	-236542.5
	2541.0	-5749.0	21.3	55770.9	329.7	-366921.7
	2534.0	-5757.9	22.4	56732.3	143.2	-368444.1
	2970.1	-5264.1	19.9	54345.5	575.6	-282339.9
	2963.1	-5273.0	21.0	55306.8	389.2	-283862.2
	3130.3	-5654.7	8.2	44499.4	3837.3	-350790.3
	3123.3	-5663.6	9.3	45460.8	3650.8	-352312.7
	3559.5	-5169.9	6.9	43074.0	4083.2	-266208.5
	3552.4	-5178.7	7.9	44035.3	3896.7	-267730.8

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2180.9	5448.3	-40.1	-123630.9	-6395.2	-262347.7
	-2185.2	5438.8	-40.3	-124295.6	-6249.0	-260749.2
	-1837.2	5957.8	-39.6	-121947.3	-6679.4	-344937.0
	-1841.5	5948.4	-39.8	-122612.1	-6533.2	-343338.6
	-1761.2	5548.5	-44.6	-115237.3	-6739.5	-279341.5
	-1765.5	5539.1	-44.8	-115902.0	-6593.2	-277743.0
	-1417.5	6058.1	-44.1	-113553.7	-7023.6	-361930.8
	-1421.8	6048.7	-44.3	-114218.5	-6877.4	-360332.4
	951.0	5340.7	45.2	126127.7	7044.5	-243588.5
	946.7	5331.2	45.1	125462.9	7190.8	-241990.0
	1294.7	5850.2	45.7	127811.3	6760.4	-326177.8
	1290.4	5840.8	45.5	127146.5	6906.6	-324579.4
	1370.8	5440.9	40.7	134521.3	6700.3	-260582.3
	1366.4	5431.5	40.5	133856.6	6846.5	-258983.8
	1714.4	5950.5	41.2	136204.9	6416.1	-343171.6
	1710.1	5941.1	41.0	135540.1	6562.4	-341573.2
165.	-2180.9	-52.8	-40.1	-123630.9	220.3	182772.9
	-2185.2	-62.3	-40.3	-124295.6	395.9	182814.7
	-1837.2	456.7	-39.6	-121947.3	-140.2	184263.5
	-1841.5	447.3	-39.8	-122612.1	35.5	184305.3
	-1761.2	47.4	-44.6	-115237.3	619.6	182322.4
	-1765.5	38.0	-44.8	-115902.0	795.3	182364.2
	-1417.5	557.0	-44.1	-113553.7	259.2	183813.0
	-1421.8	547.6	-44.3	-114218.5	434.8	183854.8
	951.0	-160.4	45.2	126127.7	-420.5	183781.2
	946.7	-169.9	45.1	125462.9	-244.8	183823.0
	1294.7	349.1	45.7	127811.3	-780.9	185271.8
	1290.4	339.7	45.5	127146.5	-605.2	185313.6
	1370.8	-60.2	40.7	134521.3	-21.1	183330.7
	1366.4	-69.6	40.5	133856.6	154.5	183372.5
	1714.4	449.4	41.2	136204.9	-381.6	184821.3
	1710.1	440.0	41.0	135540.1	-205.9	184863.1
330.	-2180.9	-5553.9	-40.1	-123630.9	6833.2	-279785.2
	-2185.2	-5563.4	-40.3	-124295.6	7038.3	-281300.1
	-1837.2	-5044.4	-39.6	-121947.3	6396.5	-194214.6
	-1841.5	-5053.8	-39.8	-122612.1	6601.6	-195729.5
	-1761.2	-5453.7	-44.6	-115237.3	7976.1	-263692.4
	-1765.5	-5463.1	-44.8	-115902.0	8181.2	-265207.3
	-1417.5	-4944.1	-44.1	-113553.7	7539.4	-178121.8
	-1421.8	-4953.5	-44.3	-114218.5	7744.6	-179636.7
	951.0	-5661.5	45.2	126127.7	-7883.0	-296533.4
	946.7	-5671.0	45.1	125462.9	-7677.9	-298048.4
	1294.7	-5152.0	45.7	127811.3	-8319.7	-210962.9
	1290.4	-5161.4	45.5	127146.5	-8114.5	-212477.8
	1370.8	-5561.3	40.7	134521.3	-6740.1	-280440.6
	1366.4	-5570.7	40.5	133856.6	-6535.0	-281955.5
	1714.4	-5051.7	41.2	136204.9	-7176.7	-194870.1
	1710.1	-5061.1	41.0	135540.1	-6971.6	-196385.0

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-933.6	988.7	-26.1	-5926.1	-3905.6	-96107.5
	-943.6	980.2	-26.6	-5576.2	-3923.2	-94575.8
	-591.6	1479.7	-25.6	-6811.4	-3633.9	-184151.6
	-601.6	1471.3	-26.0	-6461.5	-3651.4	-182619.9
	-682.4	1078.0	-25.1	-9546.1	-3090.5	-112218.8
	-692.4	1069.5	-25.5	-9196.1	-3108.0	-110687.2
	-340.4	1569.0	-24.6	-10431.4	-2818.7	-200263.0
	-350.4	1560.6	-25.0	-10081.4	-2836.3	-198731.3
	193.5	841.4	28.5	35838.4	3536.2	-68069.0
	183.5	832.9	28.0	36188.4	3518.6	-66537.4
	535.5	1332.5	29.0	34953.1	3808.0	-156113.2
	525.5	1324.0	28.6	35303.1	3790.4	-154581.5
	444.7	930.7	29.5	32218.5	4351.4	-84180.4
	434.7	922.2	29.1	32568.5	4333.8	-82648.7
	786.7	1421.8	30.0	31333.2	4623.1	-172224.5
	776.7	1413.3	29.6	31683.2	4605.6	-170692.9
210.	-933.6	43.7	-26.1	-5926.1	1584.1	12290.1
	-943.6	35.2	-26.6	-5576.2	1654.5	12039.6
	-591.6	534.7	-25.6	-6811.4	1735.2	27370.4
	-601.6	526.3	-26.0	-6461.5	1805.7	27119.9
	-682.4	133.0	-25.1	-9546.1	2187.6	14932.4
	-692.4	124.5	-25.5	-9196.1	2258.1	14681.9
	-340.4	624.0	-24.6	-10431.4	2338.7	30012.8
	-350.4	615.6	-25.0	-10081.4	2409.2	29762.3
	193.5	-103.6	28.5	35838.4	-2441.9	9395.1
	183.5	-112.1	28.0	36188.4	-2371.4	9144.6
	535.5	387.5	29.0	34953.1	-2290.8	24475.5
	525.5	379.0	28.6	35303.1	-2220.3	24224.9
	444.7	-14.3	29.5	32218.5	-1838.3	12037.5
	434.7	-22.8	29.1	32568.5	-1767.8	11787.0
	786.7	476.8	30.0	31333.2	-1687.2	27117.8
	776.7	468.3	29.6	31683.2	-1616.7	26867.3
420.	-933.6	-901.3	-26.1	-5926.1	7072.2	-77765.7
	-943.6	-909.8	-26.6	-5576.2	7230.7	-79798.4
	-591.6	-410.3	-25.6	-6811.4	7102.7	40439.2
	-601.6	-418.7	-26.0	-6461.5	7261.2	38406.5
	-682.4	-812.0	-25.1	-9546.1	7464.1	-56369.6
	-692.4	-820.5	-25.5	-9196.1	7622.7	-58402.3
	-340.4	-321.0	-24.6	-10431.4	7494.6	61835.3
	-350.4	-329.4	-25.0	-10081.4	7653.2	59802.6
	193.5	-1048.6	28.5	35838.4	-8418.4	-111587.4
	183.5	-1057.1	28.0	36188.4	-8259.9	-113620.1
	535.5	-557.5	29.0	34953.1	-8387.9	6617.4
	525.5	-566.0	28.6	35303.1	-8229.4	4584.7

	444.7	-959.3	29.5	32218.5	-8026.4	-90191.3
	434.7	-967.8	29.1	32568.5	-7867.9	-92224.0
	786.7	-468.2	30.0	31333.2	-7995.9	28013.5
	776.7	-476.7	29.6	31683.2	-7837.4	25980.8

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	205.7	767.6	-26.2	3674.3	-4750.9	227015.1
	193.5	799.0	-24.0	3968.0	-4333.8	220280.8
	227.3	713.5	-28.4	1349.3	-5241.6	238321.0
	215.1	744.8	-26.2	1643.1	-4824.4	231586.7
	245.4	406.8	-33.9	670.0	-6431.2	304651.5
	233.1	438.2	-31.7	963.8	-6014.0	297917.2
	267.0	352.7	-36.1	-1654.9	-6921.8	315957.4
	254.7	384.0	-33.9	-1361.1	-6504.7	309223.1
	-427.2	3667.4	36.9	5441.1	7101.1	-407675.2
	-439.4	3698.7	39.1	5734.8	7518.2	-414409.5
	-405.6	3613.2	34.7	3116.2	6610.4	-396369.2
	-417.8	3644.6	36.9	3409.9	7027.6	-403103.5
	-387.5	3306.5	29.1	2436.9	5420.8	-330038.8
	-399.8	3337.9	31.3	2730.6	5838.0	-336773.1
	-365.9	3252.4	26.9	111.9	4930.2	-318732.9
	-378.2	3283.7	29.1	405.7	5347.3	-325467.2
175.	205.7	-1777.3	-26.2	3674.3	-171.9	138671.5
	193.5	-1746.0	-24.0	3968.0	-142.0	137419.7
	227.3	-1831.4	-28.4	1349.3	-277.2	140503.1
	215.1	-1800.1	-26.2	1643.1	-247.3	139251.2
	245.4	-2138.1	-33.9	670.0	-496.1	153164.1
	233.1	-2106.8	-31.7	963.8	-466.2	151912.3
	267.0	-2192.3	-36.1	-1654.9	-601.4	154995.7
	254.7	-2160.9	-33.9	-1361.1	-571.5	153743.8
	-427.2	1122.4	36.9	5441.1	647.4	11432.4
	-439.4	1153.8	39.1	5734.8	677.3	10180.5
	-405.6	1068.3	34.7	3116.2	542.1	13263.9
	-417.8	1099.6	36.9	3409.9	572.0	12012.1
	-387.5	761.6	29.1	2436.9	323.2	25925.0
	-399.8	792.9	31.3	2730.6	353.1	24673.1
	-365.9	707.5	26.9	111.9	217.9	27756.5
	-378.2	738.8	29.1	405.7	247.8	26504.7
350.	205.7	-4322.2	-26.2	3674.3	4407.8	-395036.3
	193.5	-4290.9	-24.0	3968.0	4050.5	-390805.7
	227.3	-4376.4	-28.4	1349.3	4687.9	-402679.1
	215.1	-4345.0	-26.2	1643.1	4330.5	-398448.6
	245.4	-4683.0	-33.9	670.0	5439.7	-443687.5
	233.1	-4651.7	-31.7	963.8	5082.3	-439456.9
	267.0	-4737.2	-36.1	-1654.9	5719.7	-451330.3
	254.7	-4705.9	-33.9	-1361.1	5362.4	-447099.7
	-427.2	-1422.5	36.9	5441.1	-5807.1	-14824.0
	-439.4	-1391.2	39.1	5734.8	-6164.5	-10593.4
	-405.6	-1476.6	34.7	3116.2	-5527.1	-22466.8
	-417.8	-1445.3	36.9	3409.9	-5884.4	-18236.2
	-387.5	-1783.3	29.1	2436.9	-4775.3	-63475.1
	-399.8	-1752.0	31.3	2730.6	-5132.6	-59244.6
	-365.9	-1837.5	26.9	111.9	-4495.2	-71118.0
	-378.2	-1806.1	29.1	405.7	-4852.6	-66887.4

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-158.9	128.5	-46.6	46824.4	-10896.4	350778.4
	-155.5	165.4	-43.2	47049.5	-10182.5	342987.8
	-160.8	50.2	-53.1	57698.1	-12194.2	366138.6
	-157.4	87.2	-49.7	57923.1	-11480.3	358348.0
	-272.2	-305.6	-54.0	44555.0	-12051.0	442261.9
	-268.8	-268.6	-50.6	44780.1	-11337.1	434471.3
	-274.1	-383.8	-60.5	55428.7	-13348.8	457622.2
	-270.7	-346.8	-57.1	55653.7	-12634.9	449831.6
	244.1	4526.8	61.2	45166.2	13460.8	-596290.0
	247.5	4563.7	64.6	45391.3	14174.7	-604080.6
	242.2	4448.5	54.7	56039.8	12163.0	-580929.7
	245.6	4485.5	58.1	56264.9	12876.9	-588720.3
	130.8	4092.7	53.8	42896.8	12306.2	-504806.5
	134.2	4129.7	57.2	43121.9	13020.1	-512597.1
	128.8	4014.5	47.3	53770.4	11008.4	-489446.2
	132.2	4051.5	50.7	53995.5	11722.3	-497236.8
175.	-158.9	-2416.5	-46.6	46824.4	-2748.5	150576.7
	-155.5	-2379.5	-43.2	47049.5	-2620.4	149257.7
	-160.8	-2494.7	-53.1	57698.1	-2907.9	152246.7
	-157.4	-2457.7	-49.7	57923.1	-2779.8	150927.6
	-272.2	-2850.5	-54.0	44555.0	-2609.1	166103.7
	-268.8	-2813.5	-50.6	44780.1	-2481.0	164784.6
	-274.1	-2928.7	-60.5	55428.7	-2768.5	167773.7
	-270.7	-2891.8	-57.1	55653.7	-2640.4	166454.6
	244.1	1981.8	61.2	45166.2	2746.8	-26788.1
	247.5	2018.8	64.6	45391.3	2874.9	-28107.1
	242.2	1903.6	54.7	56039.8	2587.4	-25118.1
	245.6	1940.6	58.1	56264.9	2715.5	-26437.2
	130.8	1547.8	53.8	42896.8	2886.2	-11261.1
	134.2	1584.8	57.2	43121.9	3014.3	-12580.2
	128.8	1469.6	47.3	53770.4	2726.8	-9591.1
	132.2	1506.5	50.7	53995.5	2854.9	-10910.2
350.	-158.9	-4961.4	-46.6	46824.4	5400.0	-494989.2
	-155.5	-4924.4	-43.2	47049.5	4942.3	-489836.8
	-160.8	-5039.6	-53.1	57698.1	6379.0	-507009.6
	-157.4	-5002.7	-49.7	57923.1	5921.3	-501857.1
	-272.2	-5395.5	-54.0	44555.0	6833.4	-555418.8
	-268.8	-5358.5	-50.6	44780.1	6375.7	-550266.3
	-274.1	-5473.7	-60.5	55428.7	7812.4	-567439.1
	-270.7	-5436.7	-57.1	55653.7	7354.7	-562286.7
	244.1	-563.1	61.2	45166.2	-7967.9	97350.1
	247.5	-526.1	64.6	45391.3	-8425.5	102502.6
	242.2	-641.3	54.7	56039.8	-6988.9	85329.8
	245.6	-604.4	58.1	56264.9	-7446.6	90482.2
	130.8	-997.1	53.8	42896.8	-6534.5	36920.5
	134.2	-960.2	57.2	43121.9	-6992.2	42073.0
	128.8	-1075.4	47.3	53770.4	-5555.5	24900.2
	132.2	-1038.4	50.7	53995.5	-6013.2	30052.7

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-63.6	431.7	59.4	-47196.8	13880.2	311184.6
	-61.3	400.8	63.2	-47045.3	14704.4	317707.9
	-82.9	502.3	53.2	-35630.0	12662.7	297510.3
	-80.6	471.5	57.0	-35478.4	13486.9	304033.6
	6.1	795.2	47.5	-48682.3	11934.6	234171.0
	8.4	764.4	51.3	-48530.7	12758.8	240694.2
	-13.2	865.8	41.2	-37115.4	10717.1	220496.7
	-10.9	835.0	45.1	-36963.9	11541.3	227019.9
	-37.5	3646.3	-48.5	-37283.9	-12325.0	-392693.1
	-35.2	3615.5	-44.7	-37132.3	-11500.8	-386169.8
	-56.9	3716.9	-54.7	-25717.1	-13542.5	-406367.4
	-54.6	3686.1	-50.9	-25565.5	-12718.2	-399844.1
	32.1	4009.8	-60.4	-38769.3	-14270.6	-469706.7
	34.5	3979.0	-56.6	-38617.8	-13446.4	-463183.5
	12.8	4080.5	-66.6	-27202.5	-15488.1	-483381.0
	15.1	4049.6	-62.8	-27050.9	-14663.8	-476857.8
175.	-63.6	-2248.5	59.4	-47196.8	3489.1	152213.5
	-61.3	-2279.3	63.2	-47045.3	3644.5	153344.9
	-82.9	-2177.8	53.2	-35630.0	3361.3	150902.8
	-80.6	-2208.6	57.0	-35478.4	3516.7	152034.3
	6.1	-1885.0	47.5	-48682.3	3627.2	138815.4
	8.4	-1915.8	51.3	-48530.7	3782.7	139946.9
	-13.2	-1814.3	41.2	-37115.4	3499.4	137504.8

	-10.9	-1845.1	45.1	-36963.9	3654.8	138636.2
	-37.5	966.2	-48.5	-37283.9	-3836.1	10897.0
	-35.2	935.4	-44.7	-37132.3	-3680.7	12028.4
	-56.9	1036.8	-54.7	-25717.1	-3963.9	9586.4
	-54.6	1006.0	-50.9	-25565.5	-3808.5	10717.8
	32.1	1329.7	-60.4	-38769.3	-3698.0	-2501.1
	34.5	1298.9	-56.6	-38617.8	-3542.5	-1369.6
	12.8	1400.3	-66.6	-27202.5	-3825.8	-3811.7
	15.1	1369.5	-62.8	-27050.9	-3670.4	-2680.2
350.	-63.6	-4928.6	59.4	-47196.8	-6903.8	-475780.2
	-61.3	-4959.4	63.2	-47045.3	-7417.1	-480040.6
	-82.9	-4857.9	53.2	-35630.0	-5941.9	-464727.1
	-80.6	-4888.8	57.0	-35478.4	-6455.2	-468987.5
	6.1	-4565.1	47.5	-48682.3	-4681.9	-425562.7
	8.4	-4595.9	51.3	-48530.7	-5195.3	-429823.0
	-13.2	-4494.4	41.2	-37115.4	-3720.1	-414509.6
	-10.9	-4525.2	45.1	-36963.9	-4233.4	-418769.9
	-37.5	-1714.0	-48.5	-37283.9	4654.5	-54534.3
	-35.2	-1744.8	-44.7	-37132.3	4141.2	-58794.6
	-56.9	-1643.3	-54.7	-25717.1	5616.4	-43481.2
	-54.6	-1674.1	-50.9	-25565.5	5103.0	-47741.5
	32.1	-1350.4	-60.4	-38769.3	6876.4	-4316.8
	34.5	-1381.3	-56.6	-38617.8	6363.0	-8577.1
	12.8	-1279.8	-66.6	-27202.5	7838.2	6736.3
	15.1	-1310.6	-62.8	-27050.9	7324.9	2476.0

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	221.4	722.0	26.5	411.5	4758.2	247320.4
	232.9	683.2	29.2	914.7	5274.3	255336.2
	179.0	790.5	24.7	-2019.4	4242.8	233549.8
	190.5	751.7	27.4	-1516.1	4758.9	241565.5
	113.2	1168.5	10.5	-4767.9	1409.1	155057.5
	124.7	1129.7	13.2	-4264.6	1925.3	163073.2
	70.9	1237.1	8.7	-7198.7	893.7	141286.9
	82.3	1198.2	11.4	-6695.5	1409.9	149302.6
	-367.3	3218.6	-14.2	14479.0	-2029.5	-279462.7
	-355.8	3179.8	-11.5	14982.2	-1513.4	-271447.0
	-409.7	3287.1	-16.0	12048.2	-2544.9	-293233.4
	-398.2	3248.3	-13.3	12551.4	-2028.8	-285217.6
	-475.5	3665.1	-30.2	9299.7	-5378.6	-371725.7
	-464.0	3626.3	-27.5	9802.9	-4862.4	-363710.0
	-517.9	3733.7	-32.0	6868.8	-5894.0	-385496.3
	-506.4	3694.9	-29.3	7372.1	-5377.8	-377480.6
175.	221.4	-1958.1	26.5	411.5	111.5	139158.4
	232.9	-1997.0	29.2	914.7	151.5	140380.4
	179.0	-1889.6	24.7	-2019.4	-82.9	137383.6
	190.5	-1928.4	27.4	-1516.1	-42.8	138605.5
	113.2	-1511.6	10.5	-4767.9	-441.0	125038.5
	124.7	-1550.4	13.2	-4264.6	-400.9	126260.4
	70.9	-1443.1	8.7	-7198.7	-635.3	123263.6
	82.3	-1481.9	11.4	-6695.5	-595.3	124485.6
	-367.3	538.5	-14.2	14479.0	465.9	49280.0
	-355.8	499.6	-11.5	14982.2	506.0	50501.9
	-409.7	607.0	-16.0	12048.2	271.6	47505.1
	-398.2	568.2	-13.3	12551.4	311.6	48727.1
	-475.5	985.0	-30.2	9299.7	-86.5	35160.0
	-464.0	946.2	-27.5	9802.9	-46.5	36382.0
	-517.9	1053.5	-32.0	6868.8	-280.9	33385.2
	-506.4	1014.7	-29.3	7372.1	-240.8	34607.1
350.	221.4	-4638.3	26.5	411.5	-4518.8	-438026.0
	232.9	-4677.1	29.2	914.7	-4954.9	-443597.8
	179.0	-4569.7	24.7	-2019.4	-4392.1	-427805.1
	190.5	-4608.5	27.4	-1516.1	-4828.1	-433376.9
	113.2	-4191.7	10.5	-4767.9	-2274.7	-374003.0
	124.7	-4230.5	13.2	-4264.6	-2710.8	-379574.8
	70.9	-4123.2	8.7	-7198.7	-2147.9	-363782.0
	82.3	-4162.0	11.4	-6695.5	-2584.0	-369353.9
	-367.3	-2141.7	-14.2	14479.0	2945.0	-90998.6
	-355.8	-2180.5	-11.5	14982.2	2508.9	-96570.5
	-409.7	-2073.1	-16.0	12048.2	3071.7	-80777.7
	-398.2	-2111.9	-13.3	12551.4	2635.7	-86349.5
	-475.5	-1695.1	-30.2	9299.7	5189.1	-26975.6
	-464.0	-1733.9	-27.5	9802.9	4753.0	-32547.4
	-517.9	-1626.6	-32.0	6868.8	5315.9	-16754.7
	-506.4	-1665.4	-29.3	7372.1	4879.8	-22326.5

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-89.6	509.0	47.5	4686.9	8365.8	19329.2
	-89.1	508.3	45.3	4585.3	7956.9	19450.7
	-37.7	1031.8	50.8	4839.7	8970.3	-74142.2
	-37.2	1031.1	48.7	4738.1	8561.4	-74020.7
	-92.0	516.3	43.0	5956.0	7624.4	18052.4
	-91.5	515.6	40.9	5854.4	7215.6	18173.9
	-40.1	1039.0	46.4	6108.8	8228.9	-75419.0
	-39.6	1038.3	44.2	6007.2	7820.1	-75297.5
	-79.5	490.9	-46.0	-11787.2	-8185.8	22664.6
	-79.0	490.2	-48.2	-11888.8	-8594.6	22786.1
	-27.5	1013.7	-42.7	-11634.4	-7581.3	-70806.8
	-27.0	1013.0	-44.8	-11736.0	-7990.1	-70685.4
	-81.9	498.2	-50.5	-10518.1	-8927.1	21387.8
	-81.4	497.5	-52.6	-10619.7	-9336.0	21509.3
	-30.0	1020.9	-47.1	-10365.3	-8322.7	-72083.6
	-29.5	1020.2	-49.3	-10466.9	-8731.5	-71962.1
195.	-89.6	-368.5	47.5	4686.9	-890.9	33033.3
	-89.1	-369.2	45.3	4585.3	-883.7	33020.1
	-37.7	154.3	50.8	4839.7	-938.0	41498.8
	-37.2	153.6	48.7	4738.1	-930.8	41485.6
	-92.0	-361.2	43.0	5956.0	-768.7	33167.3
	-91.5	-361.9	40.9	5854.4	-761.5	33154.1
	-40.1	161.5	46.4	6108.8	-815.8	41632.8
	-39.6	160.8	44.2	6007.2	-808.6	41619.6
	-79.5	-386.6	-46.0	-11787.2	793.9	32838.4
	-79.0	-387.3	-48.2	-11888.8	801.1	32825.2
	-27.5	136.2	-42.7	-11634.4	746.8	41303.9
	-27.0	135.5	-44.8	-11736.0	754.0	41290.7
	-81.9	-379.3	-50.5	-10518.1	916.1	32972.4
	-81.4	-380.0	-52.6	-10619.7	923.3	32959.2
	-30.0	143.4	-47.1	-10365.3	869.0	41437.8
	-29.5	142.7	-49.3	-10466.9	876.2	41424.6
390.	-89.6	-1246.0	47.5	4686.9	-10147.6	-124375.2
	-89.1	-1246.7	45.3	4585.3	-9724.3	-124523.1
	-37.7	-723.2	50.8	4839.7	-10846.3	-13972.9
	-37.2	-723.9	48.7	4738.1	-10423.0	-14120.7
	-92.0	-1238.7	43.0	5956.0	-9161.9	-122830.6
	-91.5	-1239.4	40.9	5854.4	-8738.6	-122978.4
	-40.1	-716.0	46.4	6108.8	-9860.6	-12428.2
	-39.6	-716.7	44.2	6007.2	-9437.3	-12576.1
	-79.5	-1264.1	-46.0	-11787.2	9773.6	-128100.1
	-79.0	-1264.8	-48.2	-11888.8	10196.9	-128247.9
	-27.5	-741.3	-42.7	-11634.4	9074.9	-17697.7
	-27.0	-742.0	-44.8	-11736.0	9498.2	-17845.6
	-81.9	-1256.8	-50.5	-10518.1	10759.3	-126555.4
	-81.4	-1257.5	-52.6	-10619.7	11182.5	-126703.3
	-30.0	-734.1	-47.1	-10365.3	10060.6	-16153.0
	-29.5	-734.8	-49.3	-10466.9	10483.9	-16300.9

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-132.3	707.1	-62.2	7034.8	-14288.5	-3656.9
	-134.7	706.5	-64.7	7295.0	-14833.8	-3519.6

	-68.9	1274.2	-58.4	6609.9	-13387.8	-117454.4
	-71.3	1273.5	-60.8	6870.2	-13933.1	-117317.1
	-124.7	714.7	-59.4	4130.9	-13669.6	-5187.6
	-127.1	714.0	-61.9	4391.1	-14215.0	-5050.3
	-61.3	1281.7	-55.6	3706.0	-12768.9	-118985.1
	-63.7	1281.1	-58.0	3966.2	-13314.2	-118847.8
	-100.0	698.8	61.2	-2243.0	13992.9	-1887.2
	-102.4	698.2	58.7	-1982.7	13447.6	-1749.9
	-36.6	1265.9	65.0	-2667.8	14893.7	-115684.7
	-39.0	1265.2	62.6	-2407.6	14348.3	-115547.4
	-92.4	706.4	64.0	-5146.9	14611.8	-3417.9
	-94.7	705.7	61.5	-4886.7	14066.5	-3280.6
	-29.0	1273.4	67.9	-5571.8	15512.5	-117215.4
	-31.4	1272.8	65.4	-5311.5	14967.2	-117078.1
210.	-132.3	-237.9	-62.2	7034.8	-1226.8	45616.5
	-134.7	-238.5	-64.7	7295.0	-1252.5	45612.2
	-68.9	329.2	-58.4	6609.9	-1131.1	50896.0
	-71.3	328.5	-60.8	6870.2	-1156.8	50891.7
	-124.7	-230.3	-59.4	4130.9	-1198.7	45672.5
	-127.1	-231.0	-61.9	4391.1	-1224.4	45668.2
	-61.3	336.7	-55.6	3706.0	-1103.0	50951.9
	-63.7	336.1	-58.0	3966.2	-1128.7	50947.6
	-100.0	-246.2	61.2	-2243.0	1139.3	45646.6
	-102.4	-246.8	58.7	-1982.7	1113.6	45642.3
	-36.6	320.9	65.0	-2667.8	1235.0	50926.1
	-39.0	320.2	62.6	-2407.6	1209.3	50921.8
	-92.4	-238.6	64.0	-5146.9	1167.4	45702.6
	-94.7	-239.3	61.5	-4886.7	1141.7	45698.3
	-29.0	328.4	67.9	-5571.8	1263.1	50982.0
	-31.4	327.8	65.4	-5311.5	1237.4	50977.7
420.	-132.3	-1182.9	-62.2	7034.8	11834.9	-103557.3
	-134.7	-1183.5	-64.7	7295.0	12328.9	-103703.1
	-68.9	-615.8	-58.4	6609.9	11125.6	20799.1
	-71.3	-616.5	-60.8	6870.2	11619.5	20653.2
	-124.7	-1175.3	-59.4	4130.9	11272.3	-101914.6
	-127.1	-1176.0	-61.9	4391.1	11766.2	-102060.5
	-61.3	-608.3	-55.6	3706.0	10562.9	22441.7
	-63.7	-608.9	-58.0	3966.2	11056.8	22295.9
	-100.0	-1191.2	61.2	-2243.0	-11714.3	-105272.3
	-102.4	-1191.8	58.7	-1982.7	-11220.4	-105418.2
	-36.6	-624.1	65.0	-2667.8	-12423.7	19084.0
	-39.0	-624.8	62.6	-2407.6	-11929.8	18938.2
	-92.4	-1183.6	64.0	-5146.9	-12277.0	-103629.7
	-94.7	-1184.3	61.5	-4886.7	-11783.0	-103775.5
	-29.0	-616.6	67.9	-5571.8	-12986.4	20726.7
	-31.4	-617.2	65.4	-5311.5	-12492.4	20580.8

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-265.0	2508.3	-18.9	7432.4	-4002.4	-99080.6
	-262.2	2533.4	-17.3	7740.7	-3690.2	-103142.2
	-265.9	2469.7	-22.4	9435.4	-4749.3	-93113.5
	-263.2	2494.7	-20.8	9743.7	-4437.1	-97175.1
	-316.9	2219.5	-24.8	4284.9	-4962.7	-52378.0
	-314.2	2244.6	-23.2	4593.1	-4650.5	-56439.7
	-317.9	2180.9	-28.2	6287.9	-5709.6	-46411.0
	-315.1	2205.9	-26.6	6596.2	-5397.4	-50472.6
	18.2	4827.4	26.8	8863.7	5420.3	-465389.7
	20.9	4852.5	28.4	9172.0	5732.5	-469451.4
	17.2	4788.8	23.3	10866.7	4673.5	-459422.6
	20.0	4813.8	25.0	11175.0	4985.7	-463484.3
	-33.8	4538.6	20.9	5716.1	4460.1	-418687.2
	-31.1	4563.7	22.5	6024.4	4772.3	-422748.9
	-34.8	4500.0	17.5	7719.2	3713.2	-412720.1
	-32.0	4525.0	19.1	8027.5	4025.4	-416781.8
210.	-265.0	-545.6	-18.9	7432.4	-21.7	107003.9
	-262.2	-520.5	-17.3	7740.7	-46.1	108210.4
	-265.9	-584.3	-22.4	9435.4	-52.7	104852.8
	-263.2	-559.2	-20.8	9743.7	-77.0	106059.4
	-316.9	-834.4	-24.8	4284.9	251.5	93057.6
	-314.2	-809.3	-23.2	4593.1	227.2	94264.1
	-317.9	-873.1	-28.2	6287.9	220.5	90906.6
	-315.1	-848.0	-26.6	6596.2	196.2	92113.1
	18.2	1773.5	26.8	8863.7	-200.8	227705.1
	20.9	1798.6	28.4	9172.0	-225.1	228911.6
	17.2	1734.8	23.3	10866.7	-231.8	225554.0
	20.0	1759.9	25.0	11175.0	-256.1	226760.6
	-33.8	1484.7	20.9	5716.1	72.5	213758.8
	-31.1	1509.8	22.5	6024.4	48.1	214965.3
	-34.8	1446.0	17.5	7719.2	41.5	211607.8
	-32.0	1471.1	19.1	8027.5	17.1	212814.3
420.	-265.0	-3599.5	-18.9	7432.4	3954.7	-328235.9
	-262.2	-3574.4	-17.3	7740.7	3593.8	-321761.1
	-265.9	-3638.2	-22.4	9435.4	4639.6	-338505.0
	-263.2	-3613.1	-20.8	9743.7	4278.7	-332030.3
	-316.9	-3888.3	-24.8	4284.9	5461.4	-402830.9
	-314.2	-3863.2	-23.2	4593.1	5100.5	-396356.1
	-317.9	-3927.0	-28.2	6287.9	6146.3	-413100.0
	-315.1	-3901.9	-26.6	6596.2	5785.4	-406625.3
	18.2	-1280.4	26.8	8863.7	-5817.6	279475.5
	20.9	-1255.3	28.4	9172.0	-6178.4	285950.2
	17.2	-1319.1	23.3	10866.7	-5132.7	269206.3
	20.0	-1294.0	25.0	11175.0	-5493.5	275681.1
	-33.8	-1569.2	20.9	5716.1	-4310.9	204880.4
	-31.1	-1544.2	22.5	6024.4	-4671.7	211355.2
	-34.8	-1607.9	17.5	7719.2	-3626.0	194611.3
	-32.0	-1582.8	19.1	8027.5	-3986.8	201086.0

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-277.6	1954.9	-31.6	-29683.5	-4910.9	-14515.6
	-278.1	1983.8	-29.5	-29408.7	-4570.7	-19323.1
	-275.4	1922.2	-34.2	-38702.8	-5241.7	-10119.2
	-275.9	1951.0	-32.1	-38428.0	-4901.5	-14926.7
	-271.4	1616.6	-38.6	-32478.1	-6398.3	41847.7
	-271.9	1645.4	-36.5	-32203.3	-6058.1	37040.2
	-269.2	1583.8	-41.1	-41497.4	-6729.2	46244.1
	-269.7	1612.6	-39.1	-41222.6	-6388.9	41436.6
	79.8	5361.3	38.3	-30620.9	6256.6	-565897.0
	79.3	5390.1	40.4	-30346.0	6596.9	-570704.5
	82.0	5328.5	35.7	-39640.1	5925.8	-561500.5
	81.5	5357.4	37.8	-39365.3	6266.1	-566308.0
	86.0	5022.9	31.3	-33415.5	4769.2	-509533.7
	85.5	5051.8	33.4	-33140.6	5109.5	-514341.2
	88.2	4990.1	28.7	-42434.7	4438.4	-505137.2
	87.7	5019.0	30.8	-42159.9	4778.7	-509944.7
210.	-277.6	-1099.0	-31.6	-29683.5	1725.0	75356.6
	-278.1	-1070.2	-29.5	-29408.7	1626.9	76607.0
	-275.4	-1131.8	-34.2	-38702.8	1934.9	72872.1
	-275.9	-1102.9	-32.1	-38428.0	1836.8	74122.5
	-271.4	-1437.4	-38.6	-32478.1	1702.5	60662.3
	-271.9	-1408.5	-36.5	-32203.3	1604.3	61912.7
	-269.2	-1470.1	-41.1	-41497.4	1912.3	58177.8
	-269.7	-1441.3	-39.1	-41222.6	1814.2	59428.2
	79.8	2307.4	38.3	-30620.9	-1782.0	239310.0
	79.3	2336.2	40.4	-30346.0	-1880.1	240560.4
	82.0	2274.6	35.7	-39640.1	-1572.1	236825.5
	81.5	2303.4	37.8	-39365.3	-1670.2	238075.9
	86.0	1969.0	31.3	-33415.5	-1804.5	224615.7
	85.5	1997.8	33.4	-33140.6	-1902.7	225866.1
	88.2	1936.2	28.7	-42434.7	-1594.7	222131.2
	87.7	1965.1	30.8	-42159.9	-1692.8	223381.5

420.	-277.6	-4152.9	-31.6	-29683.5	8360.5	-476095.2
	-278.1	-4124.1	-29.5	-29408.7	7824.0	-468786.9
	-275.4	-4185.7	-34.2	-38702.8	9111.1	-485460.7
	-275.9	-4156.8	-32.1	-38428.0	8574.6	-478152.4
	-271.4	-4491.3	-38.6	-32478.1	9802.8	-561847.1
	-271.9	-4462.4	-36.5	-32203.3	9266.2	-554538.8
	-269.2	-4524.1	-41.1	-41497.4	10553.3	-571212.6
	-269.7	-4495.2	-39.1	-41222.6	10016.8	-563904.3
	79.8	-746.6	38.3	-30620.9	-9820.0	403192.5
	79.3	-717.7	40.4	-30346.0	-10356.6	410500.8
	82.0	-779.3	35.7	-39640.1	-9069.5	393827.0
	81.5	-750.5	37.8	-39365.3	-9606.0	401135.3
	86.0	-1084.9	31.3	-33415.5	-8377.8	317440.6
	85.5	-1056.1	33.4	-33140.6	-8914.3	324748.9
	88.2	-1117.7	28.7	-42434.7	-7627.2	308075.1
	87.7	-1088.9	30.8	-42159.9	-8163.8	315383.4

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-228.0	2253.9	35.7	21794.5	5225.0	-50556.1
	-228.4	2229.9	38.1	21997.1	5621.8	-46572.5
	-237.9	2276.9	32.2	12354.6	4709.2	-53133.5
	-238.3	2252.9	34.6	12557.1	5106.0	-49149.9
	-210.9	2537.3	25.3	19754.1	3027.2	-97476.6
	-211.3	2513.3	27.7	19956.6	3424.0	-93493.0
	-220.8	2560.3	21.8	10314.1	2511.3	-100054.0
	-221.2	2536.2	24.2	10516.6	2908.2	-96070.4
	6.0	4732.6	-24.4	32418.5	-3034.3	-442555.4
	5.6	4708.5	-21.9	32621.0	-2637.5	-438571.8
	-3.9	4755.5	-27.9	22978.5	-3550.1	-445132.9
	-4.3	4731.5	-25.5	23181.0	-3153.3	-441149.3
	23.1	5015.9	-34.8	30378.1	-5232.2	-489475.9
	22.6	4991.9	-32.3	30580.6	-4835.3	-485492.3
	13.2	5038.9	-38.3	20938.1	-5748.0	-492053.4
	12.7	5014.9	-35.9	21140.6	-5351.2	-488069.8
210.	-228.0	-962.2	35.7	21794.5	-2275.3	85076.9
	-228.4	-986.2	38.1	21997.1	-2387.9	84011.5
	-237.9	-939.2	32.2	12354.6	-2046.0	87322.4
	-238.3	-963.3	34.6	12557.1	-2158.6	86257.0
	-210.9	-678.8	25.3	19754.1	-2288.4	97665.7
	-211.3	-702.9	27.7	19956.6	-2401.0	96600.3
	-220.8	-655.9	21.8	10314.1	-2059.0	99911.3
	-221.2	-679.9	24.2	10516.6	-2171.6	98845.9
	6.0	1516.4	-24.4	32418.5	2081.0	213587.9
	5.6	1492.4	-21.9	32621.0	1968.4	212522.6
	-3.9	1539.4	-27.9	22978.5	2310.3	215833.5
	-4.3	1515.3	-25.5	23181.0	2197.7	214768.1
	23.1	1799.8	-34.8	30378.1	2068.0	226176.8
	22.6	1775.8	-32.3	30580.6	1955.4	225111.4
	13.2	1822.8	-38.3	20938.1	2297.3	228422.3
	12.7	1798.7	-35.9	21140.6	2184.7	227356.9
420.	-228.0	-4178.4	35.7	21794.5	-9773.8	-454681.2
	-228.4	-4202.4	38.1	21997.1	-10395.8	-460795.6
	-237.9	-4155.4	32.2	12354.6	-8799.3	-447612.8
	-238.3	-4179.4	34.6	12557.1	-9421.3	-453727.1
	-210.9	-3895.0	25.3	19754.1	-7602.0	-382583.0
	-211.3	-3919.0	27.7	19956.6	-8224.0	-388697.3
	-220.8	-3872.0	21.8	10314.1	-6627.5	-375514.5
	-221.2	-3896.1	24.2	10516.6	-7249.5	-381628.9
	6.0	-1699.7	-24.4	32418.5	7194.4	194339.4
	5.6	-1723.8	-21.9	32621.0	6572.4	188225.0
	-3.9	-1676.8	-27.9	22978.5	8168.9	201407.9
	-4.3	-1700.8	-25.5	23181.0	7546.9	195293.5
	23.1	-1416.4	-34.8	30378.1	9366.2	266437.6
	22.6	-1440.4	-32.3	30580.6	8744.2	260323.3
	13.2	-1393.4	-38.3	20938.1	10340.7	273506.1
	12.7	-1417.4	-35.9	21140.6	9718.7	267391.7

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-331.9	2481.5	22.9	-9430.2	5010.5	-72980.7
	-335.7	2450.9	25.0	-8897.4	5430.2	-67753.9
	-347.0	2526.9	17.8	-7595.1	3862.2	-80411.1
	-350.8	2496.3	19.9	-7062.3	4281.9	-75184.3
	-289.6	2832.9	10.7	-14905.6	2893.8	-133037.9
	-293.4	2802.3	12.9	-14372.9	3313.5	-127811.1
	-304.7	2878.3	5.6	-13070.5	1745.6	-140468.4
	-308.5	2847.7	7.8	-12537.7	2165.3	-135241.6
	-155.0	4444.0	-8.2	5412.7	-2329.0	-399590.1
	-158.8	4413.4	-6.0	5945.5	-1909.3	-394363.3
	-170.1	4489.3	-13.3	7247.9	-3477.3	-407020.5
	-173.9	4458.8	-11.1	7780.7	-3057.6	-401793.8
	-112.7	4795.4	-20.3	-62.7	-4445.7	-459647.3
	-116.6	4764.8	-18.1	470.1	-4026.0	-454420.5
	-127.8	4840.8	-25.4	1772.5	-5593.9	-467077.8
	-131.7	4810.2	-23.3	2305.3	-5174.2	-461851.0
210.	-331.9	-734.7	22.9	-9430.2	208.6	110436.4
	-335.7	-765.2	25.0	-8897.4	174.2	109246.2
	-347.0	-689.3	17.8	-7595.1	134.6	112536.0
	-350.8	-719.8	19.9	-7062.3	100.3	111345.8
	-289.6	-383.2	10.7	-14905.6	643.2	124175.2
	-293.4	-413.8	12.9	-14372.9	608.8	122985.0
	-304.7	-337.9	5.6	-13070.5	569.2	126274.8
	-308.5	-368.4	7.8	-12537.7	534.9	125084.6
	-155.0	1227.8	-8.2	5412.7	-620.8	195946.8
	-158.8	1197.3	-6.0	5945.5	-655.1	194756.6
	-170.1	1273.2	-13.3	7247.9	-694.8	198046.4
	-173.9	1242.6	-11.1	7780.7	-729.1	196856.2
	-112.7	1579.2	-20.3	-62.7	-186.2	209685.6
	-116.6	1548.7	-18.1	470.1	-220.5	208495.4
	-127.8	1624.6	-25.4	1772.5	-260.2	211785.2
	-131.7	1594.0	-23.3	2305.3	-294.5	210595.0
420.	-331.9	-3950.8	22.9	-9430.2	-4601.9	-381537.7
	-335.7	-3981.4	25.0	-8897.4	-5090.2	-389144.9
	-347.0	-3905.4	17.8	-7595.1	-3601.5	-369908.0
	-350.8	-3936.0	19.9	-7062.3	-4089.9	-377515.2
	-289.6	-3599.4	10.7	-14905.6	-1616.0	-294002.8
	-293.4	-3630.0	12.9	-14372.9	-2104.4	-301610.0
	-304.7	-3554.0	5.6	-13070.5	-615.7	-282373.1
	-308.5	-3584.6	7.8	-12537.7	-1104.0	-289980.3
	-155.0	-1988.3	-8.2	5412.7	1095.9	116091.8
	-158.8	-2018.9	-6.0	5945.5	607.6	108484.7
	-170.1	-1943.0	-13.3	7247.9	2096.3	127721.5
	-173.9	-1973.5	-11.1	7780.7	1607.9	120114.3
	-112.7	-1636.9	-20.3	-62.7	4081.8	203626.7
	-116.6	-1667.5	-18.1	470.1	3593.4	196019.5
	-127.8	-1591.5	-25.4	1772.5	5082.1	215256.4
	-131.7	-1622.1	-23.3	2305.3	4593.8	207649.2

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	499.0	181.6	16.1	39804.8	3909.2	42434.5
	516.4	189.3	15.9	39666.0	3806.9	40887.9
	398.0	588.6	16.6	40315.3	4169.2	-38320.0
	415.4	596.3	16.4	40176.4	4066.9	-39866.6
	600.7	100.9	10.7	41764.5	2706.2	58584.3
	618.2	108.6	10.5	41625.7	2603.9	57037.7
	499.7	507.9	11.2	42275.0	2966.2	-22170.2
	517.1	515.6	11.0	42136.2	2863.9	-23716.8
	-586.1	304.5	-10.7	-23454.0	-2794.5	16490.3
	-568.7	312.2	-11.0	-23592.9	-2896.7	14943.7
	-687.1	711.5	-10.2	-22943.6	-2534.5	-64264.2

	-669.7	719.2	-10.5	-23082.4	-2636.7	-65810.8
	-484.4	223.8	-16.1	-21494.3	-3997.4	32640.1
	-467.0	231.5	-16.4	-21633.1	-4099.7	31093.5
	-585.4	630.8	-15.6	-20983.9	-3737.4	-48114.4
	-568.0	638.5	-15.9	-21122.7	-3839.7	-49661.0
195.	499.0	-622.8	16.1	39804.8	765.0	-584.4
	516.4	-615.1	15.9	39666.0	709.3	-624.2
	398.0	-215.8	16.6	40315.3	928.5	-1966.8
	415.4	-208.0	16.4	40176.4	872.8	-2006.6
	600.7	-703.5	10.7	41764.5	613.7	-168.8
	618.2	-695.8	10.5	41625.7	558.0	-208.7
	499.7	-296.5	11.2	42275.0	777.2	-1551.3
	517.1	-288.7	11.0	42136.2	721.6	-1591.1
	-586.1	-499.9	-10.7	-23454.0	-702.3	-2569.2
	-568.7	-492.2	-11.0	-23592.9	-758.0	-2609.0
	-687.1	-92.9	-10.2	-22943.6	-538.8	-3951.6
	-669.7	-85.2	-10.5	-23082.4	-594.5	-3991.4
	-484.4	-580.6	-16.1	-21494.3	-853.6	-2153.7
	-467.0	-572.9	-16.4	-21633.1	-909.3	-2193.5
	-585.4	-173.6	-15.6	-20983.9	-690.1	-3536.1
	-568.0	-165.8	-15.9	-21122.7	-745.8	-3575.9
390.	499.0	-1427.2	16.1	39804.8	-2379.3	-200461.1
	516.4	-1419.5	15.9	39666.0	-2388.4	-198994.2
	398.0	-1020.1	16.6	40315.3	-2312.3	-122471.5
	415.4	-1012.4	16.4	40176.4	-2321.4	-121004.5
	600.7	-1507.9	10.7	41764.5	-1478.9	-215779.9
	618.2	-1500.1	10.5	41625.7	-1488.0	-214313.0
	499.7	-1100.8	11.2	42275.0	-1411.9	-137790.3
	517.1	-1093.1	11.0	42136.2	-1421.0	-136323.4
	-586.1	-1304.3	-10.7	-23454.0	1390.0	-178477.0
	-568.7	-1296.6	-11.0	-23592.9	1380.9	-177010.1
	-687.1	-897.3	-10.2	-22943.6	1457.0	-100487.3
	-669.7	-889.5	-10.5	-23082.4	1448.0	-99020.4
	-484.4	-1385.0	-16.1	-21494.3	2290.4	-193795.8
	-467.0	-1377.3	-16.4	-21633.1	2281.3	-192328.9
	-585.4	-977.9	-15.6	-20983.9	2357.4	-115806.1
	-568.0	-970.2	-15.9	-21122.7	2348.3	-114339.2

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	1456.3	4728.8	25.2	120026.0	6028.8	-239712.7
	1488.4	4735.8	25.0	119402.2	5846.1	-241198.2
	1370.5	5074.1	25.2	120667.6	6260.4	-315323.7
	1402.6	5081.1	25.1	120043.8	6077.8	-316809.3
	1650.6	4653.9	18.9	127730.4	4461.9	-223978.2
	1682.7	4661.0	18.8	127106.6	4279.3	-225463.7
	1564.8	4999.2	19.0	128372.0	4693.6	-299589.2
	1596.9	5006.3	18.9	127748.2	4510.9	-301074.7
	-2199.7	4879.9	-17.8	-87541.5	-4196.6	-271808.3
	-2167.6	4887.0	-17.9	-88165.3	-4379.3	-273293.8
	-2285.6	5225.2	-17.7	-86899.9	-3965.0	-347419.3
	-2253.5	5232.3	-17.8	-87523.7	-4147.6	-348904.9
	-2005.4	4805.1	-24.0	-79837.1	-5763.5	-256073.8
	-1973.3	4812.1	-24.1	-80460.9	-5946.1	-257559.3
	-2091.2	5150.4	-24.0	-79195.5	-5531.8	-331684.8
	-2059.2	5157.4	-24.1	-79819.3	-5714.5	-333170.3
215.	1456.3	-421.0	25.2	120026.0	620.7	223367.8
	1488.4	-414.0	25.0	119402.2	461.6	223398.6
	1370.5	-75.7	25.2	120667.6	836.7	222000.7
	1402.6	-68.7	25.1	120043.8	677.7	222031.5
	1650.6	-495.9	18.9	127730.4	399.1	223013.4
	1682.7	-488.8	18.8	127106.6	240.1	223044.2
	1564.8	-150.5	19.0	128372.0	615.2	221646.3
	1596.9	-143.5	18.9	127748.2	456.2	221677.1
	-2199.7	-269.9	-17.8	-87541.5	-375.5	223768.6
	-2167.6	-262.8	-17.9	-88165.3	-534.5	223799.4
	-2285.6	75.4	-17.7	-86899.9	-159.4	222401.5
	-2253.5	82.5	-17.8	-87523.7	-318.4	222432.3
	-2005.4	-344.7	-24.0	-79837.1	-597.0	223414.1
	-1973.3	-337.7	-24.1	-80460.9	-756.0	223444.9
	-2091.2	0.6	-24.0	-79195.5	-380.9	222047.0
	-2059.2	7.7	-24.1	-79819.3	-539.9	222077.8
430.	1456.3	-5570.8	25.2	120026.0	-4787.6	-420755.2
	1488.4	-5563.8	25.0	119402.2	-4922.9	-419208.1
	1370.5	-5225.5	25.2	120667.6	-4587.1	-347878.4
	1402.6	-5218.4	25.1	120043.8	-4722.4	-346331.3
	1650.6	-5645.6	18.9	127730.4	-3663.7	-437198.7
	1682.7	-5638.6	18.8	127106.6	-3799.1	-435651.5
	1564.8	-5300.3	19.0	128372.0	-3463.2	-364321.9
	1596.9	-5293.3	18.9	127748.2	-3598.6	-362774.7
	-2199.7	-5419.7	-17.8	-87541.5	3445.8	-387859.6
	-2167.6	-5412.6	-17.9	-88165.3	3310.4	-386312.5
	-2285.6	-5074.4	-17.7	-86899.9	3646.3	-314982.8
	-2253.5	-5067.3	-17.8	-87523.7	3510.9	-313435.6
	-2005.4	-5494.5	-24.0	-79837.1	4569.6	-404303.1
	-1973.3	-5487.5	-24.1	-80460.9	4434.2	-402755.9
	-2091.2	-5149.2	-24.0	-79195.5	4770.1	-331426.2
	-2059.2	-5142.1	-24.1	-79819.3	4634.7	-329879.1

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	3367.8	4704.9	-2.4	27574.6	-4646.1	-313413.0
	3402.9	4712.7	-1.4	28497.8	-4444.1	-314979.1
	3319.6	5089.7	-4.3	26020.9	-4996.9	-390950.1
	3354.7	5097.5	-3.2	26944.1	-4794.8	-392516.2
	3565.5	4621.3	-13.8	16679.8	-7465.8	-296757.2
	3600.6	4629.2	-12.8	17603.0	-7263.7	-298323.3
	3517.3	5006.1	-15.6	15126.0	-7816.5	-374294.3
	3552.4	5014.0	-14.6	16049.3	-7614.5	-375860.4
	-4093.0	4834.1	15.0	-6742.9	7623.0	-336720.7
	-4057.9	4841.9	16.0	-5819.7	7825.1	-338286.8
	-4141.2	5218.9	13.2	-8296.7	7272.3	-414257.8
	-4106.1	5226.7	14.2	-7373.5	7474.3	-415823.9
	-3895.3	4750.5	3.6	-17637.8	4803.4	-320064.9
	-3860.2	4758.3	4.6	-16714.5	5005.4	-321631.0
	-3943.5	5135.3	1.8	-19191.5	4452.6	-397602.0
	-3908.4	5143.1	2.8	-18268.3	4654.7	-399168.1
200.	3367.8	-85.6	-2.4	27574.6	-4166.2	148511.8
	3402.9	-77.8	-1.4	28497.8	-4174.1	148511.4
	3319.6	299.2	-4.3	26020.9	-4151.4	147933.7
	3354.7	307.0	-3.2	26944.1	-4159.3	147933.3
	3565.5	-169.2	-13.8	16679.8	-4709.4	148451.9
	3600.6	-161.3	-12.8	17603.0	-4717.2	148451.5
	3517.3	215.6	-15.6	15126.0	-4694.6	147873.9
	3552.4	223.5	-14.6	16049.3	-4702.5	147873.4
	-4093.0	43.6	15.0	-6742.9	4632.6	151049.5
	-4057.9	51.4	16.0	-5819.7	4624.8	151049.1
	-4141.2	428.4	13.2	-8296.7	4647.4	150471.5
	-4106.1	436.2	14.2	-7373.5	4639.5	150471.0
	-3895.3	-40.0	3.6	-17637.8	4089.5	150989.7
	-3860.2	-32.2	4.6	-16714.5	4081.6	150989.2
	-3943.5	344.8	1.8	-19191.5	4104.2	150411.6
	-3908.4	352.6	2.8	-18268.3	4096.3	150411.1
400.	3367.8	-4876.1	-2.4	27574.6	-3693.2	-347651.4
	3402.9	-4868.3	-1.4	28497.8	-3910.9	-346086.2
	3319.6	-4491.3	-4.3	26020.9	-3312.9	-271270.5
	3354.7	-4483.5	-3.2	26944.1	-3530.7	-269705.3
	3565.5	-4959.7	-13.8	16679.8	-1959.8	-364427.0
	3600.6	-4951.8	-12.8	17603.0	-2177.6	-362861.8
	3517.3	-4574.9	-15.6	15126.0	-1579.6	-288046.0
	3552.4	-4567.0	-14.6	16049.3	-1797.4	-286480.8
	-4093.0	-4746.9	15.0	-6742.9	1649.1	-319292.2

	-4057.9	-4739.1	16.0	-5819.7	1431.4	-317727.0
	-4141.2	-4362.1	13.2	-8296.7	2029.3	-242911.2
	-4106.1	-4354.3	14.2	-7373.5	1811.6	-241346.0
	-3895.3	-4830.5	3.6	-17637.8	3382.4	-336067.7
	-3860.2	-4822.7	4.6	-16714.5	3164.7	-334502.5
	-3943.5	-4445.7	1.8	-19191.5	3762.7	-259686.8
	-3908.4	-4437.9	2.8	-18268.3	3544.9	-258121.6

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	4246.7	4517.9	0.7	1523.1	-4166.6	-266298.0
	4268.9	4525.1	1.4	2798.2	-4048.1	-267785.5
	4267.7	4887.2	-0.5	-559.9	-4335.5	-342154.5
	4289.9	4894.5	0.2	715.2	-4217.0	-343642.1
	4217.6	4439.6	-10.2	-13829.9	-6457.8	-250289.9
	4239.8	4446.8	-9.5	-12554.8	-6339.3	-251777.4
	4238.5	4808.9	-11.4	-15913.0	-6626.7	-326146.4
	4260.7	4816.2	-10.7	-14637.8	-6508.2	-327634.0
	-4829.5	4647.0	11.0	16567.4	6510.9	-290935.3
	-4807.3	4654.3	11.8	17842.6	6629.5	-292422.8
	-4808.5	5016.4	9.8	14484.4	6342.0	-366791.8
	-4786.3	5023.7	10.6	15759.5	6460.6	-368279.4
	-4858.7	4568.7	0.1	1214.4	4219.7	-274927.2
	-4836.4	4576.0	0.9	2489.6	4338.3	-276414.7
	-4837.7	4938.1	-1.1	-868.6	4050.8	-350783.7
	-4815.5	4945.4	-0.3	406.5	4169.4	-352271.3
210.	4246.7	-512.2	0.7	1523.1	-4320.5	154297.7
	4268.9	-504.9	1.4	2798.2	-4356.5	154336.2
	4267.7	-142.8	-0.5	-559.9	-4238.2	156004.0
	4289.9	-135.5	0.2	715.2	-4274.2	156042.6
	4217.6	-590.5	-10.2	-13829.9	-4322.4	153861.9
	4239.8	-583.2	-9.5	-12554.8	-4358.5	153900.4
	4238.5	-221.1	-11.4	-15913.0	-4240.2	155568.3
	4260.7	-213.9	-10.7	-14637.8	-4276.2	155606.8
	-4829.5	-383.0	11.0	16567.4	4207.0	156795.1
	-4807.3	-375.7	11.8	17842.6	4171.0	156833.6
	-4808.5	-13.6	9.8	14484.4	4289.2	158501.5
	-4786.3	-6.4	10.6	15759.5	4253.2	158540.0
	-4858.7	-461.3	0.1	1214.4	4205.0	156359.4
	-4836.4	-454.0	0.9	2489.6	4169.0	156397.9
	-4837.7	-91.9	-1.1	-868.6	4287.2	158065.7
	-4815.5	-84.7	-0.3	406.5	4251.2	158104.3
420.	4246.7	-5542.2	0.7	1523.1	-4482.2	-481406.3
	4268.9	-5534.9	1.4	2798.2	-4672.8	-479841.7
	4267.7	-5172.8	-0.5	-559.9	-4148.9	-402137.0
	4289.9	-5165.6	0.2	715.2	-4339.4	-400572.4
	4217.6	-5620.5	-10.2	-13829.9	-2195.0	-498285.9
	4239.8	-5613.2	-9.5	-12554.8	-2385.5	-496721.3
	4238.5	-5251.1	-11.4	-15913.0	-1861.6	-419016.6
	4260.7	-5243.9	-10.7	-14637.8	-2052.2	-417452.0
	-4829.5	-5413.0	11.0	16567.4	1910.9	-451785.4
	-4807.3	-5405.7	11.8	17842.6	1720.4	-450220.8
	-4808.5	-5043.7	9.8	14484.4	2244.3	-372516.1
	-4786.3	-5036.4	10.6	15759.5	2053.8	-370951.5
	-4858.7	-5491.3	0.1	1214.4	4198.2	-468665.0
	-4836.4	-5484.0	0.9	2489.6	4007.6	-467100.4
	-4837.7	-5122.0	-1.1	-868.6	4531.6	-389395.7
	-4815.5	-5114.7	-0.3	406.5	4341.0	-387831.1

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	3936.6	6025.8	-4.7	-12103.9	-5625.9	-456595.4
	3942.3	6031.0	-4.1	-10825.1	-5485.8	-457948.2
	4110.4	6291.1	-5.5	-14186.3	-5828.7	-525021.5
	4116.1	6296.3	-5.0	-12907.5	-5688.6	-526374.4
	3572.9	5969.8	-13.0	-27487.4	-7363.0	-442013.6
	3578.6	5975.0	-12.5	-26208.6	-7222.9	-443366.4
	3746.7	6235.1	-13.8	-29569.8	-7565.8	-510439.7
	3752.4	6240.3	-13.3	-28291.0	-7425.7	-511792.6
	-4560.8	6122.7	13.7	26915.9	7424.7	-479728.1
	-4555.1	6127.9	14.2	28194.7	7564.8	-481081.0
	-4387.0	6387.9	12.9	24833.5	7221.9	-548154.3
	-4381.2	6393.2	13.4	26112.3	7362.0	-549507.1
	-4924.4	6066.6	5.4	11532.4	5687.6	-465146.3
	-4918.7	6071.8	5.9	12811.2	5827.7	-466499.2
	-4750.6	6331.9	4.5	9450.0	5484.8	-533572.5
	-4744.9	6337.1	5.0	10728.8	5624.9	-534925.3
255.	3936.6	-82.1	-4.7	-12103.9	-4441.4	301230.6
	3942.3	-76.8	-4.1	-10825.1	-4435.2	301206.8
	4110.4	183.2	-5.5	-14186.3	-4430.7	300452.4
	4116.1	188.4	-5.0	-12907.5	-4424.5	300428.6
	3572.9	-138.1	-13.0	-27487.4	-4053.0	301518.1
	3578.6	-132.9	-12.5	-26208.6	-4046.8	301494.3
	3746.7	127.2	-13.8	-29569.8	-4042.4	300739.9
	3752.4	132.4	-13.3	-28291.0	-4036.2	300716.1
	-4560.8	14.8	13.7	26915.9	3937.8	302798.6
	-4555.1	20.0	14.2	28194.7	3944.0	302774.7
	-4387.0	280.1	12.9	24833.5	3948.4	302020.4
	-4381.2	285.3	13.4	26112.3	3954.6	301996.6
	-4924.4	-41.3	5.4	11532.4	4326.1	303086.1
	-4918.7	-36.1	5.9	12811.2	4332.3	303062.3
	-4750.6	224.0	4.5	9450.0	4336.7	302307.9
	-4744.9	229.2	5.0	10728.8	4342.9	302284.1
510.	3936.6	-6189.9	-4.7	-12103.9	-3268.3	-498443.8
	3942.3	-6184.7	-4.1	-10825.1	-3396.0	-497138.6
	4110.4	-5924.7	-5.5	-14186.3	-3044.2	-431574.0
	4116.1	-5919.4	-5.0	-12907.5	-3171.9	-430268.8
	3572.9	-6246.0	-13.0	-27487.4	-754.5	-512450.5
	3578.6	-6240.8	-12.5	-26208.6	-882.2	-511145.3
	3746.7	-5980.7	-13.8	-29569.8	-530.4	-445580.7
	3752.4	-5975.5	-13.3	-28291.0	-658.1	-444275.5
	-4560.8	-6093.1	13.7	26915.9	462.2	-472197.0
	-4555.1	-6087.9	14.2	28194.7	334.6	-470891.8
	-4387.0	-5827.8	12.9	24833.5	686.3	-405327.3
	-4381.2	-5822.6	13.4	26112.3	558.6	-404022.0
	-4924.4	-6149.2	5.4	11532.4	2976.0	-486203.7
	-4918.7	-6144.0	5.9	12811.2	2848.3	-484898.5
	-4750.6	-5883.9	4.5	9450.0	3200.1	-419334.0
	-4744.9	-5878.7	5.0	10728.8	3072.4	-418028.8

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	3118.8	4494.8	-6.2	-41129.2	-5246.8	-328733.5
	3109.9	4503.9	-5.0	-40225.8	-5042.7	-330437.9
	3400.3	4943.8	-8.3	-42628.9	-5557.0	-411950.3
	3391.4	4952.9	-7.1	-41725.5	-5352.9	-413654.7
	2551.4	4397.9	-18.5	-51710.6	-6684.2	-310518.7
	2542.5	4407.0	-17.3	-50807.2	-6480.0	-312223.1
	2832.9	4847.0	-20.6	-53210.2	-6994.4	-393735.5
	2824.0	4856.1	-19.4	-52306.8	-6790.2	-395439.9
	-3288.7	4659.9	19.3	40689.8	6715.9	-356709.9
	-3297.5	4669.0	20.5	41593.2	6920.1	-358414.3
	-3007.2	5108.9	17.2	39190.1	6405.8	-439926.7
	-3016.0	5118.0	18.4	40093.5	6609.9	-441631.0
	-3856.0	4563.0	7.0	30108.4	5278.6	-338495.1
	-3864.9	4572.1	8.2	31011.8	5482.7	-340199.5
	-3574.5	5012.1	4.9	28608.8	4968.4	-421711.9
	-3583.4	5021.2	6.1	29512.2	5172.6	-423416.2
180.	3118.8	183.3	-6.2	-41129.2	-4144.4	92285.8
	3109.9	192.4	-5.0	-40225.8	-4151.6	92219.3
	3400.3	632.4	-8.3	-42628.9	-4075.7	89897.9
	3391.4	641.5	-7.1	-41725.5	-4082.9	89831.4

	2551.4	86.5	-18.5	-51710.6	-3368.4	93066.7
	2542.5	95.6	-17.3	-50807.2	-3375.6	93000.2
	2832.9	535.5	-20.6	-53210.2	-3299.6	90678.8
	2824.0	544.6	-19.4	-52306.8	-3306.8	90612.3
	-3288.7	348.4	19.3	40689.8	3240.6	94049.8
	-3297.5	357.5	20.5	41593.2	3233.4	93983.3
	-3007.2	797.5	17.2	39190.1	3309.4	91661.9
	-3016.0	806.6	18.4	40093.5	3302.2	91595.4
	-3856.0	251.6	7.0	30108.4	4016.6	94830.7
	-3864.9	260.7	8.2	31011.8	4009.4	94764.3
	-3574.5	700.6	4.9	28608.8	4085.4	92442.8
	-3583.4	709.7	6.1	29512.2	4078.2	92376.4
360.	3118.8	-4128.1	-6.2	-41129.2	-3061.1	-262733.5
	3109.9	-4119.0	-5.0	-40225.8	-3279.7	-261162.1
	3400.3	-3679.1	-8.3	-42628.9	-2613.5	-184292.6
	3391.4	-3670.0	-7.1	-41725.5	-2832.0	-182721.1
	2551.4	-4225.0	-18.5	-51710.6	-71.7	-279386.4
	2542.5	-4215.9	-17.3	-50807.2	-290.2	-277815.0
	2832.9	-3775.9	-20.6	-53210.2	376.0	-200945.5
	2824.0	-3766.8	-19.4	-52306.8	157.4	-199374.1
	-3288.7	-3963.0	19.3	40689.8	-215.6	-231273.9
	-3297.5	-3953.9	20.5	41593.2	-434.1	-229702.5
	-3007.2	-3514.0	17.2	39190.1	232.1	-152832.9
	-3016.0	-3504.9	18.4	40093.5	13.5	-151261.5
	-3856.0	-4059.9	7.0	30108.4	2773.9	-247926.8
	-3864.9	-4050.8	8.2	31011.8	2555.3	-246355.4
	-3574.5	-3610.8	4.9	28608.8	3221.5	-169485.9
	-3583.4	-3601.7	6.1	29512.2	3003.0	-167914.5

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	1527.7	3839.7	-38.9	-136136.5	-5583.9	-178549.0
	1513.5	3849.3	-39.3	-136667.6	-5471.6	-180174.8
	1771.4	4309.5	-38.2	-135716.3	-5661.4	-254894.5
	1757.2	4319.1	-38.5	-136247.4	-5549.1	-256520.3
	1086.9	3738.4	-46.4	-129406.6	-6442.2	-161331.8
	1072.7	3748.0	-46.7	-129937.7	-6329.9	-162957.5
	1330.6	4208.2	-45.7	-128986.4	-6519.7	-237677.3
	1316.4	4217.7	-46.0	-129517.5	-6407.3	-239303.1
	-1750.4	3962.8	46.0	79061.7	6461.9	-199886.4
	-1764.7	3972.3	45.6	78530.6	6574.3	-201512.2
	-1506.7	4432.6	46.7	79481.9	6384.5	-276232.0
	-1521.0	4442.1	46.4	78950.8	6496.8	-277857.7
	-2191.2	3861.4	38.5	85791.6	5603.7	-182669.2
	-2205.5	3871.0	38.2	85260.5	5716.0	-184295.0
	-1947.6	4331.2	39.2	86211.8	5526.2	-259014.7
	-1961.8	4340.8	38.9	85680.7	5638.6	-260640.5
165.	1527.7	-112.5	-38.9	-136136.5	841.7	128950.5
	1513.5	-102.9	-39.3	-136667.6	1008.3	128905.7
	1771.4	357.3	-38.2	-135716.3	643.7	130119.2
	1757.2	366.9	-38.5	-136247.4	810.3	130074.4
	1086.9	-213.8	-46.4	-129406.6	1215.6	129447.5
	1072.7	-204.2	-46.7	-129937.7	1382.2	129402.7
	1330.6	256.0	-45.7	-128986.4	1017.6	130616.2
	1316.4	265.6	-46.0	-129517.5	1184.1	130571.4
	-1750.4	10.6	46.0	79061.7	-1120.7	127916.2
	-1764.7	20.2	45.6	78530.6	-954.1	127871.4
	-1506.7	480.4	46.7	79481.9	-1318.7	129084.8
	-1521.0	490.0	46.4	78950.8	-1152.1	129040.0
	-2191.2	-90.7	38.5	85791.6	-746.8	128413.2
	-2205.5	-81.1	38.2	85260.5	-580.2	128368.3
	-1947.6	379.1	39.2	86211.8	-944.9	129581.8
	-1961.8	388.6	38.9	85680.7	-778.3	129537.0
330.	1527.7	-4064.6	-38.9	-136136.5	7267.2	-215658.2
	1513.5	-4055.0	-39.3	-136667.6	7488.0	-214122.0
	1771.4	-3594.8	-38.2	-135716.3	6948.5	-136975.3
	1757.2	-3585.2	-38.5	-136247.4	7169.4	-135439.2
	1086.9	-4165.9	-46.4	-129406.6	8873.2	-231881.5
	1072.7	-4156.4	-46.7	-129937.7	9094.0	-230345.3
	1330.6	-3696.2	-45.7	-128986.4	8554.5	-153198.6
	1316.4	-3686.6	-46.0	-129517.5	8775.4	-151662.4
	-1750.4	-3941.6	46.0	79061.7	-8703.0	-196386.6
	-1764.7	-3932.0	45.6	78530.6	-8482.2	-194850.4
	-1506.7	-3471.8	46.7	79481.9	-9021.7	-117703.7
	-1521.0	-3462.2	46.4	78950.8	-8800.8	-116167.5
	-2191.2	-4042.9	38.5	85791.6	-7097.0	-212609.9
	-2205.5	-4033.3	38.2	85260.5	-6876.2	-211073.7
	-1947.6	-3573.1	39.2	86211.8	-7415.7	-133927.0
	-1961.8	-3563.5	38.9	85680.7	-7194.8	-132390.8

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	470.0	815.9	-28.2	-20374.1	-4945.2	-62619.9
	463.0	824.5	-28.6	-20014.6	-4995.0	-64185.4
	674.3	1266.4	-26.9	-20595.1	-4838.8	-143697.8
	667.3	1275.0	-27.3	-20235.5	-4888.6	-145263.3
	236.5	725.8	-30.0	-24132.5	-4970.4	-46289.4
	229.6	734.4	-30.4	-23772.9	-5020.2	-47854.9
	440.8	1176.3	-28.8	-24353.4	-4864.0	-127367.4
	433.9	1184.9	-29.2	-23993.8	-4913.8	-128932.9
	-591.0	965.9	29.8	16508.8	5051.6	-90829.2
	-597.9	974.5	29.4	16868.4	5001.8	-92394.7
	-386.7	1416.3	31.0	16287.8	5158.0	-171907.2
	-393.6	1425.0	30.6	16647.4	5108.2	-173472.7
	-824.5	875.7	27.9	12750.5	5026.4	-74498.8
	-831.4	884.4	27.5	13110.1	4976.6	-76064.3
	-620.1	1326.2	29.2	12529.5	5132.8	-155576.7
	-627.1	1334.9	28.8	12889.1	5083.0	-157142.2
210.	470.0	-50.4	-28.2	-20374.1	967.6	17761.6
	463.0	-41.7	-28.6	-20014.6	1008.1	18012.1
	674.3	400.1	-26.9	-20595.1	807.7	31285.2
	667.3	408.8	-27.3	-20235.5	848.2	31535.7
	236.5	-140.5	-30.0	-24132.5	1334.0	15167.3
	229.6	-131.8	-30.4	-23772.9	1374.5	15417.8
	440.8	310.0	-28.8	-24353.4	1174.1	28690.9
	433.9	318.7	-29.2	-23993.8	1214.6	28941.4
	-591.0	99.6	29.8	16508.8	-1202.8	21047.1
	-597.9	108.3	29.4	16868.4	-1162.3	21297.5
	-386.7	550.1	31.0	16287.8	-1362.7	34570.7
	-393.6	558.7	30.6	16647.4	-1322.2	34821.1
	-824.5	9.5	27.9	12750.5	-836.4	18452.7
	-831.4	18.1	27.5	13110.1	-795.9	18703.2
	-620.1	460.0	29.2	12529.5	-996.3	31976.4
	-627.1	468.6	28.8	12889.1	-955.8	32226.8
420.	470.0	-916.6	-28.2	-20374.1	6879.9	-83767.9
	463.0	-908.0	-28.6	-20014.6	7010.7	-81701.6
	674.3	-466.1	-26.9	-20595.1	6453.7	24357.2
	667.3	-457.5	-27.3	-20235.5	6584.5	26423.6
	236.5	-1006.7	-30.0	-24132.5	7637.9	-105287.0
	229.6	-998.1	-30.4	-23772.9	7768.8	-103220.6
	440.8	-556.2	-28.8	-24353.4	7211.7	2838.2
	433.9	-547.6	-29.2	-23993.8	7342.6	4904.5
	-591.0	-766.6	29.8	16508.8	-7456.8	-48990.6
	-597.9	-758.0	29.4	16868.4	-7326.0	-46924.2
	-386.7	-316.2	31.0	16287.8	-7883.0	59134.6
	-393.6	-307.5	30.6	16647.4	-7752.2	61200.9
	-824.5	-856.8	27.9	12750.5	-6698.8	-70509.6
	-831.4	-848.1	27.5	13110.1	-6567.9	-68443.3
	-620.1	-406.3	29.2	12529.5	-7125.0	37615.5
	-627.1	-397.6	28.8	12889.1	-6994.1	39681.9

SOLLECITAZIONI ASTE

CASO DI CARICO : 10 SLUGeo COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+	1.00
2	Permanente_____	+	1.30
3	Var_copertura	+	1.30
4	Neve_(<1000m_slm)__	+	1.30

1) +1.00*c001 +1.30*c002 +1.30*c003 +1.30*c004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN] MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2230.0	-0.2	-252468.0	-41.9	-203588.8
195.	0.0	2428.8	-0.2	-256017.5	-2.5	-200365.2
390.	0.0	8114.2	-0.2	-260451.6	36.8	811112.1

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6415.2	-0.2	-380108.6	-38.4	606897.5
215.	0.0	930.7	-0.2	-386296.4	4.8	-1601.5
430.	0.0	9234.3	-0.2	-394106.2	48.3	1076211.5

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9284.5	-0.3	-165398.7	-58.1	1069418.5
200.	0.0	-969.4	-0.3	-173733.9	-0.6	37166.0
400.	0.0	7645.4	-0.3	-182700.6	57.0	701317.1

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8449.8	-0.3	-25259.8	-56.6	687546.2
210.	0.0	770.9	-0.3	-35076.6	1.5	-121245.5
420.	0.0	10068.8	-0.3	-45034.0	59.8	1017057.3

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-10968.1	-0.2	98188.0	-52.2	957474.1
255.	0.0	191.7	-0.2	86266.1	-0.8	-412032.8
510.	0.0	11106.8	-0.2	74853.4	50.4	1034626.6

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8398.4	-0.4	261071.2	-63.1	1141056.5
180.	0.0	-941.3	-0.3	253568.2	-0.1	305440.0
360.	0.0	6056.9	-0.4	246812.1	63.0	774455.3

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7579.8	-0.3	482217.4	-57.7	816381.9
165.	0.0	-1749.1	-0.3	476956.9	-6.2	55545.7
330.	0.0	3395.6	-0.3	472877.0	45.1	201199.8

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6879.1	-0.2	278432.4	-42.2	449211.0
210.	0.0	-1361.0	-0.2	274541.1	7.0	-395868.4
420.	0.0	3071.2	-0.2	271749.8	56.6	-199048.2

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2434.9	-0.2	176537.1	-41.3	-279726.1
175.	0.0	1057.3	-0.2	173468.2	-5.4	-393134.8
350.	0.0	4130.4	-0.2	170882.2	30.3	66057.1

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5724.2	-0.2	85065.4	-39.2	-129658.4
175.	0.0	-610.5	-0.2	81721.6	2.7	-671890.8
350.	0.0	3786.9	-0.2	78605.4	44.7	-385246.5

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4859.5	-0.2	-158337.8	-37.3	-208155.2
175.	0.0	-135.8	-0.2	-154782.1	1.5	-635402.5
350.	0.0	4020.5	-0.2	-151657.3	40.3	-288820.4

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1654.0	-0.3	-167909.8	-62.9	-316726.2
175.	0.0	1489.0	-0.3	-165458.8	-9.5	-326883.1
350.	0.0	4398.4	-0.3	-163468.4	43.5	191052.6

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3964.0	-0.2	-98627.8	-28.2	167370.3
195.	0.0	-420.4	-0.2	-100553.5	4.7	-270464.0
390.	0.0	3800.3	-0.2	-102826.8	37.9	47326.9

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3811.0	-0.2	112596.2	-34.1	-42065.9
210.	0.0	524.2	-0.2	110859.6	-2.1	-373809.1
420.	0.0	4187.6	-0.2	109567.1	29.7	131259.2

Asta	15	nodi	3	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6282.4	0.0	11817.4	-4.9	250660.6
385.	0.0	98.7	0.0	11299.2	0.0	-862108.3
770.	0.0	5222.9	0.0	10874.4	6.0	165129.5

Asta	16	nodi	4	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6649.5	0.0	3890.1	-4.6	190291.9
385.	0.0	127.8	0.0	3751.5	0.0	-976943.9
770.	0.0	5540.0	0.0	3644.0	4.8	113458.0

Asta	17	nodi	5	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6730.5	0.0	-2963.8	-5.3	178765.5
385.	0.0	122.7	0.0	-2855.6	0.0	-1002705.7
770.	0.0	5588.3	0.0	-2770.9	5.4	95050.9

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6528.6	0.0	-8106.3	-4.8	216952.6
385.	0.0	78.3	0.0	-7925.1	0.0	-941164.6
770.	0.0	5395.0	0.0	-7809.3	4.2	111278.1

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5866.3	0.0	-22626.0	-4.7	252894.1
385.	0.0	62.0	0.0	-21898.3	0.0	-796471.2
770.	0.0	4930.1	0.0	-21351.7	3.6	164211.6

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3393.8	-0.2	-16796.9	-28.6	-56970.1
210.	0.0	-118.3	-0.2	-19649.6	5.5	-419266.0
420.	0.0	2900.6	-0.2	-22581.1	39.9	-124669.1

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4310.6	-0.2	82252.1	-40.9	-311535.3
210.	0.0	379.3	-0.2	78807.0	-1.2	-716710.1
420.	0.0	4845.5	-0.2	75677.6	38.3	-167735.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4515.6	-0.2	-81247.7	-33.8	-206361.0
210.	0.0	37.6	-0.1	-77912.7	-2.3	-671282.8
420.	0.0	4481.1	-0.1	-74889.7	28.9	-198233.5

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3638.9	-0.2	-4442.2	-36.7	43746.5
210.	0.0	-371.4	-0.2	-2334.8	6.5	-373895.9
420.	0.0	2792.0	-0.2	-236.7	50.2	-119688.4

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1882.3	-0.2	95357.1	-47.4	-36551.8
195.	0.0	1219.9	-0.2	95463.0	-2.5	-112630.1
390.	0.0	5041.3	-0.2	95898.7	42.2	486333.4

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4432.8	-0.2	235023.7	-46.3	460663.9
215.	0.0	539.1	-0.2	236181.9	6.5	28843.1
430.	0.0	6170.8	-0.2	238331.8	59.8	740039.6

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6419.8	-0.3	95265.1	-69.5	756555.6
200.	0.0	-787.0	-0.3	97904.2	-3.0	31448.4
400.	0.0	5032.1	-0.3	100899.2	63.3	453914.6

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5695.0	-0.3	21761.7	-58.9	448466.9
210.	0.0	520.4	-0.3	25143.6	1.4	-96425.1
420.	0.0	6785.9	-0.3	28626.3	61.8	670770.7

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7425.6	-0.2	-30150.6	-51.3	618521.0
255.	0.0	110.9	-0.2	-25937.0	-2.3	-311787.5
510.	0.0	7536.6	-0.2	-21876.5	46.5	665764.0

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5655.5	-0.3	-101646.8	-52.3	725753.2
180.	0.0	-522.6	-0.3	-98980.3	-1.8	172158.8
360.	0.0	4369.4	-0.3	-96605.4	48.7	523060.0

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4695.8	-0.2	-244392.3	-43.1	507179.8
165.	0.0	-535.3	-0.2	-242649.2	-4.0	80547.4
330.	0.0	3229.6	-0.2	-241506.7	35.1	308694.3

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4784.4	-0.2	-75896.7	-36.0	291187.1
210.	0.0	-629.6	-0.2	-74975.0	6.7	-264713.8
420.	0.0	2847.9	-0.2	-74353.8	49.9	-20931.7

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4664.9	-177.4	-246.5	-83.1	-27258.1	27051.7
160.	-4382.2	-177.4	-246.5	-83.1	12185.9	-1338.8
320.	-4099.4	-177.4	-246.5	-83.1	51629.9	-29729.4

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-20253.6	-991.0	-144.7	-114.4	-10001.4	119149.2
160.	-19893.6	-991.0	-144.7	-114.4	13154.6	-39417.6
320.	-19533.6	-991.0	-144.7	-114.4	36310.7	-197984.4

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24801.2	131.4	45.9	-111.3	21953.0	-5024.5
160.	-24441.2	131.4	45.9	-111.3	14608.8	16000.2
320.	-24081.2	131.4	45.9	-111.3	7264.6	37025.0

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-22744.7	-69.9	100.0	-118.2	32851.0	9880.8
160.	-22384.7	-69.9	100.0	-118.2	16844.5	-1306.6
320.	-22024.7	-69.9	100.0	-118.2	838.0	-12493.9

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-27767.4	-608.9	111.9	-117.3	35543.5	62547.0
160.	-27407.4	-608.9	111.9	-117.3	17644.7	-34882.4
320.	-27047.4	-608.9	111.9	-117.3	-254.1	-132311.7

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-26033.7	907.1	90.1	-118.3	30734.8	-98323.5
160.	-25673.7	907.1	90.1	-118.3	16312.9	46813.3
320.	-25313.7	907.1	90.1	-118.3	1890.9	191950.1

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19503.0	67.9	20.6	-125.4	17488.7	-19300.6
160.	-19143.0	67.9	20.6	-125.4	14186.2	-8432.9
320.	-18783.0	67.9	20.6	-125.4	10883.6	2434.7

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15134.2	704.0	-175.7	-124.5	-13710.6	-89673.4
160.	-14774.2	704.0	-175.7	-124.5	14406.3	22965.2
320.	-14414.2	704.0	-175.7	-124.5	42523.3	135603.9

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4725.2	193.6	-401.5	-119.5	-44976.4	-31138.3
160.	-4365.2	193.6	-401.5	-119.5	19260.1	-163.6
320.	-4005.2	193.6	-401.5	-119.5	83496.6	30811.0

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11488.2	-134.9	-189.9	-87.1	-24399.4	20308.8
160.	-11205.5	-134.9	-189.9	-87.1	5985.9	-1272.4
320.	-10922.7	-134.9	-189.9	-87.1	36371.1	-22853.6

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11897.7	-289.9	-236.3	-123.4	-29115.6	43680.1
160.	-11537.7	-289.9	-236.3	-123.4	8686.3	-2701.8
320.	-11177.7	-289.9	-236.3	-123.4	46488.2	-49083.7

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12347.1	160.5	-246.3	-108.2	-30136.9	-28343.6
160.	-11987.1	160.5	-246.3	-108.2	9270.7	-2665.7
320.	-11627.1	160.5	-246.3	-108.2	48678.2	23012.3

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12225.0	202.6	-292.0	-109.9	-37739.0	-27767.0
160.	-11865.0	202.6	-292.0	-109.9	8987.8	4652.5
320.	-11505.0	202.6	-292.0	-109.9	55714.6	37072.0

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4782.9	-69.3	355.0	-87.3	29311.9	13970.7
160.	-4500.2	-69.3	355.0	-87.3	-27495.2	2887.4
320.	-4217.4	-69.3	355.0	-87.3	-84302.3	-8195.8

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14319.5	-854.7	424.6	-126.8	28610.8	101347.1
160.	-13959.5	-854.7	424.6	-126.8	-39332.6	-35400.1
320.	-13599.5	-854.7	424.6	-126.8	-107276.0	-172147.2

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17813.6	117.1	5.5	-135.3	-22062.8	-5641.5
160.	-17453.6	117.1	5.5	-135.3	-22938.6	13091.0
320.	-17093.6	117.1	5.5	-135.3	-23814.4	31823.5

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16267.2	-64.1	-89.5	-126.9	-34320.4	9091.7
160.	-15907.2	-64.1	-89.5	-126.9	-19998.0	-1166.4
320.	-15547.2	-64.1	-89.5	-126.9	-5675.6	-11424.5

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19799.8	-470.5	-105.4	-118.5	-36274.0	49478.8
160.	-19439.8	-470.5	-105.4	-118.5	-19413.7	-25796.6
320.	-19079.8	-470.5	-105.4	-118.5	-2553.4	-101071.9

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-18587.1	643.8	-73.5	-103.1	-31507.8	-67798.6
160.	-18227.1	643.8	-73.5	-103.1	-19749.5	35203.1
320.	-17867.1	643.8	-73.5	-103.1	-7991.3	138204.9

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13995.2	-2.5	43.4	-95.3	-16424.7	-5471.5
160.	-13635.2	-2.5	43.4	-95.3	-23372.2	-5872.7
320.	-13275.2	-2.5	43.4	-95.3	-30319.8	-6273.9

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12495.0	461.0	453.8	-100.0	32623.5	-57382.5
160.	-12135.0	461.0	453.8	-100.0	-39989.2	16380.6
320.	-11775.0	461.0	453.8	-100.0	-112601.9	90143.8

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5639.9	144.2	550.3	-100.1	45334.6	-21168.4
160.	-5279.9	144.2	550.3	-100.1	-42720.8	1896.2
320.	-4919.9	144.2	550.3	-100.1	-130776.2	24960.9

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	27.9	0.0	-1.0	0.0	0.0	0.0
88.	27.9	-393.7	-1.0	0.0	86.5	-17226.6
175.	27.9	-787.5	-1.0	0.0	173.0	-68906.2

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	20.2	0.0	0.8	0.0	0.0	0.0
88.	20.2	-393.8	0.8	0.0	-73.2	-17226.6
175.	20.2	-787.5	0.8	0.0	-146.4	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-75.0	972.4	-1.6	-21441.2	-358.8	-34535.6
195.	-75.0	-693.4	-1.6	-21441.2	-43.6	18278.0
390.	-75.0	-3935.8	-1.6	-21441.2	271.7	-407453.0

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-590.7	11664.0	-0.3	-7573.1	-84.9	-687490.8
215.	-590.7	-428.5	-0.3	-7573.1	-24.7	520326.9
430.	-590.7	-12520.9	-0.3	-7573.1	35.6	-871734.3

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-595.5	11560.2	0.4	-308.5	146.9	-834709.4
200.	-595.5	311.4	0.4	-308.5	60.2	352455.1
400.	-595.5	-10937.4	0.4	-308.5	-26.5	-710140.3

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-640.4	11087.3	0.5	529.5	91.7	-722634.3
210.	-640.4	-723.9	0.5	529.5	-7.7	365526.1
420.	-640.4	-12535.1	0.5	529.5	-107.2	-1026673.8

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-951.1	14512.2	0.0	275.4	10.1	-1158985.5
255.	-951.1	170.0	0.0	275.4	7.3	712994.8
510.	-951.1	-14172.2	0.0	275.4	4.5	-1072290.9

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-505.9	11141.5	0.3	2166.4	122.9	-880340.8
180.	-505.9	1017.6	0.3	2166.4	68.3	213976.7
360.	-505.9	-9106.3	0.3	2166.4	13.8	-514011.5

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-421.7	9676.6	0.9	13050.0	139.2	-511576.7
165.	-421.7	396.4	0.9	13050.0	-9.5	319449.0
330.	-421.7	-8883.9	0.9	13050.0	-158.2	-380768.2

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-84.5	1327.5	2.4	16016.4	464.6	-185314.2
210.	-84.5	382.5	2.4	16016.4	-41.0	-5772.0
420.	-84.5	-562.5	2.4	16016.4	-546.6	-24679.8

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-138.9	3127.1	2.2	4806.2	441.9	-73071.1
175.	-138.9	-813.6	2.2	4806.2	57.1	129357.6
350.	-138.9	-4754.2	2.2	4806.2	-327.7	-357827.5

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-30.6	3146.4	3.2	82053.3	644.0	-91348.9
175.	-30.6	-794.3	3.2	82053.3	90.6	114456.0
350.	-30.6	-4734.9	3.2	82053.3	-462.8	-369352.9

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-53.6	3415.4	-2.7	-59850.1	-644.6	-108463.1
175.	-53.6	-767.8	-2.7	-59850.1	-163.4	123193.3
350.	-53.6	-4951.0	-2.7	-59850.1	317.7	-377210.2

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-232.1	3442.7	-1.9	6131.2	-427.0	-99513.0
175.	-232.1	-740.5	-1.9	6131.2	-97.4	136922.4
350.	-232.1	-4923.7	-1.9	6131.2	232.2	-358702.2

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-73.6	724.0	-1.4	-5524.8	-280.6	-30338.4
195.	-73.6	-153.5	-1.4	-5524.8	-13.5	25286.9
390.	-73.6	-1031.0	-1.4	-5524.8	253.6	-90200.2

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-95.3	995.2	2.5	2399.9	533.4	-69332.8
210.	-95.3	50.2	2.5	2399.9	14.0	40426.9
420.	-95.3	-894.8	2.5	2399.9	-505.4	-48263.4

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-233.8	5444.5	0.2	12291.1	40.0	-399723.4
210.	-233.8	715.7	0.2	12291.1	2.8	247096.5
420.	-233.8	-4013.1	0.2	12291.1	-34.3	-99127.3

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-144.8	5411.8	-0.5	-57230.5	-85.7	-410316.3
210.	-144.8	683.0	-0.5	-57230.5	28.0	229636.7
420.	-144.8	-4045.8	-0.5	-57230.5	141.8	-123454.2

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-170.1	5680.9	-0.2	32495.0	-107.6	-423488.5
210.	-170.1	661.0	-0.2	32495.0	-68.2	242407.6
420.	-170.1	-4358.8	-0.2	32495.0	-28.8	-145862.6

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-369.8	5686.4	-0.4	-5060.1	-163.3	-416816.6
210.	-369.8	666.5	-0.4	-5060.1	-80.8	250241.6
420.	-369.8	-4353.3	-0.4	-5060.1	1.6	-136866.6

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-30.9	204.3	0.2	14825.1	53.0	4095.3
195.	-30.9	-600.0	0.2	14825.1	10.5	-34484.8
390.	-30.9	-1404.4	0.2	14825.1	-31.9	-229918.0

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-531.2	8149.3	0.9	31003.2	236.7	-459295.7
215.	-531.2	-386.0	0.9	31003.2	53.5	375266.4
430.	-531.2	-8921.2	0.9	31003.2	-129.7	-625257.7

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-483.2	8172.4	0.3	7188.9	5.6	-593434.2
200.	-483.2	232.6	0.3	7188.9	-56.4	247058.8
400.	-483.2	-7707.2	0.3	7188.9	-118.5	-500408.3

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-511.0	7840.0	0.3	1513.3	8.5	-511832.8
210.	-511.0	-496.8	0.3	1513.3	-54.0	259200.7
420.	-511.0	-8833.6	0.3	1513.3	-116.4	-720491.7

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-706.1	10246.2	0.3	-1040.1	2.2	-821563.6
255.	-706.1	122.9	0.3	-1040.1	-81.7	500499.6
510.	-706.1	-10000.3	0.3	-1040.1	-165.6	-758864.7

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-411.9	7866.8	0.0	-9031.4	-62.6	-620659.8
180.	-411.9	720.9	0.0	-9031.4	-57.8	152233.6
360.	-411.9	-6424.9	0.0	-9031.4	-53.0	-361120.5

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-379.3	6850.4	0.0	-39351.1	42.3	-367394.4
165.	-379.3	300.0	0.0	-39351.1	37.6	222513.3
330.	-379.3	-6250.3	0.0	-39351.1	32.8	-268384.3

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-87.6	1165.9	0.5	-6090.4	103.9	-145745.5
210.	-87.6	299.6	0.5	-6090.4	1.1	8133.1
420.	-87.6	-566.6	0.5	-6090.4	-101.7	-19900.8

SOLLECITAZIONI ASTE

CASO DI CARICO : 11 Rara COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+	1.00
2	Permanente_____	+	1.00
3	Var_copertura	+	1.00
4	Neve_(<1000m_slm)__	+	1.00

1) +1.00*c001 +1.00*c002 +1.00*c003 +1.00*c004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2038.8	-0.2	-217471.1	-36.3	-177081.8

195.	0.0	2151.6	-0.2	-220605.4	-2.2	-179845.6
390.	0.0	7218.1	-0.2	-224501.9	31.9	719645.0

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5755.2	-0.2	-331721.1	-33.4	548597.6
215.	0.0	746.1	-0.2	-337145.5	4.2	-5861.3
430.	0.0	8053.5	-0.2	-343985.6	42.1	927570.4

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8123.2	-0.3	-142699.9	-50.7	922659.1
200.	0.0	-830.6	-0.3	-149993.9	-0.5	21556.6
400.	0.0	6711.5	-0.3	-157833.1	49.7	606791.9

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7386.5	-0.2	-21536.9	-49.4	595220.8
210.	0.0	678.2	-0.2	-30114.6	1.3	-111245.1
420.	0.0	8806.7	-0.2	-38812.9	52.1	884809.8

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9600.8	-0.2	84413.6	-45.5	832775.7
255.	0.0	155.9	-0.2	73996.4	-0.7	-367599.2
510.	0.0	9706.6	-0.2	64016.0	43.9	894932.0

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7361.8	-0.3	225352.6	-54.9	986777.7
180.	0.0	-825.6	-0.3	218783.9	-0.1	254052.2
360.	0.0	5324.6	-0.3	212859.5	54.8	666217.2

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6578.4	-0.3	420721.7	-50.3	701277.0
165.	0.0	-1433.0	-0.3	416101.4	-5.4	47753.2
330.	0.0	3133.0	-0.3	412511.1	39.3	196317.6

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6158.2	-0.2	239987.5	-36.9	404639.3
210.	0.0	-1221.4	-0.2	236547.3	6.2	-353077.0
420.	0.0	2793.5	-0.2	234054.9	49.6	-173420.7

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2245.9	-0.2	152823.3	-35.8	-241620.7
175.	0.0	919.3	-0.2	150228.8	-4.7	-351370.0
350.	0.0	3713.0	-0.2	148052.6	26.3	58629.3

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5048.3	-0.2	69225.4	-34.1	-115550.8
175.	0.0	-502.1	-0.2	66380.1	2.3	-590653.1
350.	0.0	3416.8	-0.2	63719.5	38.8	-327986.6

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4304.6	-0.2	-132714.2	-32.6	-183940.3
175.	0.0	-94.7	-0.2	-129689.4	1.3	-560214.7
350.	0.0	3615.7	-0.2	-127025.7	35.3	-246247.6

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1582.3	-0.3	-145165.8	-55.2	-273691.8

175.	0.0	1289.6	-0.3	-143125.1	-8.4	-295416.3
350.	0.0	3949.2	-0.3	-141482.9	38.1	165515.9

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3553.9	-0.1	-85241.7	-24.5	143928.6
195.	0.0	-348.6	-0.1	-86939.9	4.1	-245310.6
390.	0.0	3431.3	-0.1	-88938.5	33.0	45225.6

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3450.1	-0.1	97262.2	-29.9	-33161.5
210.	0.0	439.8	-0.1	95722.2	-1.9	-337902.4
420.	0.0	3764.7	-0.1	94565.7	25.9	112155.3

Asta	15	nodi	3	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5522.5	0.0	9811.7	-4.3	220381.6
385.	0.0	86.6	0.0	9376.9	0.0	-758250.3
770.	0.0	4604.4	0.0	9019.7	5.2	146835.4

Asta	16	nodi	4	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5820.7	0.0	3189.4	-4.0	164716.2
385.	0.0	113.4	0.0	3074.4	0.0	-857102.1
770.	0.0	4867.3	0.0	2984.8	4.2	100543.3

Asta	17	nodi	5	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5885.5	0.0	-2551.4	-4.6	153950.5
385.	0.0	109.2	0.0	-2456.6	0.0	-879161.4
770.	0.0	4905.6	0.0	-2382.2	4.7	84189.4

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5718.7	0.0	-6743.4	-4.2	187973.0
385.	0.0	70.7	0.0	-6595.4	0.0	-826386.1
770.	0.0	4743.3	0.0	-6502.0	3.7	98753.1

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5169.9	0.0	-19095.2	-4.1	223185.8
385.	0.0	54.4	0.0	-18482.4	0.0	-701996.8
770.	0.0	4355.2	0.0	-18022.3	3.1	146286.5

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3093.0	-0.1	-14418.4	-24.9	-48417.2
210.	0.0	-104.7	-0.1	-16812.6	4.7	-378489.2
420.	0.0	2660.5	-0.1	-19274.2	34.7	-108047.2

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3882.5	-0.2	73164.6	-35.5	-265491.9
210.	0.0	305.0	-0.2	70223.5	-1.1	-634442.9
420.	0.0	4295.8	-0.2	67563.7	33.3	-151056.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4056.6	-0.1	-71924.9	-29.6	-176214.5
210.	0.0	12.1	-0.1	-69083.5	-2.1	-596210.0
420.	0.0	3983.1	-0.1	-66518.9	25.3	-177965.4

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3310.3	-0.2	-3889.5	-32.1	37341.4

210.	0.0	-320.6	-0.2	-2162.3	5.8	-340830.8
420.	0.0	2577.9	-0.2	-443.7	44.0	-103836.6

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1738.8	-0.2	82141.8	-41.1	-32190.7
195.	0.0	1082.0	-0.2	82257.3	-2.2	-105942.1
390.	0.0	4512.8	-0.2	82657.1	36.6	429789.6

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3985.4	-0.2	208329.6	-40.3	410734.3
215.	0.0	440.1	-0.2	209366.7	5.7	18419.6
430.	0.0	5422.4	-0.2	211282.9	52.2	640118.3

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5637.9	-0.3	84106.9	-60.6	654289.5
200.	0.0	-671.5	-0.3	86455.5	-2.6	19641.5
400.	0.0	4451.0	-0.3	89118.3	55.2	395888.0

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5006.4	-0.3	19119.6	-51.3	391037.9
210.	0.0	460.4	-0.2	22124.9	1.2	-87607.8
420.	0.0	5969.0	-0.3	25218.9	53.8	587524.1

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6537.6	-0.2	-26685.5	-44.7	541802.8
255.	0.0	88.2	-0.2	-22942.5	-2.0	-278481.2
510.	0.0	6620.6	-0.2	-19334.8	40.5	578934.2

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4991.8	-0.2	-90012.1	-45.6	631372.9
180.	0.0	-470.2	-0.2	-87642.4	-1.6	141821.3
360.	0.0	3848.9	-0.2	-85530.8	42.4	449861.1

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4113.1	-0.2	-217102.4	-37.5	436155.5
165.	0.0	-426.4	-0.2	-215551.9	-3.4	65796.8
330.	0.0	2927.2	-0.2	-214534.9	30.6	277064.1

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4295.5	-0.2	-65355.6	-31.5	258461.6
210.	0.0	-565.4	-0.2	-64530.1	5.9	-241328.6
420.	0.0	2596.4	-0.2	-63963.1	43.8	-19041.4

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4284.6	-162.9	-218.2	-72.2	-24149.6	24258.5
160.	-4001.9	-162.9	-218.2	-72.2	10756.9	-1800.0
320.	-3719.1	-162.9	-218.2	-72.2	45663.4	-27858.6

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-18021.5	-847.3	-121.1	-99.4	-8331.6	101822.0
160.	-17661.5	-847.3	-121.1	-99.4	11047.8	-33748.4
320.	-17301.5	-847.3	-121.1	-99.4	30427.3	-169318.9

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-21699.2	117.0	40.9	-97.1	19096.0	-4900.3
160.	-21339.2	117.0	40.9	-97.1	12555.4	13817.3
320.	-20979.2	117.0	40.9	-97.1	6014.9	32535.0

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19918.6	-59.4	86.8	-103.1	28420.0	8381.7
160.	-19558.6	-59.4	86.8	-103.1	14534.9	-1127.8
320.	-19198.6	-59.4	86.8	-103.1	649.8	-10637.2

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24293.0	-531.2	96.8	-102.2	30723.9	54585.5
160.	-23933.0	-531.2	96.8	-102.2	15234.5	-30401.1
320.	-23573.0	-531.2	96.8	-102.2	-255.0	-115387.7

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-22787.1	786.9	78.5	-103.0	26636.5	-85102.3
160.	-22427.1	786.9	78.5	-103.0	14082.8	40805.1
320.	-22067.1	786.9	78.5	-103.0	1529.1	166712.5

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17072.9	54.9	19.6	-109.2	15323.7	-15964.6
160.	-16712.9	54.9	19.6	-109.2	12192.2	-7184.9
320.	-16352.9	54.9	19.6	-109.2	9060.7	1594.8

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13595.8	593.0	-147.2	-108.8	-11416.7	-75607.5
160.	-13235.8	593.0	-147.2	-108.8	12136.0	19267.7
320.	-12875.8	593.0	-147.2	-108.8	35688.8	114142.9

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4375.8	183.6	-353.9	-104.8	-39636.9	-28255.0
160.	-4015.8	183.6	-353.9	-104.8	16994.6	1116.1
320.	-3655.8	183.6	-353.9	-104.8	73626.0	30487.2

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10359.9	-127.2	-169.7	-75.7	-21804.8	18542.4
160.	-10077.2	-127.2	-169.7	-75.7	5344.7	-1804.4
320.	-9794.5	-127.2	-169.7	-75.7	32494.3	-22151.1

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10730.6	-232.6	-214.3	-107.3	-26443.8	35780.5
160.	-10370.6	-232.6	-214.3	-107.3	7840.2	-1433.2
320.	-10010.6	-232.6	-214.3	-107.3	42124.2	-38647.0

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11122.3	116.0	-222.3	-94.8	-27229.0	-21939.3
160.	-10762.3	116.0	-222.3	-94.8	8334.5	-3372.7
320.	-10402.3	116.0	-222.3	-94.8	43898.0	15194.0

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11024.1	192.3	-260.1	-96.1	-33608.9	-25438.1
160.	-10664.1	192.3	-260.1	-96.1	8003.4	5337.9
320.	-10304.1	192.3	-260.1	-96.1	49615.7	36113.8

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4399.3	-69.1	314.8	-75.8	25905.4	12916.5

160.	-4116.6	-69.1	314.8	-75.8	-24456.6	1864.0
320.	-3833.8	-69.1	314.8	-75.8	-74818.6	-9188.5

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12794.0	-730.8	377.4	-110.2	25384.3	86619.0
160.	-12434.0	-730.8	377.4	-110.2	-35003.3	-30301.3
320.	-12074.0	-730.8	377.4	-110.2	-95390.8	-147221.7

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15664.7	102.9	4.7	-118.1	-19659.3	-5151.5
160.	-15304.7	102.9	4.7	-118.1	-20417.8	11317.9
320.	-14944.7	102.9	4.7	-118.1	-21176.3	27787.3

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14324.8	-55.2	-79.7	-110.7	-30544.6	7834.9
160.	-13964.8	-55.2	-79.7	-110.7	-17796.7	-1002.1
320.	-13604.8	-55.2	-79.7	-110.7	-5048.8	-9839.2

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17412.2	-411.9	-93.8	-103.2	-32285.0	43339.1
160.	-17052.2	-411.9	-93.8	-103.2	-17277.1	-22569.3
320.	-16692.2	-411.9	-93.8	-103.2	-2269.2	-88477.8

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16355.7	560.8	-65.6	-89.7	-28075.9	-58940.6
160.	-15995.7	560.8	-65.6	-89.7	-17580.9	30794.0
320.	-15635.7	560.8	-65.6	-89.7	-7086.0	120528.6

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12317.3	-4.1	38.0	-83.1	-14714.9	-4316.7
160.	-11957.3	-4.1	38.0	-83.1	-20798.3	-4979.4
320.	-11597.3	-4.1	38.0	-83.1	-26881.7	-5642.1

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11205.7	384.7	402.0	-87.5	28786.0	-47916.4
160.	-10845.7	384.7	402.0	-87.5	-35530.1	13627.9
320.	-10485.7	384.7	402.0	-87.5	-99846.2	75172.3

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5174.3	139.5	486.4	-87.8	39873.5	-19485.1
160.	-4814.3	139.5	486.4	-87.8	-37948.7	2839.6
320.	-4454.3	139.5	486.4	-87.8	-115771.0	25164.2

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	24.2	0.0	-0.9	0.0	0.0	0.0
88.	24.2	-393.7	-0.9	0.0	76.2	-17226.6
175.	24.2	-787.5	-0.9	0.0	152.5	-68906.2

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	17.4	0.0	0.7	0.0	0.0	0.0
88.	17.4	-393.8	0.7	0.0	-57.6	-17226.6
175.	17.4	-787.5	0.7	0.0	-115.2	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-69.5	939.4	-1.5	-19886.9	-324.4	-31792.3
195.	-69.5	-616.3	-1.5	-19886.9	-36.5	21758.9
390.	-69.5	-3528.5	-1.5	-19886.9	251.5	-360313.8

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-509.1	10172.4	-0.2	-6187.3	-67.7	-601705.6
215.	-509.1	-366.9	-0.2	-6187.3	-18.6	452379.9
430.	-509.1	-10906.2	-0.2	-6187.3	30.5	-759484.2

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-511.1	10073.0	0.4	-172.4	127.7	-726949.2
200.	-511.1	269.0	0.4	-172.4	52.1	307253.3
400.	-511.1	-9535.0	0.4	-172.4	-23.5	-619344.2

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-550.0	9663.6	0.4	477.4	79.5	-629981.5
210.	-550.0	-630.6	0.4	477.4	-7.7	318487.1
420.	-550.0	-10924.8	0.4	477.4	-94.9	-894826.4

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-820.6	12648.2	0.0	222.4	7.3	-1010214.1
255.	-820.6	148.1	0.0	222.4	5.9	621307.1
510.	-820.6	-12352.0	0.0	222.4	4.5	-934697.3

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-433.6	9715.1	0.3	1751.4	107.5	-767984.8
180.	-433.6	891.5	0.3	1751.4	60.0	186602.7
360.	-433.6	-7932.1	0.3	1751.4	12.5	-447057.8

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-362.9	8420.7	0.8	10812.1	121.7	-445463.0
165.	-362.9	332.4	0.8	10812.1	-4.2	276670.5
330.	-362.9	-7755.9	0.8	10812.1	-130.1	-335765.4

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-82.6	1287.6	2.2	15026.7	428.4	-168940.4
210.	-82.6	342.6	2.2	15026.7	-33.2	2223.7
420.	-82.6	-602.4	2.2	15026.7	-494.9	-25062.3

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-122.3	2779.7	2.0	3933.7	396.6	-65550.3
175.	-122.3	-720.8	2.0	3933.7	51.0	114606.3
350.	-122.3	-4221.2	2.0	3933.7	-294.5	-317813.6

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-25.1	2813.2	2.8	72072.9	571.1	-85633.9
175.	-25.1	-687.3	2.8	72072.9	78.8	100381.8
350.	-25.1	-4187.7	2.8	72072.9	-413.5	-326179.0

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-44.3	3044.8	-2.4	-52682.2	-564.9	-100380.4
175.	-44.3	-664.3	-2.4	-52682.2	-140.5	107919.4
350.	-44.3	-4373.4	-2.4	-52682.2	283.9	-332877.7

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-203.8	3053.4	-1.7	5424.9	-390.1	-88652.7

175.	-203.8	-655.7	-1.7	5424.9	-87.1	121139.7
350.	-203.8	-4364.9	-1.7	5424.9	215.9	-318164.7

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-69.2	736.8	-1.2	-4693.8	-249.8	-29069.9
195.	-69.2	-140.7	-1.2	-4693.8	-11.5	29053.5
390.	-69.2	-1018.2	-1.2	-4693.8	226.7	-83935.6

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-91.1	993.5	2.2	1914.7	472.2	-66505.1
210.	-91.1	48.5	2.2	1914.7	11.3	42909.2
420.	-91.1	-896.5	2.2	1914.7	-449.7	-46126.5

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-206.9	4836.4	0.1	10852.5	31.0	-355001.7
210.	-206.9	635.9	0.1	10852.5	1.2	219597.3
420.	-206.9	-3564.6	0.1	10852.5	-28.6	-87914.0

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-129.1	4804.7	-0.5	-50509.6	-79.5	-363609.4
210.	-129.1	604.2	-0.5	-50509.6	24.3	204320.0
420.	-129.1	-3596.4	-0.5	-50509.6	128.1	-109860.8

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-150.4	5035.4	-0.2	29016.9	-93.6	-374861.0
210.	-150.4	584.4	-0.2	29016.9	-61.0	215222.8
420.	-150.4	-3866.5	-0.2	29016.9	-28.4	-129392.9

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-326.3	5042.8	-0.3	-4587.7	-137.6	-369695.1
210.	-326.3	591.8	-0.3	-4587.7	-68.9	221941.7
420.	-326.3	-3859.1	-0.3	-4587.7	-0.2	-121120.9

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-32.0	269.2	0.2	13095.4	47.2	1664.0
195.	-32.0	-535.2	0.2	13095.4	10.2	-24264.2
390.	-32.0	-1339.5	0.2	13095.4	-26.7	-207045.6

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-458.7	7138.1	0.8	27565.4	211.6	-404776.9
215.	-458.7	-329.4	0.8	27565.4	49.3	327153.6
430.	-458.7	-7796.9	0.8	27565.4	-112.9	-546425.6

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-416.1	7147.8	0.3	6389.1	5.2	-518638.3
200.	-416.1	201.3	0.3	6389.1	-49.7	216276.2
400.	-416.1	-6745.2	0.3	6389.1	-104.5	-438109.2

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-439.5	6859.6	0.3	1340.3	6.2	-447948.4
210.	-439.5	-434.2	0.3	1340.3	-47.9	226714.2
420.	-439.5	-7728.1	0.3	1340.3	-101.9	-630326.4

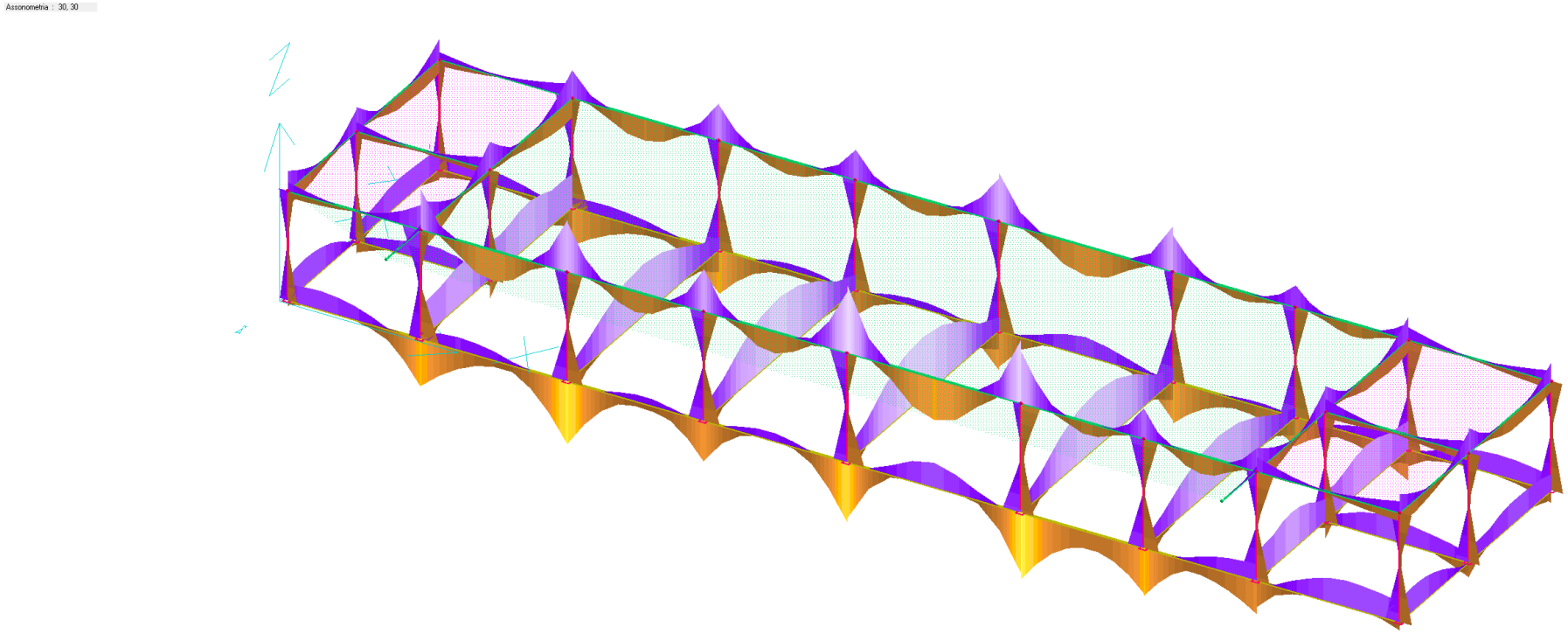
Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-610.9	8964.2	0.3	-928.9	1.3	-718804.2
255.	-610.9	107.4	0.3	-928.9	-71.5	437815.6
510.	-610.9	-8749.4	0.3	-928.9	-144.3	-664045.4

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-355.2	6886.2	0.0	-8014.9	-54.5	-543516.9
180.	-355.2	634.4	0.0	-8014.9	-50.0	133340.2
360.	-355.2	-5617.5	0.0	-8014.9	-45.5	-315135.8

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-328.1	5979.8	0.0	-34896.6	37.6	-320777.9
165.	-328.1	249.0	0.0	-34896.6	35.7	193095.8
330.	-328.1	-5481.9	0.0	-34896.6	33.9	-238622.9

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-84.7	1137.3	0.4	-5349.9	92.9	-134433.7
210.	-84.7	271.1	0.4	-5349.9	2.6	13451.1
420.	-84.7	-595.2	0.4	-5349.9	-87.7	-20576.5

DIAGRAMMA SOLLECITAZIONI MZZ:



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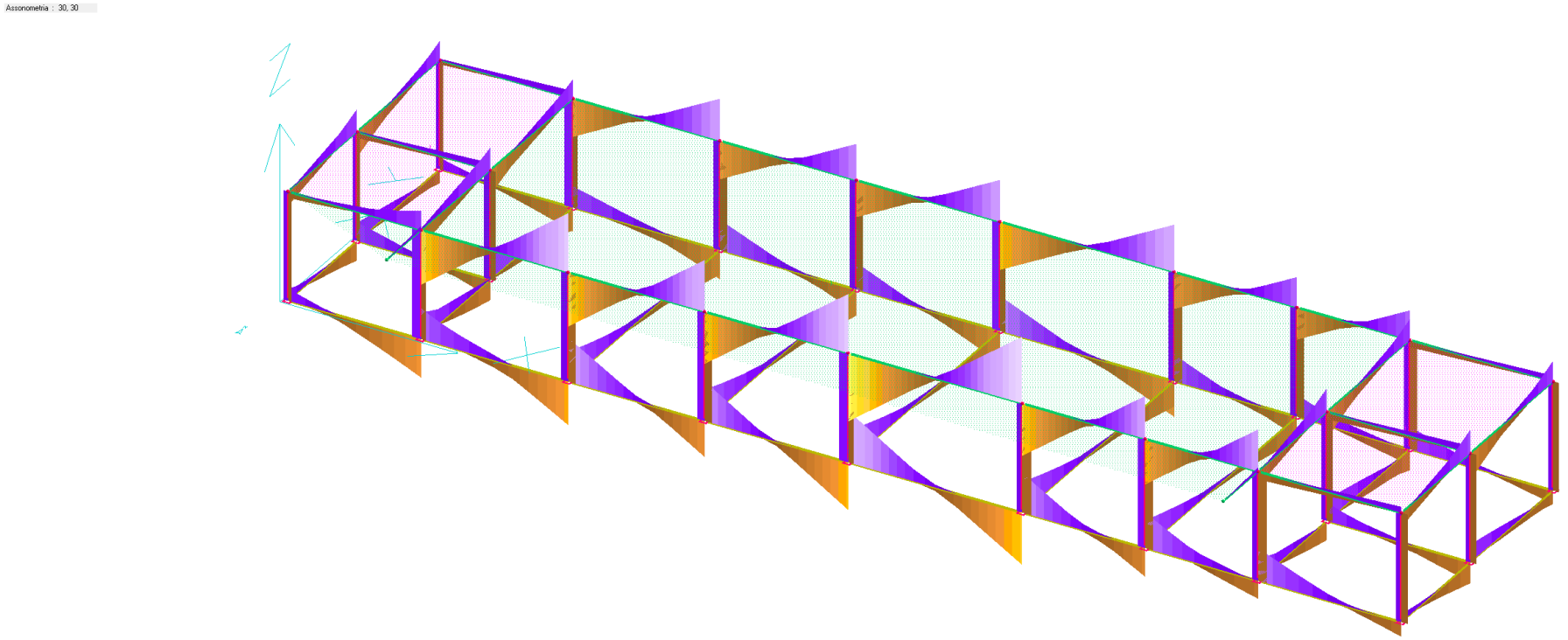

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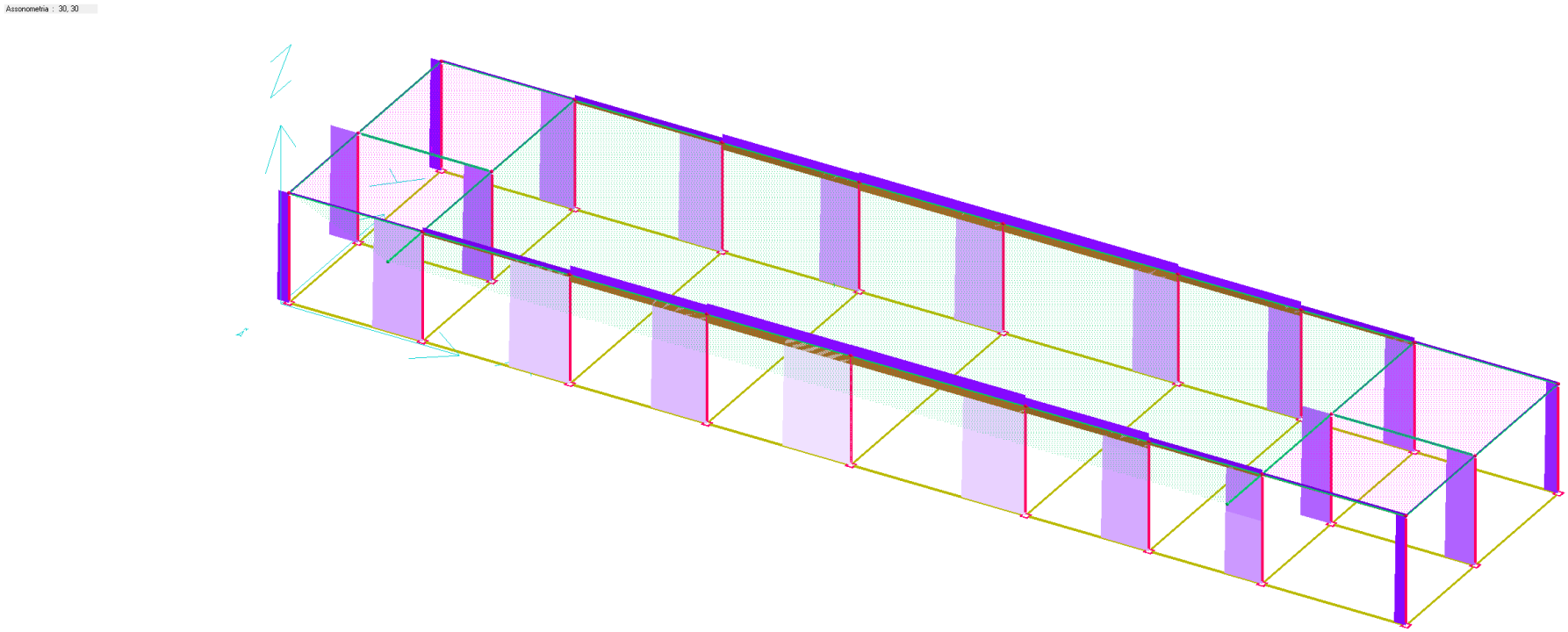

VERIFICA TRAVI

VERIFICA TRAVATA IN CEMENTO ARMATO

```
Nome travata       : 23 - Travata T001 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
```

MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
```

CASI DI CARICO DA MODELLO 3D

Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	
8.	SLU FON con SISMAX P16	
9.	SLU FON con SISMAY P16	

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A1	3	3	3	0	390.	360.	3.9	1.3	5.	162.178
2	A2	3	3	3	0	430.	400.	4.3	1.5	5.	187.129
3	A3	3	3	3	0	400.	370.	4.	1.5	5.	187.129
4	A4	3	3	3	0	420.	390.	4.2	1.5	5.	187.129
5	A5	3	3	3	0	510.	480.	5.1	1.5	5.	187.129
6	A6	3	3	3	0	360.	330.	3.6	1.5	5.	187.129
7	A7	3	3	3	0	330.	300.	3.3	1.5	5.	187.129
8	A8	3	3	3	0	420.	390.	4.2	1.3	5.	162.178

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-385814.	-.002	.01	-7208395.	-.042	.186	2.	.184	18.68	SI
0.	0.	3.	1.	110788.	-.001	.002	8581855.	-.048	.186	2.	.206	77.46	SI
100.	100.	3.	1.	-392533.	!-.002	.01	-7208395.	-.042	.186	2.	.184	18.36	SI
100.	100.	3.	1.	22386.	0.	0.	8581855.	-.048	.186	2.	.206	383.4	SI
331.	331.	3.	4.	-46195.	0.	.001	-7268846.	!-.038	.186	2.	.168	!157.4	SI
331.	331.	3.	4.	860863.	!-.004	.01	15356934.	!-.071	.186	2.	.276	!17.84	SI
346.	346.	3.	5.	996517.	!-.004	!.012	!15573259.	!-.065	.186	2.	.257	!15.63	SI
390.	390.	3.	5.	996517.	!-.004	.012	15573259.	!-.065	.186	2.	.257	!15.63	SI
> 390.	0.	3.	5.	-249396.	!-.001	.003	-14241580	!-.059	.186	2.	.242	!57.1	SI
390.	0.	3.	5.	1030169.	!-.004	.012	15573259.	!-.065	.186	2.	.257	!15.12	SI
449.	59.	3.	4.	-284715.	!-.001	.007	-7268846.	!-.038	.186	2.	.168	!25.53	SI
449.	59.	3.	4.	938911.	!-.004	.011	15356934.	!-.071	.186	2.	.276	!16.36	SI
490.	100.	3.	3.	-285529.	!-.001	.007	-7258692.	!-.038	.186	2.	.171	!25.42	SI
720.	330.	3.	3.	-39876.	!0.	.001	-7258692.	!-.038	.186	2.	.171	!182.	!SI
776.	386.	3.	5.	1304936.	!-.005	!.016	!15573259.	!-.065	.186	2.	.257	!11.93	SI
820.	430.	3.	5.	1304936.	!-.005	.016	15573259.	!-.065	.186	2.	.257	!11.93	SI
> 820.	0.	3.	5.	1297296.	!-.005	!.015	!15573259.	!-.065	.186	2.	.257	!12.	!SI
879.	59.	3.	4.	1145921.	!-.005	.014	15356934.	!-.071	.186	2.	.276	!13.4	SI
1040.	220.	3.	2.	-147054.	!-.001	.004	-7192907.	!-.043	.186	2.	.188	!48.91	SI
1161.	341.	3.	4.	-86811.	!0.	.002	-7268846.	!-.038	.186	2.	.168	!83.73	SI
1176.	356.	3.	5.	-52444.	!0.	.001	-14241580	!-.059	.186	2.	.242	!271.6	SI
1191.	371.	3.	5.	-17052.	!0.	0.	-14241580	!-.059	.186	2.	.242	!835.2	SI
1220.	400.	3.	5.	851846.	!-.003	.01	15573259.	!-.065	.186	2.	.257	!18.28	SI
>1220.	0.	3.	5.	835337.	!-.003	.01	15573259.	!-.065	.186	2.	.257	!18.64	SI
1249.	29.	3.	5.	-29385.	!0.	0.	-14241580	!-.059	.186	2.	.242	!484.7	SI
1279.	59.	3.	4.	-95574.	!0.	.002	-7268846.	!-.038	.186	2.	.168	!76.06	SI
1279.	59.	3.	4.	701629.	!-.003	.008	15356934.	!-.071	.186	2.	.276	!21.89	SI
1408.	188.	3.	2.	-169780.	!-.001	.004	-7192907.	!-.043	.186	2.	.188	!42.37	SI
1596.	376.	3.	5.	1238418.	!-.005	!.015	!15573259.	!-.065	.186	2.	.257	!12.58	SI
1640.	420.	3.	5.	1238418.	!-.005	.015	15573259.	!-.065	.186	2.	.257	!12.58	SI
>1640.	0.	3.	5.	1165741.	!-.005	.014	15573259.	!-.065	.186	2.	.257	!13.36	SI
1669.	29.	3.	5.	-16916.	!0.	0.	-14241580	!-.059	.186	2.	.242	!841.9	SI
1699.	59.	3.	4.	-119145.	!-.001	.003	-7268846.	!-.038	.186	2.	.168	!61.01	SI
1699.	59.	3.	4.	990584.	!-.004	.012	15356934.	!-.071	.186	2.	.276	!15.5	SI
1873.	233.	3.	2.	-475123.	!-.003	.012	-7192907.	!-.043	.186	2.	.188	!15.14	SI
2106.	466.	3.	5.	1256541.	!-.005	!.015	!15573259.	!-.065	.186	2.	.257	!12.39	SI
2121.	481.	3.	5.	-5616.	!0.	0.	-14241580	!-.059	.186	2.	.242	!2536.	!SI
2150.	510.	3.	5.	1256541.	!-.005	.015	15573259.	!-.065	.186	2.	.257	!12.39	SI
>2150.	0.	3.	5.	1385664.	!-.005	!.017	!15573259.	!-.065	.186	2.	.257	!11.24	SI
2209.	59.	3.	4.	1249103.	!-.005	.015	15356934.	!-.071	.186	2.	.276	!12.29	SI
2250.	100.	3.	2.	899265.	!-.005	.023!	7192907.	!-.043	.186	2.	.188	!7.999	SI
2410.	260.	3.	2.	-13332.	!0.	0.	-7192907.	!-.043	.186	2.	.188	!539.5	SI
2451.	301.	3.	4.	-13209.	!0.	0.	-7268846.	!-.038	.186	2.	.168	!550.3	SI
2466.	316.	3.	5.	-6169.	!0.	0.	-14241580	!-.059	.186	2.	.242	!2309.	!SI
2510.	360.	3.	5.	938241.	!-.004	.011	15573259.	!-.065	.186	2.	.257	!16.6	SI
>2510.	0.	3.	5.	988397.	!-.004	!.012	!15573259.	!-.065	.186	2.	.257	!15.76	SI
2569.	59.	3.	3.	864087.	!-.004	.011	14022249.	!-.067	.186	2.	.264	!16.23	SI
2589.	79.	3.	3.	-63671.	!0.	.002	-7258692.	!-.038	.186	2.	.171	!114.	!SI
2610.	100.	3.	2.	549111.	!-.003	.014!	7192907.	!-.043	.186	2.	.188	!13.1	!SI
2840.	330.	3.	5.	-370042.	!-.001	.005	-14241580	!-.059	.186	2.	.242	!38.49	SI
2840.	330.	3.	5.	741483.	!-.003	.009	15573259.	!-.065	.186	2.	.257	!21.	!SI
>2840.	0.	3.	5.	555746.	!-.002	.007	15573259.	!-.065	.186	2.	.257	!28.02	SI
2855.	15.	3.	5.	-51950.	!0.	.001	-14241580	!-.059	.186	2.	.242	!274.1	SI
2899.	59.	3.	4.	-215297.	!-.001	.006	-7268846.	!-.038	.186	2.	.168	!33.76	SI
2899.	59.	3.	4.	458039.	!-.002	.006	15356934.	!-.071	.186	2.	.276	!33.53	SI
3116.	276.	3.	2.	-539977.	!-.003	.014	!-7192907.	!-.043	.186	2.	.188	!13.32	SI
3116.	276.	3.	2.	7717.	!0.	0.	7192907.	!-.043	.186	2.	.188	!932.1	SI
3260.	420.	3.	1.	-493197.	!-.003	.013	-7208395.	!-.042	.186	2.	.184	!14.62	SI
3260.	420.	3.	1.	204089.	!-.001	.004	8581855.	!-.048	.186	2.	.206	!42.05	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-3319.!	32988.!	261935.!	178866.!	3.14	15.	2.5	SI
0.	0.	3.	72.	32988.	261935.	178866.	3.14	15.	2.5	SI
390.	390.	3.	9981.	32988.	261935.	178866.	3.14	15.	2.5	SI
> 390.	0.	3.	-7922.!	32988.	261935.	178866.!	3.14	15.	2.5	SI
820.	430.	3.	11257.	32988.	261935.	178866.	3.14	15.	2.5	SI
> 820.	0.	3.	-11334.!	32988.	261935.	178866.!	3.14	15.	2.5	SI
1220.	400.	3.	9348.	32988.	261935.	178866.	3.14	15.	2.5	SI
>1220.	0.	3.	-10311.!	32988.	261935.	178866.!	3.14	15.	2.5	SI
1640.	420.	3.	12290.	32988.	261935.	178866.	3.14	15.	2.5	SI
>1640.	0.	3.	-13393.!	32988.	261935.	178866.!	3.14	15.	2.5	SI
2150.	510.	3.	13552.!	32988.	261935.	178866.	3.14	15.	2.5	SI

>2150.	0.	3.	-10261.	32988.	261935.	178866.	3.14	15.	2.5	SI
2510.	360.	3.	7410.	32988.	261935.	178866.	3.14	15.	2.5	SI
>2510.	0.	3.	-9220.	32988.	261935.	178866.	3.14	15.	2.5	SI
2840.	330.	3.	4883.	32988.	261935.	178866.	3.14	15.	2.5	SI
>2840.	0.	3.	-8486.	32988.	261935.	178866.	3.14	15.	2.5	SI
3260.	420.	3.	3869.	32988.	261935.	178866.	3.14	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-177082.	-1.6	96.3	20.11	7.5	.0028	17.63	.005	SI
29.	29.	3.	1.	-222770.	-2.	121.2	20.11	7.5	.0035	17.63	.006	SI
100.	100.	3.	1.	-279310.	-2.5	151.9	20.11	7.5	.0043	17.63	.008	SI
390.	390.	3.	5.	719645.	-4.4	181.	44.23	7.5	.0052	12.09	.006	SI
> 390.	0.	3.	5.	548598.	-3.4	138.	44.23	7.5	.0039	12.09	.005	SI
605.	215.	3.	2.	-5861.	-.1	3.2	20.11	7.5	.0001	17.63	0.	SI
820.	430.	3.	5.	927570.	-5.7	233.3	44.23	7.5	.0067	12.09	.008	SI
> 820.	0.	3.	5.	922659.	-5.7	232.1	44.23	7.5	.0066	12.09	.008	SI
1040.	220.	3.	2.	23608.	-.2	12.9	20.11	7.5	.0004	17.63	.001	SI
1220.	400.	3.	5.	606792.	-3.7	152.6	44.23	7.5	.0044	12.09	.005	SI
>1220.	0.	3.	5.	595221.	-3.7	149.7	44.23	7.5	.0043	12.09	.005	SI
1408.	188.	3.	2.	-103859.	-.9	56.6	20.11	7.5	.0016	17.63	.003	SI
1640.	420.	3.	5.	884810.	-5.5	222.6	44.23	7.5	.0064	12.09	.008	SI
>1640.	0.	3.	5.	832776.	-5.1	209.5	44.23	7.5	.006	12.09	.007	SI
1873.	233.	3.	2.	-344260.	-3.1	187.7	20.11	7.5	.0054	17.63	.009	SI
2150.	510.	3.	5.	894932.	-5.5	225.1	44.23	7.5	.0064	12.09	.008	SI
>2150.	0.	3.	5.	986778.	-6.1	248.2	44.23	7.5	.0071	12.09	.009	SI
2250.	100.	3.	2.	440794.	-4.	240.3	20.11	7.5	.0069	17.63	.012	SI
2370.	220.	3.	2.	252747.	-2.3	137.8	20.11	7.5	.0039	17.63	.007	SI
2510.	360.	3.	5.	666217.	-4.1	167.6	44.23	7.5	.0048	12.09	.006	SI
>2510.	0.	3.	5.	701277.	-4.3	176.4	44.23	7.5	.005	12.09	.006	SI
2708.	198.	3.	2.	20751.	-.2	11.3	20.11	7.5	.0003	17.63	.001	SI
2840.	330.	3.	5.	196318.	-1.2	49.4	44.23	7.5	.0014	12.09	.002	SI
>2840.	0.	3.	5.	404639.	-2.5	101.8	44.23	7.5	.0029	12.09	.004	SI
3116.	276.	3.	2.	-383352.	-3.5	209.	20.11	7.5	.006	17.63	.011	SI
3260.	420.	3.	1.	-173421.	-1.5	94.3	20.11	7.5	.0027	17.63	.005	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-122835.	-1.1	66.8	20.11	7.5	.0019	17.63	.003	SI
29.	29.	3.	1.	-160106.	-1.4	87.1	20.11	7.5	.0025	17.63	.004	SI
100.	100.	3.	1.	-208276.	-1.8	113.3	20.11	7.5	.0032	17.63	.006	SI
390.	390.	3.	5.	532456.	-3.3	133.9	44.23	7.5	.0038	12.09	.005	SI
> 390.	0.	3.	5.	429286.	-2.6	108.	44.23	7.5	.0031	12.09	.004	SI
605.	215.	3.	2.	-14579.	-.1	7.9	20.11	7.5	.0002	17.63	0.	SI
820.	430.	3.	5.	623375.	-3.8	156.8	44.23	7.5	.0045	12.09	.005	SI
> 820.	0.	3.	5.	622314.	-3.8	156.5	44.23	7.5	.0045	12.09	.005	SI
1040.	220.	3.	2.	-8060.	-.1	4.4	20.11	7.5	.0001	17.63	0.	SI
1220.	400.	3.	5.	413345.	-2.6	104.	44.23	7.5	.003	12.09	.004	SI
>1220.	0.	3.	5.	406276.	-2.5	102.2	44.23	7.5	.0029	12.09	.004	SI
1408.	188.	3.	2.	-85775.	-.8	46.8	20.11	7.5	.0013	17.63	.002	SI
1640.	420.	3.	5.	614164.	-3.8	154.5	44.23	7.5	.0044	12.09	.005	SI
>1640.	0.	3.	5.	577579.	-3.6	145.3	44.23	7.5	.0042	12.09	.005	SI
1873.	233.	3.	2.	-259577.	-2.4	141.5	20.11	7.5	.004	17.63	.007	SI
2150.	510.	3.	5.	609045.	-3.8	153.2	44.23	7.5	.0044	12.09	.005	SI
>2150.	0.	3.	5.	671044.	-4.1	168.8	44.23	7.5	.0048	12.09	.006	SI
2250.	100.	3.	2.	282094.	-2.6	153.8	20.11	7.5	.0044	17.63	.008	SI
2370.	220.	3.	2.	148002.	-1.3	80.7	20.11	7.5	.0023	17.63	.004	SI
2510.	360.	3.	5.	444707.	-2.7	111.9	44.23	7.5	.0032	12.09	.004	SI
>2510.	0.	3.	5.	465713.	-2.9	117.1	44.23	7.5	.0033	12.09	.004	SI
2708.	198.	3.	2.	20636.	-.2	11.3	20.11	7.5	.0003	17.63	.001	SI
2840.	330.	3.	5.	186326.	-1.1	46.9	44.23	7.5	.0013	12.09	.002	SI
>2840.	0.	3.	5.	313423.	-1.9	78.8	44.23	7.5	.0023	12.09	.003	SI
3116.	276.	3.	2.	-288207.	-2.6	157.1	20.11	7.5	.0045	17.63	.008	SI
3260.	420.	3.	1.	-120974.	-1.1	65.8	20.11	7.5	.0019	17.63	.003	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-119547.	-1.1	65.	20.11	7.5	.0019	17.63	.003	SI
29.	29.	3.	1.	-156309.	-1.4	85.	20.11	7.5	.0024	17.63	.004	SI
100.	100.	3.	1.	-203971.	-1.8	111.	20.11	7.5	.0032	17.63	.006	SI
390.	390.	3.	5.	521112.	-3.2	131.1	44.23	7.5	.0037	12.09	.005	SI
> 390.	0.	3.	5.	422055.	-2.6	106.2	44.23	7.5	.003	12.09	.004	SI
605.	215.	3.	2.	-15107.	-.1	8.2	20.11	7.5	.0002	17.63	0.	SI
820.	430.	3.	5.	604939.	-3.7	152.2	44.23	7.5	.0043	12.09	.005	SI
> 820.	0.	3.	5.	604111.	-3.7	152.	44.23	7.5	.0043	12.09	.005	SI
1040.	220.	3.	2.	-9980.	-.1	5.4	20.11	7.5	.0002	17.63	0.	SI
1220.	400.	3.	5.	401621.	-2.5	101.	44.23	7.5	.0029	12.09	.003	SI
>1220.	0.	3.	5.	394825.	-2.4	99.3	44.23	7.5	.0028	12.09	.003	SI
1408.	188.	3.	2.	-84679.	-.8	46.2	20.11	7.5	.0013	17.63	.002	SI
1640.	420.	3.	5.	597761.	-3.7	150.4	44.23	7.5	.0043	12.09	.005	SI
>1640.	0.	3.	5.	562113.	-3.5	141.4	44.23	7.5	.004	12.09	.005	SI
1873.	233.	3.	2.	-254445.	-2.3	138.7	20.11	7.5	.004	17.63	.007	SI
2150.	510.	3.	5.	591719.	-3.7	148.8	44.23	7.5	.0043	12.09	.005	SI
>2150.	0.	3.	5.	651909.	-4.	164.	44.23	7.5	.0047	12.09	.006	SI
2250.	100.	3.	2.	272476.	-2.5	148.6	20.11	7.5	.0042	17.63	.007	SI
2370.	220.	3.	2.	141654.	-1.3	77.2	20.11	7.5	.0022	17.63	.004	SI
2510.	360.	3.	5.	431282.	-2.7	108.5	44.23	7.5	.0031	12.09	.004	SI
>2510.	0.	3.	5.	451437.	-2.8	113.6	44.23	7.5	.0032	12.09	.004	SI
2708.	198.	3.	2.	20629.	-.2	11.2	20.11	7.5	.0003	17.63	.001	SI
2840.	330.	3.	5.	185721.	-1.1	46.7	44.23	7.5	.0013	12.09	.002	SI
>2840.	0.	3.	5.	307894.	-1.9	77.4	44.23	7.5	.0022	12.09	.003	SI
3116.	276.	3.	2.	-282441.	-2.6	154.	20.11	7.5	.0044	17.63	.008	SI
3260.	420.	3.	1.	-117795.	-1.	64.1	20.11	7.5	.0018	17.63	.003	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	44.23	.442	20.11	.201	10d16	24.13	.241	2d16 +10d16
2	40.21	.402	20.11	.201	10d16	20.11	.201	10d16
3	60.32	.603	20.11	.201	10d16	40.21	.402	10d16 +10d16
4	64.34	.643	20.11	.201	10d16	44.23	.442	2d16 +10d16 +10d16
5	84.45	.844	40.21	.402	10d16 +10d16	44.23	.442	2d16 +10d16 +10d16

VERIFICA TRAVATA IN CEMENTO ARMATO

```
Nome travata       : 24 - Travata T002 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
```

MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
```

CASI DI CARICO DA MODELLO 3D

SLU

```
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|
 8.|SLU FON con SISMAX P16|
 9.|SLU FON con SISMAY P16|

           RARE          |         FREQUENTI         |    QUASI PERMANENTI       |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara                1.|12.|Frequente          1.|13.|Quasi Perm         1.|
<-
              SEZIONI UTILIZZATE

 3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

              DESCRIZIONE CAMPATE

Cam.| Descriz. |S.ini|Sez. |S.fin|Incl.|L.assi|L.net.|lambda | K |r.Ar.|lam.max|
   1|A13       |    3|    3|    3|    0|  390.|  360.|  3.9  |1. |5.   |124.752|

              VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive|SE|Ar|  Msd     Epscl Epsac|   Mrd    Epscl Epsac Cam x/d |Mr/Ms|VE|
>    0.|  0.|3.|1.| -160949.|-.001| .004|-7208395.|-.042| .186|2.| .184|44.79|SI|
     0.|  0.|3.|1.|  263980.!-.001| .006| 8581855.!-.048| .186|2.| .206!32.51|SI|
   138.|138.|3.|2.|   18582.|0.   |0.   | 7192907.|-.043| .186|2.| .188|387.1!SI|
   214.|214.|3.|2.| -333673.!-.002! .009!-7192907.|-.043| .186|2.| .188|21.56!SI|
   390.|390.|3.|1.| -138877.|-.001| .004|-7208395.!-.042| .186|2.| .184!51.91|SI|
   390.|390.|3.|1.|  159216.|-.001| .003| 8581855.|-.048| .186|2.| .206|53.9 |SI|

TAGLIO:

Progressive|Se|  Vsd  |  VRd  |  VRcd |  VRsd   Asw    s  ctgT|Ve|
>    0.|  0.|3.| -4893.! 32988.!261935.!178866.! 3.14|15. |2.5 |SI|
   390.|390.|3.|  4707.! 32988.|261935.|178866.| 3.14|15. |2.5 |SI|

              VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>    0.|  0.|3.|1.|   143929.!  -1.2|  65.8|24.13| 7.5 |  .0019| 15.94|  .003|SI|
    15.|  15.|3.|1.|    96215.|   -.8|  44. |24.13| 7.5 |  .0013| 15.94|  .002|SI|
   214.|214.|3.|2.|  -243557.!  -2.2! 132.8!20.11| 7.5 |  .0038| 17.63|  .007!SI|
   390.|390.|3.|1.|    45226.|   -.4|  20.7|24.13| 7.5 |  .0006| 15.94|  .001|SI|

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>    0.|  0.|3.|1.|    95955.!   -.8|  43.8|24.13| 7.5 |  .0013| 15.94|  .002|SI|
    15.|  15.|3.|1.|    59692.|   -.5|  27.3|24.13| 7.5 |  .0008| 15.94|  .001|SI|
   214.|214.|3.|2.|  -191220.!  -1.7! 104.3!20.11| 7.5 |  .003 | 17.63|  .005!SI|
   390.|390.|3.|1.|    40925.|   -.3|  18.7|24.13| 7.5 |  .0005| 15.94|  .001|SI|

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>    0.|  0.|3.|1.|    93047.!   -.8|  42.5|24.13| 7.5 |  .0012| 15.94|  .002|SI|
    15.|  15.|3.|1.|    57478.|   -.5|  26.3|24.13| 7.5 |  .0008| 15.94|  .001|SI|
   214.|214.|3.|2.|  -188048.!  -1.7! 102.5!20.11| 7.5 |  .0029| 17.63|  .005!SI|
   390.|390.|3.|1.|    40665.|   -.3|  18.6|24.13| 7.5 |  .0005| 15.94|  .001|SI|

          ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro|Totale   % |Super.   %        Barre        |Infer.   %        Barre        |
  1|44.23| .442|20.11| .201|10d16              |24.13| .241|2d16 +10d16        |
  2|40.21| .402|20.11| .201|10d16              |20.11| .201|10d16              |

              VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata       : 25 - Travata T003 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2

              MATERIALI

CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

              TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].

              CASI DI CARICO DA MODELLO 3D

           SLU           |
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|
 8.|SLU FON con SISMAX P16|
 9.|SLU FON con SISMAY P16|

           RARE          |         FREQUENTI         |    QUASI PERMANENTI       |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara                1.|12.|Frequente          1.|13.|Quasi Perm         1.|
<-
              SEZIONI UTILIZZATE

 3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

              DESCRIZIONE CAMPATE

Cam.| Descriz. |S.ini|Sez. |S.fin|Incl.|L.assi|L.net.|lambda | K |r.Ar.|lam.max|
   1|A14       |    3|    3|    3|    0|  420.|  390.|  4.2  |1. |5.   |124.752|

              VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive|SE|Ar|  Msd     Epscl Epsac|   Mrd    Epscl Epsac Cam x/d |Mr/Ms|VE|
>    0.|  0.|3.|1.| -237917.|-.001| .006|-7208395.|-.042| .186|2.| .184|30.3 |SI|
     0.|  0.|3.|1.|  104225.|-.001| .002| 8581855.!-.048| .186|2.| .206!82.34|SI|
    59.| 59.|3.|1.|   54247.|0.   | .001| 8581855.|-.048| .186|2.| .206|158.2!SI|
   188.|188.|3.|2.| -463324.!-.003! .012!-7192907.|-.043| .186|2.| .188|15.53!SI|
   376.|376.|3.|1.|  335382.!-.002| .007| 8581855.|-.048| .186|2.| .206|25.59|SI|
   420.|420.|3.|1.| -280045.|-.002| .007|-7208395.!-.042| .186|2.| .184!25.74|SI|
   420.|420.|3.|1.|  335382.|-.002| .007| 8581855.|-.048| .186|2.| .206|25.59|SI|

TAGLIO:

Progressive|Se|  Vsd  |  VRd  |  VRcd |  VRsd   Asw    s  ctgT|Ve|
>    0.|  0.|3.| -4726.! 32988.!261935.!178866.! 3.14|15. |2.5 |SI|
   420.|420.|3.|  5176.! 32988.|261935.|178866.| 3.14|15. |2.5 |SI|
```

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-77096.	-.7	41.9	20.11	7.5	.0012	17.63	.002	SI
188.	188.	3.	2.	-337598.!	-3.1!	184.1!	20.11	7.5	.0053	17.63	.009!	SI
420.	420.	3.	1.	112155.!	-1.	51.2	24.13	7.5	.0015	15.94	.002	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-49692.	-.4	27.	20.11	7.5	.0008	17.63	.001	SI
188.	188.	3.	2.	-262554.!	-2.4!	143.2!	20.11	7.5	.0041	17.63	.007!	SI
420.	420.	3.	1.	73059.!	-.6	33.4	24.13	7.5	.001	15.94	.002	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-48031.	-.4	26.1	20.11	7.5	.0007	17.63	.001	SI
188.	188.	3.	2.	-258006.!	-2.3!	140.7!	20.11	7.5	.004	17.63	.007!	SI
420.	420.	3.	1.	70689.!	-.6	32.3	24.13	7.5	.0009	15.94	.001	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	44.23	.442	20.11	.201	10d16	24.13	.241	2d16 +10d16
2	40.21	.402	20.11	.201	10d16	20.11	.201	10d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 26 - Travata T004 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	
8.	SLU FON con SISMAX P16	
9.	SLU FON con SISMAY P16	

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 100x100; A=10000.; Jg=8333333.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A24	3	3	3	0	390.	360.	3.9	1.3	5.	162.178
2	A25	3	3	3	0	430.	400.	4.3	1.5	5.	187.129
3	A26	3	3	3	0	400.	370.	4.	1.5	5.	187.129
4	A27	3	3	3	0	420.	390.	4.2	1.5	5.	187.129
5	A28	3	3	3	0	510.	480.	5.1	1.5	5.	187.129
6	A29	3	3	3	0	360.	330.	3.6	1.5	5.	187.129
7	A30	3	3	3	0	330.	300.	3.3	1.5	5.	187.129
8	A31	3	3	3	0	420.	390.	4.2	1.3	5.	162.178

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-282267.	-.002	.007	-7208395.	-.042	.186	2.	.184	25.54	SI
0.	0.	3.	1.	202179.	-.001	.004	8581855.	-.048	.186	2.	.206	42.45	SI
100.	100.	3.	1.	-297701.!	-.002	.008!	-7208395.	-.042	.186	2.	.184	24.21!	SI
331.	331.	3.	4.	-83495.	0.	.002	-7268846.	-.038	.186	2.	.168!	87.06	SI
331.	331.	3.	4.	512645.	-.002	.006	15356934.	-.071	.186	2.	.276!	29.96	SI
346.	346.	3.	5.	-46701.	0.	.001	-14241580	-.059	.186	2.	.242	305.	SI
346.	346.	3.	5.	596422.!	-.002!	.007	15573259.!	-.065	.186	2.	.257	26.11	SI
361.	361.	3.	5.	-10171.	0.	0.	-14241580	-.059	.186	2.	.242	1400.!	SI
390.	390.	3.	5.	596422.	-.002	.007	15573259.	-.065	.186	2.	.257	26.11	SI
> 390.	0.	3.	5.	-263653.	-.001	.003	-14241580!	-.059	.186	2.	.242	54.02	SI
390.	0.	3.	5.	840390.	-.003	.01	15573259.!	-.065	.186	2.	.257	18.53	SI
405.	15.	3.	5.	-269948.!	-.001	.004	-14241580	-.059	.186	2.	.242	52.76	SI
449.	59.	3.	4.	-269948.	-.001	.007	-7268846.	-.038	.186	2.	.168!	26.93	SI
449.	59.	3.	4.	771126.	-.003	.009	15356934.	-.071	.186	2.	.276!	19.92	SI
528.	138.	3.	2.	439817.	-.003	.011!	7192907.	-.043	.186	2.	.188	16.35!	SI
741.	351.	3.	3.	-23985.	0.	.001	-7258692.	-.038	.186	2.	.171	302.6!	SI
776.	386.	3.	5.	898768.!	-.004!	.011	15573259.	-.065	.186	2.	.257	17.33	SI
820.	430.	3.	5.	898768.	-.004	.011	15573259.	-.065	.186	2.	.257	17.33	SI
> 820.	0.	3.	5.	918754.	-.004!	.011!	15573259.!	-.065	.186	2.	.257	16.95	SI
879.	59.	3.	4.	-18212.	0.	0.	-7268846.	-.038	.186	2.	.168!	399.1	SI
879.	59.	3.	4.	813664.	-.004	.01	15356934.	-.071	.186	2.	.276!	18.87	SI
1040.	220.	3.	2.	-138233.	-.001	.004	-7192907.	-.043	.186	2.	.188	52.04	SI
1176.	356.	3.	5.	-74904.	0.	.001	-14241580	-.059	.186	2.	.242	190.1	SI
1205.	385.	3.	5.	-24065.	0.	0.	-14241580	-.059	.186	2.	.242	591.8!	SI
1220.	400.	3.	5.	553339.	-.002	.007	15573259.	-.065	.186	2.	.257	28.14	SI
>1220.	0.	3.	5.	-14090.	0.	0.	-14241580!	-.059	.186	2.	.242	1011.	SI
1220.	0.	3.	5.	546635.	-.002	.007	15573259.!	-.065	.186	2.	.257	28.49	SI
1279.	59.	3.	4.	-106136.	-.001	.003	-7268846.	-.038	.186	2.	.168!	68.49	SI
1279.	59.	3.	4.	461797.	-.002	.006	15356934.	-.071	.186	2.	.276!	33.26	SI
1408.	188.	3.	2.	-147149.!	-.001	.004	-7192907.	-.043	.186	2.	.188	48.88	SI
1581.	361.	3.	4.	-4233.	0.	0.	-7268846.	-.038	.186	2.	.168	1717.!	SI
1596.	376.	3.	5.	819279.!	-.003!	.01 !	15573259.	-.065	.186	2.	.257	19.01	SI
1640.	420.	3.	5.	819279.	-.003	.01	15573259.	-.065	.186	2.	.257	19.01	SI
>1640.	0.	3.	5.	755489.	-.003	.009	15573259.!	-.065	.186	2.	.257	20.61	SI
1655.	15.	3.	5.	-31348.	0.	0.	-14241580!	-.059	.186	2.	.242	454.3!	SI
1699.	59.	3.	4.	-132684.	-.001	.003	-7268846.	-.038	.186	2.	.168!	54.78	SI
1699.	59.	3.	4.	644986.	-.003	.008	15356934.	-.071	.186	2.	.276!	23.81	SI
1873.	233.	3.	2.	-361734.!	-.002	.009	-7192907.	-.043	.186	2.	.188	19.89	SI
2106.	466.	3.	5.	810501.!	-.003!	.01 !	15573259.	-.065	.186	2.	.257	19.21	SI
2150.	510.	3.	5.	810501.	-.003	.01	15573259.	-.065	.186	2.	.257	19.21	SI
>2150.	0.	3.	5.	883705.!	-.003!	.011	15573259.!	-.065	.186	2.	.257	17.62	SI
2209.	59.	3.	4.	791646.	-.003	.01	15356934.	-.071	.186	2.	.276!	19.4	SI
2250.	100.	3.	2.	-15415.	0.	0.	-7192907.	-.043	.186	2.	.188	466.6!	SI
2250.	100.	3.	2.	556173.	-.003	.014!	7192907.	-.043	.186	2.	.188	12.93!	SI
2410.	260.	3.	2.	-85176.	0.	.002	-7192907.	-.043	.186	2.	.188	84.45	SI
2451.	301.	3.	4.	-84727.	0.	.002	-7268846.	-.038	.186	2.	.168!	85.79	SI

2510.	360.	3.	5.	-57495.	0.	.001	-14241580!	-.059	.186	2.	.242	247.7	SI
2510.	360.	3.	5.	633619.	-.002	.008	15573259.	-.065	.186	2.	.257	24.58	SI
>2510.	0.	3.	5.	614352.	-.002	.007	15573259. !	-.065	.186	2.	.257	25.35	SI
2554.	44.	3.	5.	-1633.	0.	0.	-14241580	-.059	.186	2.	.242	8721. !	SI
2569.	59.	3.	3.	-37192.	0.	.001	-7258692.	-.038	.186	2.	.171	!195.2	SI
2569.	59.	3.	3.	538224.	-.002	.007	14022249.	-.067	.186	2.	.264	!26.05	SI
2740.	230.	3.	2.	490838.	-.003	.013 !	7192907.	-.043	.186	2.	.188	14.65 !	SI
2781.	271.	3.	3.	643107.	-.003 !	.009	14022249.	-.067	.186	2.	.264	21.8	SI
2796.	286.	3.	5.	702026. !	-.003	.008	15573259.	-.065	.186	2.	.257	22.18	SI
2811.	301.	3.	5.	-285829. !	-.001	.004	-14241580	-.059	.186	2.	.242	49.83	SI
2840.	330.	3.	5.	-285207.	-.001	.004	-14241580 !	-.059	.186	2.	.242	49.93	SI
2840.	330.	3.	5.	702026.	-.003	.008	15573259.	-.065	.186	2.	.257	22.18	SI
>2840.	0.	3.	5.	-43892.	0.	.001	-14241580 !	-.059	.186	2.	.242	324.5 !	SI
2840.	0.	3.	5.	357817. !	-.001	.004	15573259. !	-.065	.186	2.	.257	43.52	SI
2899.	59.	3.	4.	-212317.	-.001	.005	-7268846.	-.038	.186	2.	.168	!34.24	SI
2899.	59.	3.	4.	296829.	-.001	.004	15356934.	-.071	.186	2.	.276	!51.74	SI
3116.	276.	3.	2.	-439723. !	-.003 !	.011 !	-7192907.	-.043	.186	2.	.188	!16.36	SI
3260.	420.	3.	1.	-376221.	-.002	.01	-7208395.	-.042	.186	2.	.184	!19.16	SI
3260.	420.	3.	1.	290775.	-.002	.006	8581855.	-.048	.186	2.	.206	!29.51	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-3159. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
0.	0.	3.	305.	32988.	!261935.	!178866.	3.14	15.	2.5	SI
390.	390.	3.	6219. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
> 390.	0.	3.	-5796. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
820.	430.	3.	7548. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI
> 820.	0.	3.	-7851. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
1220.	400.	3.	6174. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI
>1220.	0.	3.	-6967. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
1640.	420.	3.	8304. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI
>1640.	0.	3.	-9091. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
2150.	510.	3.	9217. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI
>2150.	0.	3.	-6932. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
2510.	360.	3.	5351. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI
>2510.	0.	3.	-5735. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
2840.	330.	3.	4337. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI
>2840.	0.	3.	-5910. !	32988.	!261935.	!178866. !	3.14	15.	2.5	SI
3260.	420.	3.	3739. !	32988.	!261935.	!178866.	3.14	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-32191.	-.3	17.5	20.11	7.5	.0005	17.63	.001	SI
29.	29.	3.	1.	-73738. !	-.7	40.1	20.11	7.5	.0011	17.63	.002	SI
138.	138.	3.	2.	-139594. !	-1.3	76.1	20.11	7.5	.0022	17.63	.004 !	SI
390.	390.	3.	5.	429790. !	-2.7 !	108.1 !	44.23	7.5	.0031	12.09	.004	SI
> 390.	0.	3.	5.	410734. !	-2.5	103.3	44.23	7.5	.003	12.09	.004	SI
605.	215.	3.	2.	18420. !	-.2	10.	20.11	7.5	.0003	17.63	.001	SI
820.	430.	3.	5.	640118. !	-4. !	161. !	44.23	7.5	.0046	12.09	.006	SI
> 820.	0.	3.	5.	654289. !	-4. !	164.6 !	44.23	7.5	.0047	12.09	.006 !	SI
1040.	220.	3.	2.	18903. !	-.2 !	10.3	20.11	7.5	.0003	17.63	.001	SI
1220.	400.	3.	5.	395888. !	-2.4 !	99.6	44.23	7.5	.0028	12.09	.003	SI
>1220.	0.	3.	5.	391038. !	-2.4 !	98.4	44.23	7.5	.0028	12.09	.003	SI
1408.	188.	3.	2.	-82622. !	-.8 !	45.	20.11	7.5	.0013	17.63	.002	SI
1640.	420.	3.	5.	587524. !	-3.6 !	147.8 !	44.23	7.5	.0042	12.09	.005	SI
>1640.	0.	3.	5.	541803. !	-3.3 !	136.3 !	44.23	7.5	.0039	12.09	.005	SI
1873.	233.	3.	2.	-262203. !	-2.4 !	143.	20.11	7.5	.0041	17.63	.007 !	SI
2150.	510.	3.	5.	578934. !	-3.6 !	145.6 !	44.23	7.5	.0042	12.09	.005	SI
>2150.	0.	3.	5.	631373. !	-3.9 !	158.8 !	44.23	7.5	.0045	12.09	.005	SI
2250.	100.	3.	2.	263292. !	-2.4 !	143.6 !	20.11	7.5	.0041	17.63	.007 !	SI
2330.	180.	3.	2.	141821. !	-1.3 !	77.3 !	20.11	7.5	.0022	17.63	.004 !	SI
2510.	360.	3.	5.	449861. !	-2.8 !	113.2 !	44.23	7.5	.0032	12.09	.004 !	SI
>2510.	0.	3.	5.	436155. !	-2.7 !	109.7 !	44.23	7.5	.0031	12.09	.004 !	SI
2610.	100.	3.	2.	143860. !	-1.3 !	78.4 !	20.11	7.5	.0022	17.63	.004 !	SI
2675.	165.	3.	2.	65797. !	-.6 !	35.9 !	20.11	7.5	.001	17.63	.002	SI
2840.	330.	3.	5.	277064. !	-1.7 !	69.7 !	44.23	7.5	.002	12.09	.002	SI
>2840.	0.	3.	5.	258462. !	-1.6 !	65.	44.23	7.5	.0019	12.09	.002	SI
3072.	232.	3.	2.	-244462. !	-2.2 !	133.3 !	20.11	7.5	.0038	17.63	.007 !	SI
3260.	420.	3.	1.	-19041. !	-.2 !	10.4 !	20.11	7.5	.0003	17.63	.001	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-23266. !	-.2 !	12.7	20.11	7.5	.0004	17.63	.001	SI
29.	29.	3.	1.	-57973. !	-.5 !	31.5	20.11	7.5	.0009	17.63	.002	SI
138.	138.	3.	2.	-115901. !	-1.1 !	63.2	20.11	7.5	.0018	17.63	.003 !	SI
390.	390.	3.	5.	314072. !	-1.9 !	79. !	44.23	7.5	.0023	12.09	.003	SI
> 390.	0.	3.	5.	308553. !	-1.9 !	77.6 !	44.23	7.5	.0022	12.09	.003	SI
605.	215.	3.	2.	-2912. !	0. !	1.6 !	20.11	7.5	0.	17.63	0.	SI
820.	430.	3.	5.	435628. !	-2.7 !	109.6 !	44.23	7.5	.0031	12.09	.004 !	SI
> 820.	0.	3.	5.	445001. !	-2.7 !	111.9 !	44.23	7.5	.0032	12.09	.004 !	SI
1040.	220.	3.	2.	-4049. !	0. !	2.2 !	20.11	7.5	.0001	17.63	0.	SI
1220.	400.	3.	5.	277136. !	-1.7 !	69.7 !	44.23	7.5	.002	12.09	.002	SI
>1220.	0.	3.	5.	273509. !	-1.7 !	68.8 !	44.23	7.5	.002	12.09	.002	SI
1408.	188.	3.	2.	-66118. !	-.6 !	36. !	20.11	7.5	.001	17.63	.002	SI
1640.	420.	3.	5.	417159. !	-2.6 !	104.9 !	44.23	7.5	.003	12.09	.004 !	SI
>1640.	0.	3.	5.	384798. !	-2.4 !	96.8 !	44.23	7.5	.0028	12.09	.003 !	SI
1873.	233.	3.	2.	-198138. !	-1.8 !	108. !	20.11	7.5	.0031	17.63	.005 !	SI
2150.	510.	3.	5.	401236. !	-2.5 !	100.9 !	44.23	7.5	.0029	12.09	.003 !	SI
>2150.	0.	3.	5.	438222. !	-2.7 !	110.2 !	44.23	7.5	.0031	12.09	.004 !	SI
2250.	100.	3.	2.	169543. !	-1.5 !	92.4 !	20.11	7.5	.0026	17.63	.005 !	SI
2330.	180.	3.	2.	79735. !	-.7 !	43.5 !	20.11	7.5	.0012	17.63	.002 !	SI
2510.	360.	3.	5.	300059. !	-1.9 !	75.5 !	44.23	7.5	.0022	12.09	.003 !	SI
>2510.	0.	3.	5.	290803. !	-1.8 !	73.1 !	44.23	7.5	.0021	12.09	.003 !	SI
2675.	165.	3.	2.	35609. !	-.3 !	19.4 !	20.11	7.5	.0006	17.63	.001 !	SI
2840.	330.	3.	5.	212333. !	-1.3 !	53.4 !	44.23	7.5	.0015	12.09	.002 !	SI
>2840.	0.	3.	5.	191489. !	-1.2 !	48.2 !	44.23	7.5	.0014	12.09	.002 !	SI
3072.	232.	3.	2.	-195739. !	-1.8 !	106.7 !	20.11	7.5	.003	17.63	.005 !	SI
3260.	420.	3.	1.	-15173. !	-.1 !	8.3 !	20.11	7.5	.0002	17.63	0.	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-22725. !	-.2 !	12.4	20.11	7.5	.0004	17.63	.001	SI
29.	29.	3.	1.	-57018. !	-.5 !	31.	20.11	7.5	.0009	17.63	.002	SI
138.	138.	3.	2.	-114465. !	-1. !	62.4	20.11	7.5	.0018	17.63	.003 !	SI
390.	390.	3.	5.	307059. !	-1.9 !	77.2 !	44.23	7.5	.0022	12.09	.003	SI
> 390.	0.	3.	5.	302360. !	-1.9 !	76.1 !	44.23	7.5	.0022	12.09	.003	SI
605.	215.	3.	2.	-4205. !	0. !	2.3 !	20.11	7.5	.0001	17.63	0.	SI
820.	430.	3.	5.	423235. !	-2.6 !	106.5 !	44.23	7.5	.003	12.09	.004 !	SI
> 820.	0.	3.	5.	432317. !	-2.7 !	108.7 !	44.23	7.5	.0031	12.09	.004 !	SI
1040.	220.	3.	2.	-5440. !	0. !	3. !	20.11	7.5	.0001	17.63	0.	SI
1220.	400.	3.	5.	269939. !	-1.7 !	67.9 !	44.23	7.5	.0019	12.09	.002	SI
>1220.	0.	3.	5.	266386. !	-1.6 !	67. !	44.23	7.5	.0019	12.09	.002	SI
1408.	188.	3.	2.	-65118. !	-.6 !	35.5 !	20.11	7.5	.001	17.63	.002	SI
1640.	420.	3.	5.	406834. !	-2.5 !	102.3 !	44.23	7.5	.0029	12.09	.004 !	SI
>1640.	0.	3.	5.	375283. !	-2.3 !	94.4 !	44.23	7.5	.0027	12.09	.003 !	SI
1873.	233.	3.	2.	-194255. !	-1.8 !	105.9 !	20.11	7.5	.003	17.63	.005 !	SI
2150.	510.	3.	5.	390466. !	-2.4 !	98.2 !	44.23	7.5	.0028	12.09	.003 !	SI
>2150.	0.	3.	5.	426516. !	-2.6 !	107.3 !	44.23	7.5	.0031	12.09	.004 !	SI
2250.	100.	3.	2.	163861. !	-1.5 !	89.3 !	20.11	7.5	.0026	17.63	.004 !	SI
2330.	180.	3.	2.	75973. !	-.7 !	41.4 !	20.11	7.5	.0012	17.63	.002 !	SI
2510.	360.	3.	5.	290980. !	-1.8 !	73.2 !	44.23	7.5	.0021	12.09	.003 !	SI
>2510.	0.	3.	5.	281994. !	-1.7 !	70.9 !	44.23	7.5	.002	12.09	.002 !	SI
2675.	165.	3.	2.	33780. !	-.3 !	18.4 !	20.11	7.5	.0005	17.63	.001 !	SI
2840.	330.	3.	5.	208410. !	-1.3 !	52.4 !	44.23	7.5	.0015	12.09	.002 !	SI
>2840.	0.	3.	5.	187430. !	-1.2 !	47.1 !	44.23	7.5	.0013	12.09	.002 !	SI
3072.	232.	3.	2.	-192786. !	-1.8 !	105.1 !	20.11	7.5	.003	17.63	.005 !	SI
3260.	420.	3.	1.	-14938. !	-.1 !	8.1 !	20.11	7.5	.0002	17.63	0.	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	44.23	.442	20.11	.201	10d16	24.13	.241	2d16 +10d16
2	40.21	.402	20.11	.201	10d16	20.11	.201	10d16
3	60.32	.603	20.11	.201	10d16	40.21	.402	10d16 +10d16
4	64.34	.643	20.11	.201	10d16	44.23	.442	2d16 +10d16 +10d16
5	84.45	.844	40.21	.402	10d16 +10d16	44.23	.442	2d16 +10d16 +10d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 27 - Travata T005 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

	SLU	
Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC	16
5.	SLU con SISMAY PRINC	16
8.	SLU FON con SISMAX P	16
9.	SLU FON con SISMAY P	16

	RARE			FREQUENTI			QUASI PERMANENTI	
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

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SEZIONI UTILIZZATE

3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A9	3	3	3	0	350.	320.	3.5	1.3	5.	162.178
2	A20	3	3	3	0	420.	390.	4.2	1.3	5.	162.178

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	Se	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-554713.	-.003	.014	-7208395.	-.042	.186	2.	.184	13.	SI
0.	0.	3.	1.	171681.	-.001	.004	8581855.	-.048	.186	2.	.206	49.99	SI
79.	79.	3.	1.	-571718.	-.003	.015	-7208395.	-.042	.186	2.	.184	12.61	SI
138.	138.	3.	2.	-570164.	-.003	.015	-7192907.	-.043	.186	2.	.188	12.62	SI
175.	175.	3.	2.	5555.	0.	0.	7192907.	-.043	.186	2.	.188	1295.	SI
291.	291.	3.	4.	-325907.	-.002	.008	-7268846.	-.038	.186	2.	.168	22.3	SI
291.	291.	3.	4.	47611.	0.	.001	15356934.	-.071	.186	2.	.276	322.5	SI
306.	306.	3.	5.	87461.	0.	.001	15573259.	-.065	.186	2.	.257	178.1	SI
350.	350.	3.	5.	-122015.	0.	.002	-14241580	-.059	.186	2.	.242	116.7	SI
350.	350.	3.	5.	87461.	0.	.001	15573259.	-.065	.186	2.	.257	178.1	SI
> 350.	0.	3.	5.	-372002.	-.001	.005	-14241580	-.059	.186	2.	.242	38.28	SI
350.	0.	3.	5.	309747.	-.001	.004	15573259.	-.065	.186	2.	.257	50.28	SI
409.	59.	3.	4.	-401546.	-.002	.01	-7268846.	-.038	.186	2.	.168	18.1	SI
409.	59.	3.	4.	246665.	-.001	.003	15356934.	-.071	.186	2.	.276	62.26	SI
582.	232.	3.	2.	-511831.	-.003	.013	-7192907.	-.043	.186	2.	.188	14.05	SI
626.	276.	3.	2.	38405.	0.	.001	7192907.	-.043	.186	2.	.188	187.3	SI
770.	420.	3.	1.	-470511.	-.003	.012	-7208395.	-.042	.186	2.	.184	15.32	SI
770.	420.	3.	1.	263165.	-.001	.006	8581855.	-.048	.186	2.	.206	32.61	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-3046.	32988.	261935.	178866.	3.14	15.	2.5	SI
350.	350.	3.	5105.	32988.	261935.	178866.	3.14	15.	2.5	SI
> 350.	0.	3.	-4828.	32988.	261935.	178866.	3.14	15.	2.5	SI
770.	420.	3.	3619.	32988.	261935.	178866.	3.14	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-241621.	-2.1	131.4	20.11	7.5	.0038	17.63	.007	SI
29.	29.	3.	1.	-295189.	-2.6	160.6	20.11	7.5	.0046	17.63	.008	SI
44.	44.	3.	1.	-321357.	-2.8	174.8	20.11	7.5	.005	17.63	.009	SI
59.	59.	3.	1.	-336567.	-3.	183.1	20.11	7.5	.0052	17.63	.009	SI
138.	138.	3.	2.	-371822.	-3.4	202.7	20.11	7.5	.0058	17.63	.01	SI
350.	350.	3.	5.	58629.	-.4	14.7	44.23	7.5	.0004	12.09	.001	SI
> 350.	0.	3.	5.	-48417.	-.3	13.3	40.21	7.5	.0004	12.55	0.	SI
582.	232.	3.	2.	-373024.	-3.4	203.4	20.11	7.5	.0058	17.63	.01	SI
770.	420.	3.	1.	-108047.	-1.	58.8	20.11	7.5	.0017	17.63	.003	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-163638.	-1.4	89.	20.11	7.5	.0025	17.63	.004	SI
29.	29.	3.	1.	-208497.	-1.8	113.4	20.11	7.5	.0032	17.63	.006	SI
44.	44.	3.	1.	-230410.	-2.	125.3	20.11	7.5	.0036	17.63	.006	SI
59.	59.	3.	1.	-243762.	-2.2	132.6	20.11	7.5	.0038	17.63	.007	SI
138.	138.	3.	2.	-278687.	-2.5	151.9	20.11	7.5	.0043	17.63	.008	SI
350.	350.	3.	5.	43428.	-.3	10.9	44.23	7.5	.0003	12.09	0.	SI
> 350.	0.	3.	5.	-30914.	-.2	8.5	40.21	7.5	.0002	12.55	0.	SI
582.	232.	3.	2.	-290445.	-2.6	158.4	20.11	7.5	.0045	17.63	.008	SI
770.	420.	3.	1.	-74030.	-.7	40.3	20.11	7.5	.0012	17.63	.002	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-158911.	-1.4	86.4	20.11	7.5	.0025	17.63	.004	SI
29.	29.	3.	1.	-203243.	-1.8	110.6	20.11	7.5	.0032	17.63	.006	SI
44.	44.	3.	1.	-224898.	-2.	122.3	20.11	7.5	.0035	17.63	.006	SI
59.	59.	3.	1.	-238138.	-2.1	129.5	20.11	7.5	.0037	17.63	.007	SI
138.	138.	3.	2.	-273043.	-2.5	148.9	20.11	7.5	.0043	17.63	.007	SI
350.	350.	3.	5.	42507.	-.3	10.7	44.23	7.5	.0003	12.09	0.	SI
> 350.	0.	3.	5.	-29853.	-.2	8.2	40.21	7.5	.0002	12.55	0.	SI
582.	232.	3.	2.	-285440.	-2.6	155.6	20.11	7.5	.0044	17.63	.008	SI
770.	420.	3.	1.	-71969.	-.6	39.2	20.11	7.5	.0011	17.63	.002	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	44.23	.442	20.11	.201	10d16	24.13	.241	2d16 +10d16
2	40.21	.402	20.11	.201	10d16	20.11	.201	10d16
3	60.32	.603	20.11	.201	10d16	40.21	.402	10d16 +10d16
4	64.34	.643	20.11	.201	10d16	44.23	.442	2d16 +10d16 +10d16
5	84.45	.844	40.21	.402	10d16 +10d16	44.23	.442	2d16 +10d16 +10d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 28 - Travata T006 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

SLU	
Nome	Descrizione Sest
1.	SLU SENZA SISMA 1.
4.	SLU con SISMAX PRINC16
5.	SLU con SISMAY PRINC16
8.	SLU FON con SISMAX P16
9.	SLU FON con SISMAY P16

RARE		FREQUENTI		QUASI PERMANENTI	
Nome	Descrizione Sest	Nome	Descrizione Sest	Nome	Descrizione Sest
11.	Rara 1.	12.	Frequente 1.	13.	Quasi Perm 1.

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SEZIONI UTILIZZATE

3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A10	3	3	3	0	350.	320.	3.5	1.3	5.	162.178
2	A21	3	3	3	0	420.	390.	4.2	1.3	5.	162.178

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-739678.	-.004	.019	-7208395.	-.042	.186	2.	.184	9.745	SI
0.	0.	3.	1.	515544.!	-.003	.011	8581855.	-.048	.186	2.	.206	16.65	SI
212.	212.	3.	2.	-822326.!	-.005!	.021!	-7192907.	-.043	.186	2.	.188	8.747!	SI
291.	291.	3.	4.	-781597.	-.004	.02	-7268846.	-.038	.186	2.	.168	9.3	SI
291.	291.	3.	4.	53995.	0.	.001	15356934.	-.071	.186	2.	.276	284.4!	SI
306.	306.	3.	5.	116848.	0.	.001	15573259.!	-.065	.186	2.	.257	133.3	SI
350.	350.	3.	5.	-641387.	-.003	.008	-14241580!	-.059	.186	2.	.242	22.2	SI
350.	350.	3.	5.	116848.	0.	.001	15573259.	-.065	.186	2.	.257	133.3	SI
> 350.	0.	3.	5.	-813818.	-.003	.011	-14241580!	-.059	.186	2.	.242	17.5	SI
350.	0.	3.	5.	482713.	-.002	.006	15573259.!	-.065	.186	2.	.257	32.26	SI
409.	59.	3.	4.	-799289.	-.004	.02	-7268846.	-.038	.186	2.	.168	9.094	SI
409.	59.	3.	4.	391663.	-.002	.005	15356934.	-.071	.186	2.	.276	39.21	SI
538.	188.	3.	2.	-874082.!	-.005!	.023!	-7192907.	-.043	.186	2.	.188	8.229!	SI
626.	276.	3.	2.	42199.	0.	.001	7192907.	-.043	.186	2.	.188	170.5!	SI
726.	376.	3.	1.	507622.!	-.003	.011	8581855.	-.048	.186	2.	.206	16.91	SI
770.	420.	3.	1.	-759202.	-.004	.02	-7208395.	-.042	.186	2.	.184	9.495	SI
770.	420.	3.	1.	507622.	-.003	.011	8581855.	-.048	.186	2.	.206	16.91	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-7013.!	32988.	261935.	178866.	3.14	15.	2.5	SI
350.	350.	3.	-447.	32988.	261935.!	178866.!	3.14	15.	2.5	SI
350.	350.	3.	5674.!	32988.	261935.	178866.	3.14	15.	2.5	SI
> 350.	0.	3.	-6483.!	32988.	261935.!	178866.!	3.14	15.	2.5	SI
350.	0.	3.	576.	32988.	261935.	178866.	3.14	15.	2.5	SI
770.	420.	3.	5951.!	32988.	261935.	178866.	3.14	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-115551.!	-1.	62.9	20.11	7.5	.0018	17.63	.003	SI
29.	29.	3.	1.	-245792.	-2.2	133.7	20.11	7.5	.0038	17.63	.007	SI
44.	44.	3.	1.	-309414.	-2.7	168.3	20.11	7.5	.0048	17.63	.008	SI
59.	59.	3.	1.	-358427.	-3.2	195.	20.11	7.5	.0056	17.63	.01	SI
175.	175.	3.	2.	-590653.!	-5.4!	322. !	20.11	7.5	.0092	17.63	.016!	SI
350.	350.	3.	5.	-327987.	-2.	90.2	40.21	7.5	.0026	12.55	.003	SI
> 350.	0.	3.	5.	-265492.	-1.7	73.	40.21	7.5	.0021	12.55	.003	SI
538.	188.	3.	2.	-630025.!	-5.7!	343.5	20.11	7.5	.0098	17.63	.017!	SI
770.	420.	3.	1.	-151057.!	-1.3	82.2	20.11	7.5	.0023	17.63	.004	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-86679.!	-.8	47.2	20.11	7.5	.0013	17.63	.002	SI
29.	29.	3.	1.	-180943.	-1.6	98.4	20.11	7.5	.0028	17.63	.005	SI
44.	44.	3.	1.	-226991.	-2.	123.5	20.11	7.5	.0035	17.63	.006	SI
59.	59.	3.	1.	-262122.	-2.3	142.6	20.11	7.5	.0041	17.63	.007	SI
175.	175.	3.	2.	-424399.!	-3.9!	231.4	20.11	7.5	.0066	17.63	.012!	SI
350.	350.	3.	5.	-210803.	-1.3	58.	40.21	7.5	.0017	12.55	.002	SI
> 350.	0.	3.	5.	-171263.	-1.1	47.1	40.21	7.5	.0013	12.55	.002	SI
538.	188.	3.	2.	-461035.!	-4.2!	251.4	20.11	7.5	.0072	17.63	.013!	SI
770.	420.	3.	1.	-116923.!	-1.	63.6	20.11	7.5	.0018	17.63	.003	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-84929.!	-.8	46.2	20.11	7.5	.0013	17.63	.002	SI
29.	29.	3.	1.	-177013.	-1.6	96.3	20.11	7.5	.0028	17.63	.005	SI
44.	44.	3.	1.	-221995.	-2.	120.8	20.11	7.5	.0035	17.63	.006	SI
59.	59.	3.	1.	-256286.	-2.3	139.4	20.11	7.5	.004	17.63	.007	SI
175.	175.	3.	2.	-414323.!	-3.8!	225.9	20.11	7.5	.0065	17.63	.011!	SI
350.	350.	3.	5.	-203701.	-1.3	56.	40.21	7.5	.0016	12.55	.002	SI
> 350.	0.	3.	5.	-165553.	-1.	45.5	40.21	7.5	.0013	12.55	.002	SI
538.	188.	3.	2.	-450794.!	-4.1!	245.8	20.11	7.5	.007	17.63	.012!	SI
770.	420.	3.	1.	-114854.!	-1.	62.5	20.11	7.5	.0018	17.63	.003	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	44.23	.442	20.11	.201	10d16	24.13	.241	2d16 +10d16
2	40.21	.402	20.11	.201	10d16	20.11	.201	10d16
3	60.32	.603	20.11	.201	10d16	40.21	.402	10d16 +10d16
4	64.34	.643	20.11	.201	10d16	44.23	.442	2d16 +10d16 +10d16
5	84.45	.844	40.21	.402	10d16 +10d16	44.23	.442	2d16 +10d16 +10d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 29 - Travata T007 (fondazione)

```
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2

              MATERIALI

CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

              TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].

              CASI DI CARICO DA MODELLO 3D

            SLU           |
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|
 8.|SLU FON con SISMAX P16|
 9.|SLU FON con SISMAY P16|

           RARE          |         FREQUENTI         |    QUASI PERMANENTI      |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara                1.|12.|Frequente          1.|13.|Quasi Perm         1.|
<-
              SEZIONI UTILIZZATE

 3) Rettangolare: 50X100; A=5000.; Jg=4166667.; E=330194.3

              DESCRIZIONE CAMPATE

Cam.| Descriz. |S.ini|Sez. |S.fin|Incl.|L.assi|L.net.|lambda | K |r.Ar.|lam.max|
   1|A15       |    3|    3|    3|    0|  770.|  740.|  7.7  |1. |5.   |124.752|

              VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive|SE|Ar|  Msd     Epscl Epsac|   Mrd    Epscl Epsac Cam x/d |Mr/Ms|VE|
>   0.|  0.|3.|1.| -370706.|-.004| .019|-3611304.|-.041| .186|2.| .181|9.742|SI|
    0.|  0.|3.|1.|  577541.!-.006| .022| 4979216.!-.053| .186|2.| .222!8.621|SI|
  385.|385.|3.|2.|-1054964.!-.012! .055!-3596454.|-.043| .186|2.| .188|3.409!SI|
  622.|622.|3.|1.|  117528.|-.001| .004| 4979216.|-.053| .186|2.| .222|42.37!SI|
  770.|770.|3.|1.| -375817.|-.004| .019|-3611304.!-.041| .186|2.| .181|9.609|SI|
  770.|770.|3.|1.|  506661.|-.005| .019| 4979216.|-.053| .186|2.| .222|9.828|SI|

TAGLIO:

Progressive|Se|  Vsd  |  VRd  |  VRcd |  VRsd   Asw    s  ctgT|Ve|
>   0.|  0.|3.| -7686.! 16494.!130968.! 89433.! 1.57|15. |2.5 |SI|
  770.|770.|3.|  6398.! 16494.|130968.| 89433.| 1.57|15. |2.5 |SI|

              VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>   0.|  0.|3.|1.|   220382.!  -3.5| 173.5|14.07| 7.5 |  .005 | 14.73|  .007|SI|
   15.| 15.|3.|1.|   149890.|  -2.4| 118. |14.07| 7.5 |  .0034| 14.73|  .005|SI|
  385.|385.|3.|2.|  -758250.! -13.8! 826.8!10.05| 7.5 |  .0236| 17.63|  .042!SI|
  770.|770.|3.|1.|   146835.|  -2.4| 115.6|14.07| 7.5 |  .0033| 14.73|  .005|SI|

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>   0.|  0.|3.|1.|   158415.!  -2.5| 124.7|14.07| 7.5 |  .0036| 14.73|  .005|SI|
   15.| 15.|3.|1.|   107748.|  -1.7|  84.8|14.07| 7.5 |  .0024| 14.73|  .004|SI|
  385.|385.|3.|2.|  -545704.!  -9.9! 595.1!10.05| 7.5 |  .017 | 17.63|  .03 !SI|
  770.|770.|3.|1.|   109396.|  -1.8|  86.1|14.07| 7.5 |  .0025| 14.73|  .004|SI|

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>   0.|  0.|3.|1.|   154660.!  -2.5| 121.8|14.07| 7.5 |  .0035| 14.73|  .005|SI|
   15.| 15.|3.|1.|   105194.|  -1.7|  82.8|14.07| 7.5 |  .0024| 14.73|  .003|SI|
  385.|385.|3.|2.|  -532822.!  -9.7! 581. !10.05| 7.5 |  .0166| 17.63|  .029!SI|
  770.|770.|3.|1.|   107127.|  -1.7|  84.4|14.07| 7.5 |  .0024| 14.73|  .004|SI|

          ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro|Totale   % |Super.   %        Barre        |Infer.   %        Barre        |
  1|24.13| .483|10.05| .201|5d16                |14.07| .281|2d16 +5d16        |
  2|20.11| .402|10.05| .201|5d16                |10.05| .201|5d16              |
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              VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata       : 30 - Travata T008 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2

              MATERIALI

CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

              TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].

              CASI DI CARICO DA MODELLO 3D

            SLU           |
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|
 8.|SLU FON con SISMAX P16|
 9.|SLU FON con SISMAY P16|

           RARE          |         FREQUENTI         |    QUASI PERMANENTI      |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara                1.|12.|Frequente          1.|13.|Quasi Perm         1.|
<-
              SEZIONI UTILIZZATE
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3) Rettangolare: 50X100; A=5000.; Jg=4166667.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A16	3	3	3	0	770.	740.	7.7	1.	5.	124.752

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-412278.	-.005	.021	-3611304.	-.041	.186	2.	.181	8.759	SI
0.	0.	3.	1.	525858.!	-.005	.02	4979216.!	-.053	.186	2.	.222!	9.469	SI
385.	385.	3.	2.	-1194127.!	-.014!	.062!	-3596454.	-.043	.186	2.	.188	3.012!	SI
622.	622.	3.	1.	69398.	-.001	.003	4979216.	-.053	.186	2.	.222	71.75!	SI
770.	770.	3.	1.	-419121.	-.005	.022	-3611304.!	-.041	.186	2.	.181!	8.616	SI
770.	770.	3.	1.	478664.	-.005	.018	4979216.	-.053	.186	2.	.222	10.4	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-8119.!	16494.!	130968.!	89433.!	1.57	15.	2.5	SI
770.	770.	3.	6776.!	16494.	130968.	89433.	1.57	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	164716.!	-2.6	129.7	14.07	7.5	.0037	14.73	.005	SI
15.	15.	3.	1.	90617.	-1.5	71.4	14.07	7.5	.002	14.73	.003	SI
385.	385.	3.	2.	-857102.!	-15.6!	934.6!	10.05	7.5	.0267	17.63	.047!	SI
770.	770.	3.	1.	100543.	-1.6	79.2	14.07	7.5	.0023	14.73	.003	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	112375.!	-1.8	88.5	14.07	7.5	.0025	14.73	.004	SI
15.	15.	3.	1.	59857.	-1.	47.1	14.07	7.5	.0013	14.73	.002	SI
385.	385.	3.	2.	-611844.!	-11.1!	667.2!	10.05	7.5	.0191	17.63	.034!	SI
770.	770.	3.	1.	74113.	-1.2	58.4	14.07	7.5	.0017	14.73	.002	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	109203.!	-1.8	86.	14.07	7.5	.0025	14.73	.004	SI
15.	15.	3.	1.	57992.	-.9	45.7	14.07	7.5	.0013	14.73	.002	SI
385.	385.	3.	2.	-596980.!	-10.8!	651. !	10.05	7.5	.0186	17.63	.033!	SI
770.	770.	3.	1.	72512.	-1.2	57.1	14.07	7.5	.0016	14.73	.002	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	24.13	.483	10.05	.201	5d16	14.07	.281	2d16 +5d16
2	20.11	.402	10.05	.201	5d16	10.05	.201	5d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 31 - Travata T009 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.

Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19% (limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

Nome	Descrizione	SLU Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC	16
5.	SLU con SISMAY PRINC	16
8.	SLU FON con SISMAX P	16
9.	SLU FON con SISMAY P	16

Nome	Descrizione	RARE Sest	Nome	Descrizione	FREQUENTI Sest	Nome	Descrizione	QUASI PERMANENTI Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 50X100; A=5000.; Jg=4166667.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A17	3	3	3	0	770.	740.	7.7	1.	5.	124.752

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-387354.	-.004	.02	-3611304.	-.041	.186	2.	.181	9.323	SI
0.	0.	3.	1.	478594.!	-.005	.018	4979216.!	-.053	.186	2.	.222!	10.4	SI
385.	385.	3.	2.	-1225273.!	-.014!	.063!	-3596454.	-.043	.186	2.	.188	2.935!	SI
622.	622.	3.	1.	28154.	0.	.001	4979216.	-.053	.186	2.	.222	176.9!	SI
770.	770.	3.	1.	-398156.	-.004	.021	-3611304.!	-.041	.186	2.	.181!	9.07	SI
770.	770.	3.	1.	429548.	-.004	.016	4979216.	-.053	.186	2.	.222	11.59	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-8214.!	16494.!	130968.!	89433.!	1.57	15.	2.5	SI
770.	770.	3.	6832.!	16494.	130968.	89433.	1.57	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	153950.!	-2.5	121.2	14.07	7.5	.0035	14.73	.005	SI
15.	15.	3.	1.	79048.	-1.3	62.2	14.07	7.5	.0018	14.73	.003	SI
385.	385.	3.	2.	-879161.!	-16. !	958.7!	10.05	7.5	.0274	17.63	.048!	SI
770.	770.	3.	1.	84189.	-1.4	66.3	14.07	7.5	.0019	14.73	.003	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	103166.!	-1.7	81.2	14.07	7.5	.0023	14.73	.003	SI
15.	15.	3.	1.	50263.	-.8	39.6	14.07	7.5	.0011	14.73	.002	SI
385.	385.	3.	2.	-626327.!	-11.4!	683. !	10.05	7.5	.0195	17.63	.034!	SI
770.	770.	3.	1.	61961.	-1.	48.8	14.07	7.5	.0014	14.73	.002	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	100088.!	-1.6	78.8	14.07	7.5	.0023	14.73	.003	SI
15.	15.	3.	1.	48519.	-.8	38.2	14.07	7.5	.0011	14.73	.002	SI
385.	385.	3.	2.	-611003.!	-11.1!	666.3!	10.05	7.5	.019	17.63	.034!	SI
770.	770.	3.	1.	60614.	-1.	47.7	14.07	7.5	.0014	14.73	.002	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	24.13	.483	10.05	.201	5d16	14.07	.281	2d16 +5d16
2	20.11	.402	10.05	.201	5d16	10.05	.201	5d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 32 - Travata T010 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

SLU		
Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	
8.	SLU FON con SISMAX P16	
9.	SLU FON con SISMAY P16	

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

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SEZIONI UTILIZZATE

3) Rettangolare: 50X100; A=5000.; Jg=4166667.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A18	3	3	3	0	770.	740.	7.7	1.	5.	124.752

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-355001.	-.004	.018	-3611304.	-.041	.186	2.	.181	10.17	SI
0.	0.	3.	1.	498558.!	-.005	.019	4979216.!	-.053	.186	2.	.222	!9.987	SI
385.	385.	3.	2.	-1150821.!	-.013!	.06 !	-3596454.	-.043	.186	2.	.188	3.125	!SI
622.	622.	3.	1.	42604.	0.	.002	4979216.	-.053	.186	2.	.222	116.9	!SI
770.	770.	3.	1.	-377691.	-.004	.019	-3611304.	-.041	.186	2.	.181	!9.562	SI
770.	770.	3.	1.	434263.	-.004	.016	4979216.	-.053	.186	2.	.222	11.47	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-7974.!	16494.!	130968.!	89433.!	1.57	15.	2.5	SI
770.	770.	3.	6601.!	16494.	130968.	89433.	1.57	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	187973.!	-3.	148.	14.07	7.5	.0042	14.73	.006	SI
15.	15.	3.	1.	115023.	-1.8	90.6	14.07	7.5	.0026	14.73	.004	SI
385.	385.	3.	2.	-826386.!	-15. !	901.1!	10.05	7.5	.0257	17.63	.045!	SI
770.	770.	3.	1.	98753.	-1.6	77.8	14.07	7.5	.0022	14.73	.003	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	128666.!	-2.1	101.3	14.07	7.5	.0029	14.73	.004	SI
15.	15.	3.	1.	76853.	-1.2	60.5	14.07	7.5	.0017	14.73	.003	SI
385.	385.	3.	2.	-591491.!	-10.7!	645. !	10.05	7.5	.0184	17.63	.032!	SI
770.	770.	3.	1.	73121.	-1.2	57.6	14.07	7.5	.0016	14.73	.002	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	125072.!	-2.	98.5	14.07	7.5	.0028	14.73	.004	SI
15.	15.	3.	1.	74540.	-1.2	58.7	14.07	7.5	.0017	14.73	.002	SI
385.	385.	3.	2.	-577254.!	-10.5!	629.5!	10.05	7.5	.018	17.63	.032!	SI
770.	770.	3.	1.	71567.	-1.1	56.4	14.07	7.5	.0016	14.73	.002	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	24.13	.483	10.05	.201	5d16	14.07	.281	2d16 +5d16
2	20.11	.402	10.05	.201	5d16	10.05	.201	5d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 33 - Travata T011 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;

gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

	SLU	
Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC	16
5.	SLU con SISMAY PRINC	16
8.	SLU FON con SISMAX P	16
9.	SLU FON con SISMAY P	16

	RARE			FREQUENTI			QUASI PERMANENTI	
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 50X100; A=5000.; Jg=4166667.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A19		3	3	3	0	770.	740.	7.7	1.	5.	124.752

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-276724.	-.003	.014	-3611304.	-.041	.186	2.	.181	13.05	SI
0.	0.	3.	1.	489738.	-.005	.018	4979216.	-.053	.186	2.	.222	10.17	SI
385.	385.	3.	2.	-975579.	-.011	.05	-3596454.	-.043	.186	2.	.188	3.686	SI
622.	622.	3.	1.	64859.	-.001	.002	4979216.	-.053	.186	2.	.222	76.77	SI
770.	770.	3.	1.	-288653.	-.003	.015	-3611304.	-.041	.186	2.	.181	12.51	SI
770.	770.	3.	1.	416316.	-.004	.016	4979216.	-.053	.186	2.	.222	11.96	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-7185.	16494.	130968.	89433.	1.57	15.	2.5	SI
770.	770.	3.	6045.	16494.	130968.	89433.	1.57	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	223186.	-3.6	175.7	14.07	7.5	.005	14.73	.007	SI
15.	15.	3.	1.	157044.	-2.5	123.7	14.07	7.5	.0035	14.73	.005	SI
385.	385.	3.	2.	-701997.	-12.7	765.5	10.05	7.5	.0219	17.63	.039	SI
770.	770.	3.	1.	146287.	-2.3	115.2	14.07	7.5	.0033	14.73	.005	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	162388.	-2.6	127.9	14.07	7.5	.0037	14.73	.005	SI
15.	15.	3.	1.	114459.	-1.8	90.1	14.07	7.5	.0026	14.73	.004	SI
385.	385.	3.	2.	-508654.	-9.2	554.7	10.05	7.5	.0158	17.63	.028	SI
770.	770.	3.	1.	109603.	-1.8	86.3	14.07	7.5	.0025	14.73	.004	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	158703.	-2.5	125.	14.07	7.5	.0036	14.73	.005	SI
15.	15.	3.	1.	111878.	-1.8	88.1	14.07	7.5	.0025	14.73	.004	SI
385.	385.	3.	2.	-496936.	-9.	541.9	10.05	7.5	.0155	17.63	.027	SI
770.	770.	3.	1.	107379.	-1.7	84.6	14.07	7.5	.0024	14.73	.004	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	24.13	.483	10.05	.201	5d16	14.07	.281	2d16 +5d16
2	20.11	.402	10.05	.201	5d16	10.05	.201	5d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 34 - Travata T012 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

	SLU	
Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC	16
5.	SLU con SISMAY PRINC	16
8.	SLU FON con SISMAX P	16
9.	SLU FON con SISMAY P	16

	RARE			FREQUENTI			QUASI PERMANENTI	
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A11		3	3	3	0	350.	320.	3.5	1.3	5.	162.178
2	A22		3	3	3	0	420.	390.	4.2	1.3	5.	162.178

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-652989.	-.004	.017	-7208395.	-.042	.186	2.	.184	11.04	SI
0.	0.	3.	1.	337752.	-.002	.007	8581855.	-.048	.186	2.	.206	25.41	SI
175.	175.	3.	2.	-778404.	-.005	.02	-7192907.	-.043	.186	2.	.188	9.241	SI
271.	271.	3.	3.	21310.	0.	0.	14022249.	-.067	.186	2.	.264	658.	SI
291.	291.	3.	4.	-702003.	-.004	.018	-7268846.	-.038	.186	2.	.168	10.35	SI
291.	291.	3.	4.	109285.	0.	.001	15356934.	-.071	.186	2.	.276	140.5	SI
306.	306.	3.	5.	173112.	-.001	.002	15573259.	-.065	.186	2.	.257	89.96	SI
350.	350.	3.	5.	-539021.	-.002	.007	-14241580	-.059	.186	2.	.242	26.42	SI
350.	350.	3.	5.	173112.	-.001	.002	15573259.	-.065	.186	2.	.257	89.96	SI
> 350.	0.	3.	5.	-634273.	-.003	.008	-14241580	-.059	.186	2.	.242	22.45	SI
350.	0.	3.	5.	412713.	-.002	.005	15573259.	-.065	.186	2.	.257	37.73	SI
409.	59.	3.	4.	-683161.	-.003	.017	-7268846.	-.038	.186	2.	.168	10.64	SI
409.	59.	3.	4.	330385.	-.001	.004	15356934.	-.071	.186	2.	.276	46.48	SI
450.	100.	3.	3.	107673.	0.	.001	14022249.	-.067	.186	2.	.264	130.2	SI
538.	188.	3.	2.	-810771.	-.005	.021	-7192907.	-.043	.186	2.	.188	8.872	SI
770.	420.	3.	1.	-654398.	-.004	.017	-7208395.	-.042	.186	2.	.184	11.02	SI
770.	420.	3.	1.	352501.	-.002	.008	8581855.	-.048	.186	2.	.206	24.35	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-5966.	32988.	261935.	178866.	3.14	15.	2.5	SI
350.	350.	3.	5191.	32988.	261935.	178866.	3.14	15.	2.5	SI
> 350.	0.	3.	-5888.	32988.	261935.	178866.	3.14	15.	2.5	SI
770.	420.	3.	5510.	32988.	261935.	178866.	3.14	15.	2.5	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-183940.	-1.6	100.1	20.11	7.5	.0029	17.63	.005	SI
29.	29.	3.	1.	-293802.	-2.6	159.8	20.11	7.5	.0046	17.63	.008	SI
44.	44.	3.	1.	-347469.	-3.1	189.	20.11	7.5	.0054	17.63	.01	SI
59.	59.	3.	1.	-387432.	-3.4	210.8	20.11	7.5	.006	17.63	.011	SI
175.	175.	3.	2.	-560215.	-5.1	305.4	20.11	7.5	.0087	17.63	.015	SI
350.	350.	3.	5.	-246248.	-1.5	67.7	40.21	7.5	.0019	12.55	.002	SI
> 350.	0.	3.	5.	-176214.	-1.1	48.5	40.21	7.5	.0014	12.55	.002	SI
538.	188.	3.	2.	-585550.	-5.3	319.3	20.11	7.5	.0091	17.63	.016	SI
770.	420.	3.	1.	-177965.	-1.6	96.8	20.11	7.5	.0028	17.63	.005	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-134384.	-1.2	73.1	20.11	7.5	.0021	17.63	.004	SI
29.	29.	3.	1.	-215061.	-1.9	117.	20.11	7.5	.0033	17.63	.006	SI
44.	44.	3.	1.	-254470.	-2.3	138.4	20.11	7.5	.004	17.63	.007	SI
59.	59.	3.	1.	-283574.	-2.5	154.3	20.11	7.5	.0044	17.63	.008	SI
175.	175.	3.	2.	-406342.	-3.7	221.6	20.11	7.5	.0063	17.63	.011	SI
350.	350.	3.	5.	-159122.	-1.	43.8	40.21	7.5	.0013	12.55	.002	SI
> 350.	0.	3.	5.	-114519.	-.7	31.5	40.21	7.5	.0009	12.55	.001	SI
582.	232.	3.	2.	-435221.	-4.	237.3	20.11	7.5	.0068	17.63	.012	SI
770.	420.	3.	1.	-136486.	-1.2	74.2	20.11	7.5	.0021	17.63	.004	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-131381.	-1.2	71.5	20.11	7.5	.002	17.63	.004	SI
29.	29.	3.	1.	-210288.	-1.9	114.4	20.11	7.5	.0033	17.63	.006	SI
44.	44.	3.	1.	-248834.	-2.2	135.4	20.11	7.5	.0039	17.63	.007	SI
59.	59.	3.	1.	-277280.	-2.5	150.8	20.11	7.5	.0043	17.63	.008	SI
175.	175.	3.	2.	-397016.	-3.6	216.5	20.11	7.5	.0062	17.63	.011	SI
350.	350.	3.	5.	-153842.	-1.	42.3	40.21	7.5	.0012	12.55	.002	SI
> 350.	0.	3.	5.	-110780.	-.7	30.5	40.21	7.5	.0009	12.55	.001	SI
582.	232.	3.	2.	-426139.	-3.9	232.3	20.11	7.5	.0066	17.63	.012	SI
770.	420.	3.	1.	-133972.	-1.2	72.9	20.11	7.5	.0021	17.63	.004	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	44.23	.442	20.11	.201	10d16	24.13	.241	2d16 +10d16
2	40.21	.402	20.11	.201	10d16	20.11	.201	10d16
3	60.32	.603	20.11	.201	10d16	40.21	.402	10d16 +10d16
4	64.34	.643	20.11	.201	10d16	44.23	.442	2d16 +10d16 +10d16
5	84.45	.844	40.21	.402	10d16 +10d16	44.23	.442	2d16 +10d16 +10d16

VERIFICA TRAVATA IN CEMENTO ARMATO

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Nome travata       : 35 - Travata T013 (fondazione)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
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MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.2% (limit.elastico)
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=.19%
(limit.elastico)
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
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CASI DI CARICO DA MODELLO 3D

Nome	Descrizione	Sest
	SLU	
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC	16
5.	SLU con SISMAY PRINC	16
8.	SLU FON con SISMAX P	16
9.	SLU FON con SISMAY P	16

Nome	RARE Descrizione	Sest	Nome	FREQUENTI Descrizione	Sest	Nome	QUASI PERMANENTI Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 100X100; A=10000.; Jg=8333333.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A12	3	3	3	0	350.	320.	3.5	1.3	5.	162.178
2	A23	3	3	3	0	420.	390.	4.2	1.3	5.	162.178

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-519037.	-.003	.013	-7208395.	-.042	.186	2.	.184	13.89	SI
0.	0.	3.	1.	114938.	-.001	.002	8581855.	-.048	.186	2.	.206	74.67	SI

```
   79.| 79.|3.|1.| -526273.!-.003| .014!-7208395.|-.042| .186|2.| .184|13.7 !SI|
  100.|100.|3.|2.| -521652.|-.003! .013|-7192907.|-.043| .186|2.| .188|13.79|SI|
  138.|138.|3.|2.|   17220.|0.    |0.    | 7192907.|-.043| .186|2.| .188|417.7!SI|
  291.|291.|3.|4.| -241715.|-.001| .006|-7268846.|-.038| .186|2.| .168!30.07|SI|
  291.|291.|3.|4.|  166958.|-.001| .002|15356934.|-.071| .186|2.| .276!91.98|SI|
  306.|306.|3.|5.|  232195.!-.001| .003|15573259.!-.065| .186|2.| .257|67.07|SI|
  350.|350.|3.|5.|  -59175.|0.    | .001|-14241580!-.059| .186|2.| .242|240.7|SI|
  350.|350.|3.|5.|  232195.|-.001| .003|15573259.|-.065| .186|2.| .257|67.07|SI|
> 350.|  0.|3.|5.| -309006.|-.001| .004|-14241580!-.059| .186|2.| .242|46.09|SI|
  350.|  0.|3.|5.|  333668.!-.001| .004|15573259.!-.065| .186|2.| .257|46.67|SI|
  409.| 59.|3.|4.| -316960.|-.002| .008|-7268846.|-.038| .186|2.| .168!22.93|SI|
  409.| 59.|3.|4.|  272567.|-.001| .003|15356934.|-.071| .186|2.| .276!56.34|SI|
  626.|276.|3.|2.| -470871.|-.003! .012!-7192907.|-.043| .186|2.| .188|15.28!SI|
  626.|276.|3.|2.|   22368.|0.    | .001| 7192907.|-.043| .186|2.| .188|321.6!SI|
  670.|320.|3.|1.| -470914.!-.003| .012|-7208395.|-.042| .186|2.| .184|15.31|SI|
  770.|420.|3.|1.| -435487.|-.002| .011|-7208395.|-.042| .186|2.| .184|16.55|SI|
  770.|420.|3.|1.|  231817.|-.001| .005| 8581855.|-.048| .186|2.| .206|37.02|SI|
```

TAGLIO:

```
Progressive|Se|  Vsd  |  VRd  |  VRcd |  VRsd   Asw    s  ctgT|Ve|
>   0.|  0.|3.| -2260.! 32988.!261935.!178866.! 3.14|15. |2.5 |SI|
  350.|350.|3.|  5433.! 32988.|261935.|178866.| 3.14|15. |2.5 |SI|
> 350.|  0.|3.| -4812.! 32988.|261935.!178866.! 3.14|15. |2.5 |SI|
  770.|420.|3.|  3494.! 32988.|261935.|178866.| 3.14|15. |2.5 |SI|
```

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

```
Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>   0.|  0.|3.|1.|  -273692.|  -2.4| 148.9|20.11| 7.5 |  .0043| 17.63|  .007|SI|
   29.| 29.|3.|1.|  -309132.|  -2.7| 168.2|20.11| 7.5 |  .0048| 17.63|  .008|SI|
   44.| 44.|3.|1.|  -326444.|  -2.9| 177.6|20.11| 7.5 |  .0051| 17.63|  .009|SI|
   59.| 59.|3.|1.|  -333629.|  -3. | 181.5|20.11| 7.5 |  .0052| 17.63|  .009|SI|
  100.|100.|3.|2.|  -344278.!  -3.1! 187.7!20.11| 7.5 |  .0054| 17.63|  .009!SI|
  350.|350.|3.|5.|   165516.!  -1. |  41.6|44.23| 7.5 |  .0012| 12.09|  .001|SI|
> 350.|  0.|3.|5.|    37341.!   -.2|   9.4|44.23| 7.5 |  .0003| 12.09| 0.   |SI|
  582.|232.|3.|2.|  -339888.!  -3.1! 185.3!20.11| 7.5 |  .0053| 17.63|  .009!SI|
  770.|420.|3.|1.|  -103837.|   -.9|  56.5|20.11| 7.5 |  .0016| 17.63|  .003|SI|
```

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

```
Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>   0.|  0.|3.|1.|  -185621.|  -1.6| 101. |20.11| 7.5 |  .0029| 17.63|  .005|SI|
   29.| 29.|3.|1.|  -218883.|  -1.9| 119.1|20.11| 7.5 |  .0034| 17.63|  .006|SI|
   44.| 44.|3.|1.|  -235131.|  -2.1| 127.9|20.11| 7.5 |  .0037| 17.63|  .006|SI|
   59.| 59.|3.|1.|  -243321.|  -2.2| 132.4|20.11| 7.5 |  .0038| 17.63|  .007|SI|
  100.|100.|3.|2.|  -258505.!  -2.3! 140.9!20.11| 7.5 |  .004 | 17.63|  .007!SI|
  350.|350.|3.|5.|   113255.!   -.7|  28.5|44.23| 7.5 |  .0008| 12.09|  .001|SI|
> 350.|  0.|3.|5.|    24233.!   -.1|   6.1|44.23| 7.5 |  .0002| 12.09| 0.   |SI|
  582.|232.|3.|2.|  -271439.!  -2.5! 148. !20.11| 7.5 |  .0042| 17.63|  .007!SI|
  770.|420.|3.|1.|   -71396.|   -.6|  38.8|20.11| 7.5 |  .0011| 17.63|  .002|SI|
```

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

```
Progressive|Se|Ar Momento      c     f  | As   hc,ef   Eps%  Sr,max   Wd  |Ve|
>   0.|  0.|3.|1.|  -180284.|  -1.6|  98.1|20.11| 7.5 |  .0028| 17.63|  .005|SI|
   29.| 29.|3.|1.|  -213413.|  -1.9| 116.1|20.11| 7.5 |  .0033| 17.63|  .006|SI|
   44.| 44.|3.|1.|  -229597.|  -2. | 124.9|20.11| 7.5 |  .0036| 17.63|  .006|SI|
   59.| 59.|3.|1.|  -237847.|  -2.1| 129.4|20.11| 7.5 |  .0037| 17.63|  .007|SI|
  100.|100.|3.|2.|  -253306.!  -2.3! 138.1!20.11| 7.5 |  .0039| 17.63|  .007|SI|
  350.|350.|3.|5.|   110088.!   -.7|  27.7|44.23| 7.5 |  .0008| 12.09|  .001|SI|
> 350.|  0.|3.|5.|    23439.!   -.1|   5.9|44.23| 7.5 |  .0002| 12.09| 0.   |SI|
  582.|232.|3.|2.|  -267291.!  -2.4! 145.7!20.11| 7.5 |  .0042| 17.63|  .007|SI|
  770.|420.|3.|1.|   -69430.|   -.6|  37.8|20.11| 7.5 |  .0011| 17.63|  .002|SI|
```

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

```
Nro|Totale   % |Super.   %        Barre        |Infer.   %        Barre        |
  1|44.23| .442|20.11| .201|10d16              |24.13| .241|2d16 +10d16        |
  2|40.21| .402|20.11| .201|10d16              |20.11| .201|10d16              |
  3|60.32| .603|20.11| .201|10d16              |40.21| .402|10d16 +10d16       |
  4|64.34| .643|20.11| .201|10d16              |44.23| .442|2d16 +10d16 +10d16 |
  5|84.45| .844|40.21| .402|10d16 +10d16       |44.23| .442|2d16 +10d16 +10d16 |
```

VERIFICA TRAVATA IN CEMENTO ARMATO

```
Nome travata       : 36 - Travata T014 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
```

MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
```

CASI DI CARICO DA MODELLO 3D

```
           SLU           |
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|

          RARE           |         FREQUENTI         |    QUASI PERMANENTI       |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara                1.|12.|Frequente          1.|13.|Quasi Perm         1.|
<-
```

SEZIONI UTILIZZATE

```
 3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3
```

DESCRIZIONE CAMPATE

```
Cam.| Descriz. |S.ini|Sez. |S.fin|Incl.|L.assi|L.net.|lambda | K  |r.Ar.|lam.max|
   1|A56       |    3|    3|    3|    0|  390.|  360.| 13.   |1.3|5.   |109.229|
   2|A57       |    3|    3|    3|    0|  430.|  400.| 14.333|1.5|1.569| 39.547|
   3|A58       |    3|    3|    3|    0|  400.|  370.| 13.333|1.5|1.76 | 44.376|
   4|A59       |    3|    3|    3|    0|  420.|  390.| 14.   |1.5|1.595| 40.197|
   5|A60       |    3|    3|    3|    0|  510.|  480.| 17.   |1.5|1.249| 30.707|
   6|A61       |    3|    3|    3|    0|  360.|  330.| 12.   |1.5|2.243| 56.539|
   7|A62       |    3|    3|    3|    0|  330.|  300.| 11.   |1.5|2.597| 65.454|
   8|A63       |    3|    3|    3|    0|  420.|  390.| 14.   |1.3|4.583|100.121|
```

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

```
Progressive|SE|Ar|  Msd     Epscl Epsac|    Mrd    Epscl Epsac Cam x/d |Mr/Ms|VE|
>   0.|  0.|3.|1.| -168988.|-.013| .028|-1220231.|-.35 |2.001|3.| .149|7.221|SI|
    0.|  0.|3.|1.|  150225.|-.012| .036|  837728.|-.35 |2.592|3.| .119!5.577|SI|
   82.| 82.|3.|2.|  170266.!-.012| .028| 1224861.|-.35 |2.177|3.| .138|7.194|SI|
```

158.	158.	3.	3.	-3740.	0.	.001	-837728.	-.35	2.592	3.	.119	224.	!SI
345.	345.	3.	5.	-359948.	-.024	.045	-1599524.	-.35	1.697	3.	.171	4.444	SI
363.	363.	3.	5.	-435959.	-.03 !	.054	-1599524.	-.35	1.697	3.	.171	3.669	SI
375.	375.	3.	6.	110546.	-.006	.012	1800431.	!-.35	1.827	3.	.161	16.29	SI
390.	390.	3.	6.	-467897.	!-.028	.058	!-1613419.	!-.35	2.043	3.	.146	3.448	SI
390.	390.	3.	6.	94023.	-.006	.01	1800431.	!-.35	1.827	3.	.161	19.15	SI
> 390.	0.	3.	6.	-750567.	-.046	.093	-1613419.	-.35	2.043	3.	.146	2.15	SI
402.	12.	3.	6.	16299.	-.001	.002	1800431.	!-.35	1.827	3.	.161	110.5	SI
417.	27.	3.	5.	-661727.	-.046	.082	-1599524.	-.35	1.697	3.	.171	2.417	SI
586.	196.	3.	3.	777762.	!-.062	.128	1220231.	!-.35	2.001	3.	.149	1.569	!SI
699.	309.	3.	3.	-3875.	0.	.001	-837728.	!-.35	2.592	3.	.119	216.2	!SI
820.	430.	3.	6.	-961569.	!-.059	.119	-1613419.	!-.35	2.043	3.	.146	1.678	SI
> 820.	0.	3.	6.	-924078.	!-.057	.114	!-1613419.	-.35	2.043	3.	.146	1.746	!SI
820.	0.	3.	6.	2378.	0.	0.	1800431.	!-.35	1.827	3.	.161	757.	!SI
847.	27.	3.	5.	-831281.	!-.058	.104	-1599524.	!-.35	1.697	3.	.171	1.924	SI
942.	122.	3.	3.	-32235.	-.003	.008	-837728.	!-.35	2.592	3.	.119	25.99	SI
1020.	200.	3.	3.	693121.	!-.055	.114	1220231.	!-.35	2.001	3.	.149	1.76	!SI
1220.	400.	3.	6.	-778552.	!-.048	.096	-1613419.	!-.35	2.043	3.	.146	2.072	SI
1220.	400.	3.	6.	28212.	-.002	.003	1800431.	!-.35	1.827	3.	.161	63.82	SI
>1220.	0.	3.	6.	-792900.	!-.049	.098	!-1613419.	!-.35	2.043	3.	.146	2.035	SI
1220.	0.	3.	6.	44144.	!-.003	.005	1800431.	!-.35	1.827	3.	.161	40.79	!SI
1247.	27.	3.	5.	-705055.	!-.049	.088	!-1599524.	!-.35	1.697	3.	.171	2.269	SI
1430.	210.	3.	3.	765180.	!-.061	.126	1220231.	!-.35	2.001	3.	.149	1.595	SI
1512.	292.	3.	3.	-78304.	!-.006	.019	-837728.	!-.35	2.592	3.	.119	10.7	!SI
1613.	393.	3.	5.	-1049024.	!-.074	.131	!-1599524.	!-.35	1.697	3.	.171	1.525	SI
1640.	420.	3.	6.	-1150098.	!-.072	.142	!-1613419.	!-.35	2.043	3.	.146	1.403	!SI
>1640.	0.	3.	6.	-1296205.	!-.082	.161	!-1613419.	!-.35	2.043	3.	.146	1.245	!SI
1667.	27.	3.	5.	-1179951.	!-.085	.147	!-1599524.	!-.35	1.697	3.	.171	1.356	SI
1685.	45.	3.	5.	106049.	!-.008	.021	1033661.	!-.35	2.46	3.	.125	9.747	!SI
1727.	87.	3.	8.	375178.	!-.024	.053	1420076.	!-.35	2.132	3.	.141	3.785	SI
1769.	129.	3.	8.	-15004.	!-.001	.002	!-1608084.	!-.35	1.898	3.	.156	107.2	!SI
1895.	255.	3.	9.	1127157.	!-.088	.161	1408018.	!-.35	1.774	3.	.165	1.249	SI
2150.	510.	3.	6.	-1193688.	!-.075	.148	!-1613419.	!-.35	2.043	3.	.146	1.352	SI
>2150.	0.	3.	6.	-982997.	!-.061	.122	!-1613419.	!-.35	2.043	3.	.146	1.641	!SI
2150.	0.	3.	6.	66491.	!-.004	.007	1800431.	!-.35	1.827	3.	.161	27.08	!SI
2177.	27.	3.	5.	-892709.	!-.063	.111	!-1599524.	!-.35	1.697	3.	.171	1.792	SI
2272.	122.	3.	3.	-80602.	!-.007	.019	-837728.	!-.35	2.592	3.	.119	10.39	SI
2349.	199.	3.	3.	544014.	!-.042	.089	1220231.	!-.35	2.001	3.	.149	2.243	SI
2510.	360.	3.	6.	-555690.	!-.034	.069	!-1613419.	!-.35	2.043	3.	.146	2.903	SI
2510.	360.	3.	6.	119025.	!-.007	.013	1800431.	!-.35	1.827	3.	.161	15.13	SI
>2510.	0.	3.	6.	-546987.	!-.033	.067	!-1613419.	!-.35	2.043	3.	.146	2.95	!SI
2522.	12.	3.	6.	35355.	!-.002	.004	1800431.	!-.35	1.827	3.	.161	50.93	SI
2537.	27.	3.	5.	-470797.	!-.032	.059	!-1599524.	!-.35	1.697	3.	.171	3.397	SI
2537.	27.	3.	5.	92439.	!-.007	.018	1033661.	!-.35	2.46	3.	.125	11.18	!SI
2675.	165.	3.	3.	469916.	!-.036	.077	1220231.	!-.35	2.001	3.	.149	2.597	!SI
2840.	330.	3.	6.	-466514.	!-.028	.058	!-1613419.	!-.35	2.043	3.	.146	3.458	SI
2840.	330.	3.	6.	28066.	!-.002	.003	1800431.	!-.35	1.827	3.	.161	64.15	!SI
>2840.	0.	3.	6.	-274684.	!-.016	.034	!-1613419.	!-.35	2.043	3.	.146	5.874	!SI
2840.	0.	3.	6.	25125.	!-.001	.003	1800431.	!-.35	1.827	3.	.161	71.66	!SI
2867.	27.	3.	5.	-260052.	!-.017	.032	!-1599524.	!-.35	1.697	3.	.171	6.151	SI
2968.	128.	3.	3.	-87719.	!-.007	.021	-837728.	!-.35	2.592	3.	.119	9.55	!SI
3248.	408.	3.	1.	182786.	!-.015	.044	837728.	!-.35	2.592	3.	.119	4.583	!SI
3260.	420.	3.	1.	-223779.	!-.017	.037	!-1220231.	!-.35	2.001	3.	.149	5.453	SI
3260.	420.	3.	1.	182786.	!-.015	.044	837728.	!-.35	2.592	3.	.119	4.583	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-5501.	7975.	54649.	55762.	2.01	6.	1.75	SI
0.	0.	3.	8367.	7975.	54649.	55762.	2.01	6.	1.75	SI
195.	195.	3.	-6741.	10267.	43746.	31864.	2.01	15.	2.5	SI
390.	390.	3.	-8743.	7975.	54649.	55762.	2.01	6.	1.75	SI
390.	390.	3.	4855.	7975.	54649.	55762.	2.01	6.	1.75	SI
> 390.	0.	3.	-762.	7975.	54649.	55762.	2.01	6.	1.75	SI
390.	0.	3.	13916.	7975.	54649.	55762.	2.01	6.	1.75	SI
820.	430.	3.	-14226.	11300.	54649.	55762.	2.01	6.	1.75	SI
820.	430.	3.	580.	11300.	54649.	55762.	2.01	6.	1.75	SI
> 820.	0.	3.	-1620.	7975.	54649.	55762.	2.01	6.	1.75	SI
820.	0.	3.	14456.	7975.	54649.	55762.	2.01	6.	1.75	SI
981.	161.	3.	-6496.	10267.	43746.	31864.	2.01	15.	2.5	SI
1220.	400.	3.	-13956.	7975.	54649.	55762.	2.01	6.	1.75	SI
1220.	400.	3.	1120.	7975.	54649.	55762.	2.01	6.	1.75	SI
>1220.	0.	3.	-916.	7975.	54649.	55762.	2.01	6.	1.75	SI
1220.	0.	3.	14418.	7975.	54649.	55762.	2.01	6.	1.75	SI
1348.	128.	3.	-4667.	10267.	43746.	31864.	2.01	15.	2.5	SI
1640.	420.	3.	-14248.	7975.	54649.	55762.	2.01	6.	1.75	SI
1640.	420.	3.	416.	7975.	54649.	55762.	2.01	6.	1.75	SI
>1640.	0.	3.	16657.	11300.	54649.	55762.	2.01	6.	1.75	SI
2150.	510.	3.	-16243.	11300.	54649.	55762.	2.01	6.	1.75	SI
>2150.	0.	3.	-3152.	7975.	54649.	55762.	2.01	6.	1.75	SI
2150.	0.	3.	14654.	7975.	54649.	55762.	2.01	6.	1.75	SI
2311.	161.	3.	-8010.	10267.	43746.	31864.	2.01	15.	2.5	SI
2510.	360.	3.	-14154.	7975.	54649.	55762.	2.01	6.	1.75	SI
2510.	360.	3.	2652.	7975.	54649.	55762.	2.01	6.	1.75	SI
>2510.	0.	3.	-4444.	7975.	54649.	55762.	2.01	6.	1.75	SI
2510.	0.	3.	14682.	7975.	54649.	55762.	2.01	6.	1.75	SI
2675.	165.	3.	-9445.	10267.	43746.	31864.	2.01	15.	2.5	SI
2840.	330.	3.	-14946.	7975.	54649.	55762.	2.01	6.	1.75	SI
2840.	330.	3.	4180.	7975.	54649.	55762.	2.01	6.	1.75	SI
>2840.	0.	3.	-5534.	7975.	54649.	55762.	2.01	6.	1.75	SI
2840.	0.	3.	7341.	7975.	54649.	55762.	2.01	6.	1.75	SI
2885.	45.	3.	-5669.	8969.	54649.	55762.	2.01	6.	1.75	SI
3260.	420.	3.	-7289.	7975.	54649.	55762.	2.01	6.	1.75	SI
3260.	420.	3.	5451.	7975.	54649.	55762.	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
12.	12.	3.	1.	392.	-.1	2.	8.04	7.5	.0001	29.42	0.	SI
15.	15.	3.	1.	3989.	-.5	20.3	8.04	7.5	.0006	29.42	.002	SI
195.	195.	3.	3.	125667.	!-14.9	434.9	12.06	6.94	.0124	16.87	.021	SI
270.	270.	3.	3.	-87079.	-11.1	444.2	8.04	7.5	.0127	29.42	.037	!SI
390.	390.	3.	6.	-338593.	!-31.2	! 879.9	16.08	6.87	.0251	14.46	.036	SI
> 390.	0.	3.	6.	-535293.	!-49.3	1391.1	16.08	6.87	.0483	14.46	.07	!SI
586.	196.	3.	3.	555686.	!-66.1	!1923.1	12.06	6.94	.0687	16.87	.116	!SI
820.	430.	3.	6.	-687568.	!-63.4	1786.9	16.08	6.87	.0672	14.46	.097	SI
> 820.	0.	3.	6.	-660593.	!-60.9	!1716.8	16.08	6.87	.0638	14.46	.092	SI
1020.	200.	3.	3.	495734.	!-58.9	1715.6	12.06	6.94	.0588	16.87	.099	!SI
1220.	400.	3.	6.	-557023.	!-51.3	1447.6	16.08	6.87	.051	14.46	.074	SI
>1220.	0.	3.	6.	-567155.	!-52.3	1473.9	16.08	6.87	.0523	14.46	.076	SI
1430.	210.	3.	3.	547208.	!-65.	1893.7	12.06	6.94	.0673	16.87	.113	SI
1640.	420.	3.	6.	-822541.	!-75.8	!2137.6	16.08	6.87	.0839	14.46	.121	!SI
>1640.	0.	3.	6.	-927072.	!-85.4	!2409.3	16.08	6.87	.0968	14.46	.14	!SI
1895.	255.	3.	9.	806074.	!-91.2	!2407.	14.07	6.74	.095	15.29	.145	!SI
2150.	510.	3.	6.	-853776.	!-78.7	!2218.8	16.08	6.87	.0877	14.46	.127	SI
>2150.	0.	3.	6.	-703394.	!-64.8	!1828.	!16.08	6.87	.0691	14.46	.1	!SI
2349.	199.	3.	3.	389139.	!-46.3	!1346.7	12.06	6.94	.0412	16.87	.07	!SI
2510.	360.	3.	6.	-395839.	!-36.5	!1028.7	16.08	6.87	.0311	14.46	.045	SI
>2510.	0.	3.	6.	-389890.	!-35.9	!1013.3	16.08	6.87	.0303	14.46	.044	SI
2675.	165.	3.	3.	335263.	!-39.9	!1160.2	12.06	6.94	.0331	16.87	.056	!SI
2840.	330.	3.	6.	-285179.	!-26.3	741.1	16.08	6.87	.0212	14.46	.031	SI
>2840.	0.	3.	6.	-160608.	!-14.8	! 417.4	16.08	6.87	.0119	14.46	.017	SI
2968.	128.	3.	3.	-50324.	-6.4	256.7	8.04	7.5	.0073	29.42	.022	!SI
3091.	251.	3.	3.	57061.	!-6.8	197.5	12.06	6.94	.0056	16.87	.01	SI
3260.	420.	3.	1.	-49612.	-5.9	171.7	12.06	6.94	.0049	16.87	.008	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-73314.	-8.7	253.7	12.06	6.94	.0072	16.87	.012	SI
27.	27.	3.	1.	-62272.	-7.4	215.5	12.06	6.94	.0062	16.87	.01	SI
195.	195.	3.	3.	99938.	!-11.9	345.9	12.06	6.94	.0099	16.87	.017	SI
390.	390.	3.	6.	-247250.	!-22.8	! 642.6	16.08	6.87	.0184	14.46	.027	!SI
> 390.	0.	3.	6.	-379648.	!-35.	986.6	16.08	6.87	.029	14.46	.042	SI
586.	196.	3.	3.	390444.	!-46.4	!1351.2	12.06	6.94	.0414	16.87	.07	!SI
820.	430.	3.	6.	-479651.	!-44.2	!1246.5	16.08	6.87	.0414	14.46	.06	SI
> 820.	0.	3.	6.	-460115.	!-42.4	!1195.8	16.08	6.87	.039	14.46	.056	SI
1020.	200.	3.	3.	346340.	!-41.2	!1198.6	12.06	6.94	.0342	16.87	.058	!SI
1220.	400.	3.	6.	-389961.	!-35.9	!1013.4	16.08	6.87	.0303	14.46	.044	SI
>1220.	0.	3.	6.	-396482.	!-36.5	!1030.4	16.08	6.87	.0311	14.46	.045	SI

1430.	210.	3.	3.	382026.!	-45.4	1322.1	12.06	6.94	.0401	16.87	.068	SI
1640.	420.	3.	6.	-574521.!	-53. !	1493.1!	16.08	6.87	.0532	14.46	.077!	SI
>1640.	0.	3.	6.	-647686.!	-59.7	1683.2!	16.08	6.87	.0622	14.46	.09	SI
1895.	255.	3.	9.	562759.!	-63.7!	1680.5	14.07	6.74	.0604	15.29	.092!	SI
2150.	510.	3.	6.	-596593.!	-55.	1550.4	16.08	6.87	.0559	14.46	.081	SI
>2150.	0.	3.	6.	-492855.!	-45.4	1280.8!	16.08	6.87	.0431	14.46	.062!	SI
2349.	199.	3.	3.	272080.!	-32.3	941.6	12.06	6.94	.0269	16.87	.045	SI
2510.	360.	3.	6.	-274345.!	-25.3	713.	16.08	6.87	.0204	14.46	.029	SI
>2510.	0.	3.	6.	-271578.!	-25.	705.8	16.08	6.87	.0202	14.46	.029	SI
2675.	165.	3.	3.	233430.!	-27.7!	807.8!	12.06	6.94	.0231	16.87	.039!	SI
2840.	330.	3.	6.	-208107.!	-19.2	540.8	16.08	6.87	.0155	14.46	.022	SI
>2840.	0.	3.	6.	-127697.!	-11.8!	331.9!	16.08	6.87	.0095	14.46	.014!	SI
3091.	251.	3.	3.	56620.!	-6.7!	195.9	12.06	6.94	.0056	16.87	.009	SI
3260.	420.	3.	1.	-49612.!	-5.9!	171.7	12.06	6.94	.0049	16.87	.008	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-72078.!	-8.6	249.4	12.06	6.94	.0071	16.87	.012	SI
27.	27.	3.	1.	-61113.!	-7.3	211.5	12.06	6.94	.006	16.87	.01	SI
195.	195.	3.	3.	98854.!	-11.8	342.1	12.06	6.94	.0098	16.87	.016	SI
390.	390.	3.	6.	-241714.!	-22.3!	628.2!	16.08	6.87	.0179	14.46	.026!	SI
> 390.	0.	3.	6.	-370215.!	-34.1!	962.1	16.08	6.87	.0279	14.46	.04	SI
586.	196.	3.	3.	380021.!	-45.2!	1315.1!	12.06	6.94	.0397	16.87	.067!	SI
820.	430.	3.	6.	-467050.!	-43.	1213.8	16.08	6.87	.0399	14.46	.058	SI
> 820.	0.	3.	6.	-447965.!	-41.3!	1164.2	16.08	6.87	.0375	14.46	.054	SI
1020.	200.	3.	3.	337285.!	-40.1	1167.2!	12.06	6.94	.0333	16.87	.056!	SI
1220.	400.	3.	6.	-379836.!	-35.	987.1	16.08	6.87	.0291	14.46	.042	SI
>1220.	0.	3.	6.	-386138.!	-35.6	1003.5	16.08	6.87	.0299	14.46	.043	SI
1430.	210.	3.	3.	372015.!	-44.2	1287.4	12.06	6.94	.0384	16.87	.065	SI
1640.	420.	3.	6.	-559489.!	-51.6!	1454. !	16.08	6.87	.0513	14.46	.074!	SI
>1640.	0.	3.	6.	-630753.!	-58.1	1639.2!	16.08	6.87	.0601	14.46	.087	SI
1895.	255.	3.	9.	548013.!	-62. !	1636.4	14.07	6.74	.0583	15.29	.089!	SI
2150.	510.	3.	6.	-581006.!	-53.5	1509.9	16.08	6.87	.054	14.46	.078	SI
>2150.	0.	3.	6.	-480096.!	-44.2!	1247.7!	16.08	6.87	.0415	14.46	.06 !	SI
2349.	199.	3.	3.	264985.!	-31.5	917.	12.06	6.94	.0262	16.87	.044	SI
2510.	360.	3.	6.	-266982.!	-24.6	693.8	16.08	6.87	.0198	14.46	.029	SI
>2510.	0.	3.	6.	-264408.!	-24.4	687.1	16.08	6.87	.0196	14.46	.028	SI
2675.	165.	3.	3.	227022.!	-27. !	785.7!	12.06	6.94	.0224	16.87	.038!	SI
2840.	330.	3.	6.	-203436.!	-18.8	528.7	16.08	6.87	.0151	14.46	.022	SI
>2840.	0.	3.	6.	-125702.!	-11.6!	326.7!	16.08	6.87	.0093	14.46	.013	SI
3091.	251.	3.	3.	57045.!	-6.8	197.4	12.06	6.94	.0056	16.87	.01	SI
3260.	420.	3.	1.	-49612.!	-5.9	171.7	12.06	6.94	.0049	16.87	.008	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16
2	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
3	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16
4	30.16	1.676	16.08	.894	4d16 +4d16	14.07	.782	2d16 +1d16 +4d16
5	26.14	1.452	16.08	.894	4d16 +4d16	10.05	.559	1d16 +4d16
6	34.18	1.899	16.08	.894	4d16 +4d16	18.1	1.005	1d16 +4d16 +4d16
7	28.15	1.564	16.08	.894	4d16 +4d16	12.06	.67	2d16 +4d16
8	30.16	1.676	16.08	.894	4d16 +4d16	14.07	.782	3d16 +4d16
9	22.12	1.229	8.04	.447	4d16	14.07	.782	3d16 +4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

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Nome travata       : 37 - Travata T015 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
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MATERIALI

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CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%
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TENSIONI E FESSURE MASSIME IN ESERCIZIO

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GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
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CASI DI CARICO DA MODELLO 3D

SLU		
Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC	16
5.	SLU con SISMAY PRINC	16

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

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SEZIONI UTILIZZATE

3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A68	3	3	3	0	390.	360.	13.	1.	5.	84.022

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-171513.!	-.013	.028	-1220231.!	-.35	2.001	3.	.149	7.115	SI
0.	0.	3.	1.	130364.!	-.011	.032	837728.!	-.35	2.592	3.	.119	!6.426	SI
82.	82.	3.	2.	-80286.!	-.006	.013	-1224861.!	-.35	2.177	3.	.138	15.26	SI
82.	82.	3.	2.	109792.!	-.008	.018	1224861.!	-.35	2.177	3.	.138	11.16	SI
232.	232.	3.	3.	-33371.!	-.003	.008	-837728.!	-.35	2.592	3.	.119	25.1	!SI
390.	390.	3.	1.	-242202.!	-.018	.04 !	-1220231.!	-.35	2.001	3.	.149	!5.038	SI
390.	390.	3.	1.	114757.!	-.009	.028	837728.!	-.35	2.592	3.	.119	7.3	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-3838.!	7975.	54649.	55762.	2.01	6.	1.75	SI
0.	0.	3.	5525.!	7975.	54649.	55762.	2.01	6.	1.75	SI
158.	158.	3.	-4479.	10267.!	43746.	31864.	2.01	15.	2.5	SI
390.	390.	3.	-5458.!	7975.	54649.!	55762.!	2.01	6.	1.75	SI
390.	390.	3.	3770.	7975.	54649.	55762.	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-32844.!	-3.9	113.7	12.06	6.94	.0032	16.87	.005	SI
195.	195.	3.	3.	48829.!	-5.8	169.	12.06	6.94	.0048	16.87	.008	SI
390.	390.	3.	1.	-77386.!	-9.2!	267.8!	12.06	6.94	.0077	16.87	.013	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve

15.	15.	3.	1.	-32351.	-3.8	112.	12.06	6.94	.0032	16.87	.005	SI
195.	195.	3.	3.	48960.!	-5.8	169.4	12.06	6.94	.0048	16.87	.008	SI
390.	390.	3.	1.	-64812.!	-7.7!	224.3!	12.06	6.94	.0064	16.87	.011!	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-32321.	-3.8	111.9	12.06	6.94	.0032	16.87	.005	SI
195.	195.	3.	3.	48828.!	-5.8	169.	12.06	6.94	.0048	16.87	.008	SI
390.	390.	3.	1.	-64049.!	-7.6!	221.7!	12.06	6.94	.0063	16.87	.011!	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16
2	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
3	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 38 - Travata T016 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

CLS : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%

TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4 ; Wdmax(q.p.)=.3 [4.1.2.2.4.5];
kt=.4 [EN 1992-1 7.3.4].

CASI DI CARICO DA MODELLO 3D

Nome	Descrizione	Sest
	SLU	
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A69	3	3	3	0	420.	390.	14.	1.	5.	84.022

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	Se	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	Ve
> 0.	0.	3.	1.	-237101.!	-.018	.039	-1220231.	-.35	2.001	3.	.149	5.146	SI
0.	0.	3.	1.	130019.	-.011	.031	837728.	-.35	2.592	3.	.119	6.443	SI
86.	86.	3.	2.	-121488.	-.009	.02	-1224861.!	-.35	2.177	3.	.138	10.08	SI
86.	86.	3.	2.	118708.	-.008	.019	1224861.!	-.35	2.177	3.	.138	10.32	SI
169.	169.	3.	3.	-7006.	-.001	.002	-837728.	-.35	2.592	3.	.119	119.6!	SI
408.	408.	3.	1.	166519.!	-.014	.04 !	837728.	-.35	2.592	3.	.119	5.031!	SI
420.	420.	3.	1.	-236517.	-.018!	.039	-1220231.	-.35	2.001	3.	.149	5.159!	SI
420.	420.	3.	1.	166519.	-.014	.04	837728.	-.35	2.592	3.	.119	5.031	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-4512.	7975.	54649.	55762.	2.01	6.	1.75	SI
0.	0.	3.	6335.!	7975.	54649.	55762.	2.01	6.	1.75	SI
210.	210.	3.	-5390.	10267.!	43746.	31864.	2.01	15.	2.5	SI
420.	420.	3.	-6267.!	7975.	54649.!	55762.!	2.01	6.	1.75	SI
420.	420.	3.	4445.	7975.	54649.	55762.	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-60002.!	-7.1!	207.6!	12.06	6.94	.0059	16.87	.01 !	SI
15.	15.	3.	1.	-53499.	-6.4	185.1	12.06	6.94	.0053	16.87	.009	SI
210.	210.	3.	3.	56988.!	-6.8	197.2	12.06	6.94	.0056	16.87	.01	SI
420.	420.	3.	1.	-49612.	-5.9	171.7	12.06	6.94	.0049	16.87	.008	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-54318.!	-6.5	188.	12.06	6.94	.0054	16.87	.009	SI
15.	15.	3.	1.	-47918.	-5.7	165.8	12.06	6.94	.0047	16.87	.008	SI
210.	210.	3.	3.	56699.!	-6.7!	196.2!	12.06	6.94	.0056	16.87	.009!	SI
420.	420.	3.	1.	-49612.	-5.9	171.7	12.06	6.94	.0049	16.87	.008	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 0.	0.	3.	1.	-53974.!	-6.4	186.8	12.06	6.94	.0053	16.87	.009	SI
15.	15.	3.	1.	-47580.	-5.7	164.7	12.06	6.94	.0047	16.87	.008	SI
210.	210.	3.	3.	56955.!	-6.8!	197.1	12.06	6.94	.0056	16.87	.009!	SI
420.	420.	3.	1.	-49612.	-5.9	171.7	12.06	6.94	.0049	16.87	.008	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16
2	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
3	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 39 - Travata T017 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

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CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%

              TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].

              CASI DI CARICO DA MODELLO 3D

            SLU           |
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|

            RARE          |         FREQUENTI         |     QUASI PERMANENTI      |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara               1.|12.|Frequente          1.|13.|Quasi Perm         1.|
<-
              SEZIONI UTILIZZATE

 3) Rettangolare: 55X30; A=1650.; Jg=123750.; E=330194.3

              DESCRIZIONE CAMPATE

Cam.| Descriz. |S.ini|Sez. |S.fin|Incl.|L.assi|L.net.|lambda | K  |r.Ar.|lam.max|
   1|A74       |    3|    3|    3|    0|  390.|  360.| 13.   |1.3|5.   |106.747|
   2|A75       |    3|    3|    3|    0|  430.|  400.| 14.333|1.5|2.196| 54.105|
   3|A76       |    3|    3|    3|    0|  400.|  370.| 13.333|1.5|2.485| 61.208|
   4|A77       |    3|    3|    3|    0|  420.|  390.| 14.   |1.5|2.271| 55.949|
   5|A78       |    3|    3|    3|    0|  510.|  480.| 17.   |1.5|1.764| 42.442|
   6|A79       |    3|    3|    3|    0|  360.|  330.| 12.   |1.5|3.148| 77.542|
   7|A80       |    3|    3|    3|    0|  330.|  300.| 11.   |1.5|3.647| 89.839|
   8|A81       |    3|    3|    3|    0|  420.|  390.| 14.   |1.3|4.9  |104.601|

              VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive|SE|Ar|  Msd     Epscl Epsac|   Mrd    Epscl Epsac Cam x/d |Mr/Ms|VE|
>    0.|  0.|3.|1.|  -139361.|-.011| .023|-1214034.|-.35 |1.917|3.| .154|8.711|SI|
     0.|  0.|3.|1.|   139869.!-.012| .034|  833183.|-.35 |2.531|3.| .121!5.957|SI|
  308.|308.|3.|4.|     5548.|0.    | .001| 1414717.!-.35 |2.079|3.| .144|255. !SI|
  345.|345.|3.|5.| -235637.|-.017| .029|-1592407.|-.35 |1.621|3.| .178!6.758|SI|
  363.|363.|3.|5.| -268124.|-.019! .033|-1592407.|-.35 |1.621|3.| .178|5.939|SI|
  390.|390.|3.|6.| -281773.!-.017| .035!-1607915.!-.35 |1.994|3.| .149|5.706!SI|
> 390.|  0.|3.|6.| -506055.|-.032| .063|-1607915.|-.35 |1.994|3.| .149|3.177|SI|
  402.| 12.|3.|6.|   36167.|-.002| .004| 1794254.!-.35 |1.772|3.| .165|49.61|SI|
  417.| 27.|3.|5.| -449553.|-.032| .056|-1592407.|-.35 |1.621|3.| .178!3.542|SI|
  586.|196.|3.|3.|  552742.!-.045! .091! 1214034.|-.35 |1.917|3.| .154|2.196|SI|
  699.|309.|3.|3.|  -14404.|-.001| .003| -833183.|-.35 |2.531|3.| .121!57.84!SI|
  820.|430.|3.|6.| -691035.!-.044| .085|-1607915.!-.35 |1.994|3.| .149|2.327|SI|
> 820.|  0.|3.|6.| -658367.!-.042| .081!-1607915.|-.35 |1.994|3.| .149|2.442!SI|
  820.|  0.|3.|6.|   27541.|-.002| .003| 1794254.!-.35 |1.772|3.| .165|65.15|SI|
  847.| 27.|3.|5.| -592640.|-.043! .074|-1592407.|-.35 |1.621|3.| .178!2.687|SI|
  942.|122.|3.|3.|  -36198.|-.003| .009| -833183.|-.35 |2.531|3.| .121!23.02|SI|
 1020.|200.|3.|3.|  488604.!-.04 | .08 | 1214034.|-.35 |1.917|3.| .154|2.485|SI|
 1098.|278.|3.|3.|   -6790.|-.001| .002| -833183.|-.35 |2.531|3.| .121|122.7!SI|
 1220.|400.|3.|6.| -549765.|-.035| .068|-1607915.!-.35 |1.994|3.| .149|2.925|SI|
 1220.|400.|3.|6.|   46825.|-.003| .005| 1794254.|-.35 |1.772|3.| .165|38.32|SI|
>1220.|  0.|3.|6.| -563405.|-.035| .07 |-1607915.|-.35 |1.994|3.| .149|2.854|SI|
 1220.|  0.|3.|6.|   50928.|-.003| .006| 1794254.!-.35 |1.772|3.| .165|35.23|SI|
 1247.| 27.|3.|5.| -501888.|-.036| .063|-1592407.|-.35 |1.621|3.| .178!3.173|SI|
 1430.|210.|3.|3.|  534532.!-.044| .088| 1214034.|-.35 |1.917|3.| .154|2.271|SI|
 1512.|292.|3.|3.|  -66170.|-.006| .016| -833183.|-.35 |2.531|3.| .121!12.59|SI|
 1613.|393.|3.|5.| -736864.|-.054! .092|-1592407.|-.35 |1.621|3.| .178|2.161|SI|
 1640.|420.|3.|6.| -808199.!-.051| .1  !-1607915.!-.35 |1.994|3.| .149|1.99 !SI|
 1640.|420.|3.|6.|    9105.|-.001| .001| 1794254.|-.35 |1.772|3.| .165|197.1!SI|
>1640.|  0.|3.|6.| -920727.!-.059| .114!-1607915.|-.35 |1.994|3.| .149|1.746!SI|
 1667.| 27.|3.|5.| -838502.|-.061| .105|-1592407.|-.35 |1.621|3.| .178!1.899|SI|
 1667.| 27.|3.|5.|    9944.|-.001| .002| 1028991.|-.35 |2.411|3.| .127!103.5!SI|
 1727.| 87.|3.|8.|  271902.|-.018| .038| 1414717.!-.35 |2.079|3.| .144|5.203|SI|
 1895.|255.|3.|9.|  794245.!-.063! .113| 1400986.|-.35 |1.689|3.| .172|1.764|SI|
 2150.|510.|3.|6.| -846496.|-.054| .105|-1607915.!-.35 |1.994|3.| .149|1.899|SI|
>2150.|  0.|3.|6.| -694135.!-.044| .086!-1607915.|-.35 |1.994|3.| .149|2.316!SI|
 2150.|  0.|3.|6.|   75443.|-.005| .008| 1794254.!-.35 |1.772|3.| .165|23.78!SI|
 2177.| 27.|3.|5.| -630270.|-.045! .079|-1592407.|-.35 |1.621|3.| .178!2.527|SI|
 2272.|122.|3.|3.|  -69381.|-.006| .017| -833183.|-.35 |2.531|3.| .121!12.01|SI|
 2349.|199.|3.|3.|  385678.!-.031| .063| 1214034.|-.35 |1.917|3.| .154|3.148|SI|
 2510.|360.|3.|6.| -395294.|-.025| .049|-1607915.!-.35 |1.994|3.| .149|4.068|SI|
 2510.|360.|3.|6.|  113772.|-.007| .013| 1794254.|-.35 |1.772|3.| .165|15.77|SI|
>2510.|  0.|3.|6.| -398007.!-.025| .049|-1607915.|-.35 |1.994|3.| .149|4.04 |SI|
 2510.|  0.|3.|6.|   20718.|-.001| .002| 1794254.!-.35 |1.772|3.| .165|86.61!SI|
 2537.| 27.|3.|5.| -347926.|-.025| .043|-1592407.|-.35 |1.621|3.| .178!4.577|SI|
 2537.| 27.|3.|5.|   91675.|-.007| .018| 1028991.|-.35 |2.411|3.| .127!11.22|SI|
 2675.|165.|3.|3.|  332887.!-.027! .055! 1214034.|-.35 |1.917|3.| .154|3.647!SI|
 2840.|330.|3.|6.| -295814.|-.018| .037|-1607915.!-.35 |1.994|3.| .149|5.436|SI|
 2840.|330.|3.|6.|   48724.|-.003| .005| 1794254.|-.35 |1.772|3.| .165|36.83|SI|
>2840.|  0.|3.|6.| -241039.!-.015| .03 |-1607915.!-.35 |1.994|3.| .149|6.671|SI|
 2840.|  0.|3.|6.|   36554.|-.002| .004| 1794254.!-.35 |1.772|3.| .165|49.09|SI|
 2867.| 27.|3.|5.| -227776.|-.016| .028|-1592407.|-.35 |1.621|3.| .178!6.991|SI|
 2968.|128.|3.|3.|  -68295.|-.006| .017| -833183.|-.35 |2.531|3.| .121!12.2 |SI|
 3050.|210.|3.|3.|   -7354.|-.001| .002| -833183.|-.35 |2.531|3.| .121|113.3!SI|
 3248.|408.|3.|1.|  170054.!-.015| .041!  833183.|-.35 |2.531|3.| .121|4.9  !SI|
 3260.|420.|3.|1.| -204015.|-.016! .034|-1214034.|-.35 |1.917|3.| .154|5.951|SI|
 3260.|420.|3.|1.|  170054.|-.015| .041|  833183.|-.35 |2.531|3.| .121|4.9  |SI|

TAGLIO:

Progressive|Se|  Vsd   |  VRd   |  VRcd  |  VRsd   Asw    s  ctgT|Ve|
>    0.|  0.|3.| -6114.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
     0.|  0.|3.|  7677.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
  390.|390.|3.| -7599.! 10664.! 51546.! 52576.! 2.01| 6. |1.65|SI|
  390.|390.|3.|  6130.| 10664.| 51546.| 52576.| 2.01| 6. |1.65|SI|
> 390.|  0.|3.| -2609.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
  390.|  0.|3.| 12369.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
  820.|430.|3.|-12190.! 10664.! 51546.! 52576.! 2.01| 6. |1.65|SI|
  820.|430.|3.|  2429.| 10664.| 51546.| 52576.| 2.01| 6. |1.65|SI|
> 820.|  0.|3.| -3325.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
  820.|  0.|3.| 12547.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
  981.|161.|3.| -6828.|  9688.! 40100.| 31864.| 2.01|15. |2.5 |SI|
 1220.|400.|3.|-12188.!  7310.| 51546.! 52576.! 2.01| 6. |1.65|SI|
 1220.|400.|3.|  2966.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
>1220.|  0.|3.| -2716.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 1220.|  0.|3.| 12417.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 1348.|128.|3.| -5411.|  9688.! 40100.| 31864.| 2.01|15. |2.5 |SI|
 1640.|420.|3.|-12058.!  7310.| 51546.! 52576.! 2.01| 6. |1.65|SI|
 1640.|420.|3.|  2357.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
>1640.|  0.|3.|  -335.| 10664.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 1640.|  0.|3.| 11832.! 10664.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2150.|510.|3.|-11832.! 10664.! 51546.! 52576.! 2.01| 6. |1.65|SI|
 2150.|510.|3.|   335.| 10664.| 51546.| 52576.| 2.01| 6. |1.65|SI|
>2150.|  0.|3.| -4666.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2150.|  0.|3.| 12930.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2311.|161.|3.| -8156.|  9688.! 40100.| 31864.| 2.01|15. |2.5 |SI|
 2510.|360.|3.|-12570.!  7310.| 51546.! 52576.! 2.01| 6. |1.65|SI|
 2510.|360.|3.|  4307.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
>2510.|  0.|3.| -5814.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2510.|  0.|3.| 13594.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2675.|165.|3.| -9407.|  9688.! 40100.| 31864.| 2.01|15. |2.5 |SI|
 2840.|330.|3.|-13000.!  7310.| 51546.! 52576.! 2.01| 6. |1.65|SI|
 2840.|330.|3.|  5690.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
>2840.|  0.|3.| -5577.|  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2840.|  0.|3.|  7233.!  7310.| 51546.| 52576.| 2.01| 6. |1.65|SI|
 2885.| 45.|3.| -5701.|  8464.! 51546.| 52576.| 2.01| 6. |1.65|SI|
 3260.|420.|3.| -7186.!  7310.| 51546.! 52576.! 2.01| 6. |1.65|SI|
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3260.	420.	3.	5501.	7310.	51546.	52576.	2.01	6.	1.65	SI		

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
12.	12.	3.	1.	-35891.	-4.5	124.6	12.06	6.85	.0036	15.98	.006	SI
15.	15.	3.	1.	-35111.	-4.4	121.8	12.06	6.85	.0035	15.98	.006	SI
158.	158.	3.	3.	44711.	-5.6	155.2	12.06	6.85	.0044	15.98	.007	SI
270.	270.	3.	3.	-89798.	-11.9	459.1	8.04	7.48	.0131	29.17	.038	SI
363.	363.	3.	5.	-176253.	-19.3	463.2	16.08	6.54	.0132	13.56	.018	SI
390.	390.	3.	6.	-198539.	-19.	516.9	16.08	6.8	.0148	13.81	.02	SI
> 390.	0.	3.	6.	-358242.	-34.3	932.6	16.08	6.8	.0278	13.81	.038	SI
586.	196.	3.	3.	395539.	-49.2	1372.7	12.06	6.85	.0443	15.98	.071	SI
820.	430.	3.	6.	-494950.	-47.3	1288.5	16.08	6.8	.0448	13.81	.062	SI
> 820.	0.	3.	6.	-471542.	-45.1	1227.6	16.08	6.8	.0419	13.81	.058	SI
1020.	200.	3.	3.	350221.	-43.6	1215.4	12.06	6.85	.0368	15.98	.059	SI
1220.	400.	3.	6.	-394033.	-37.7	1025.8	16.08	6.8	.0322	13.81	.045	SI
>1220.	0.	3.	6.	-403339.	-38.6	1050.	16.08	6.8	.0334	13.81	.046	SI
1430.	210.	3.	3.	383064.	-47.7	1329.4	12.06	6.85	.0422	15.98	.067	SI
1640.	420.	3.	6.	-579204.	-55.4	1507.8	16.08	6.8	.0552	13.81	.076	SI
>1640.	0.	3.	6.	-659876.	-63.1	1717.9	16.08	6.8	.0652	13.81	.09	SI
1895.	255.	3.	9.	569186.	-67.5	1704.5	14.07	6.65	.063	14.55	.092	SI
2150.	510.	3.	6.	-606728.	-58.	1579.5	16.08	6.8	.0586	13.81	.081	SI
>2150.	0.	3.	6.	-497731.	-47.6	1295.7	16.08	6.8	.0451	13.81	.062	SI
2349.	199.	3.	3.	276486.	-34.4	959.5	12.06	6.85	.0274	15.98	.044	SI
2510.	360.	3.	6.	-278866.	-26.7	726.	16.08	6.8	.0207	13.81	.029	SI
>2510.	0.	3.	6.	-281302.	-26.9	732.3	16.08	6.8	.0209	13.81	.029	SI
2675.	165.	3.	3.	237848.	-29.6	825.4	12.06	6.85	.0236	15.98	.038	SI
2840.	330.	3.	6.	-202881.	-19.4	528.2	16.08	6.8	.0151	13.81	.021	SI
>2840.	0.	3.	6.	-127160.	-12.2	331.	16.08	6.8	.0095	13.81	.013	SI
2968.	128.	3.	3.	-31903.	-4.2	163.1	8.04	7.48	.0047	29.17	.014	SI
3091.	251.	3.	3.	52002.	-6.5	180.5	12.06	6.85	.0052	15.98	.008	SI
3260.	420.	3.	1.	-45478.	-5.7	157.8	12.06	6.85	.0045	15.98	.007	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
12.	12.	3.	1.	4943.	-.7	25.3	8.04	7.48	.0007	29.17	.002	SI
15.	15.	3.	1.	6445.	-.9	32.9	8.04	7.48	.0009	29.17	.003	SI
158.	158.	3.	3.	45314.	-5.6	157.3	12.06	6.85	.0045	15.98	.007	SI
270.	270.	3.	3.	-57392.	-7.6	293.4	8.04	7.48	.0084	29.17	.024	SI
390.	390.	3.	6.	-152631.	-14.6	397.3	16.08	6.8	.0114	13.81	.016	SI
> 390.	0.	3.	6.	-260142.	-24.9	677.2	16.08	6.8	.0193	13.81	.027	SI
586.	196.	3.	3.	280575.	-34.9	973.7	12.06	6.85	.0278	15.98	.044	SI
820.	430.	3.	6.	-348827.	-33.4	908.1	16.08	6.8	.0266	13.81	.037	SI
> 820.	0.	3.	6.	-332291.	-31.8	865.1	16.08	6.8	.0247	13.81	.034	SI
1020.	200.	3.	3.	247945.	-30.8	860.5	12.06	6.85	.0246	15.98	.039	SI
1220.	400.	3.	6.	-279398.	-26.7	727.4	16.08	6.8	.0208	13.81	.029	SI
>1220.	0.	3.	6.	-285646.	-27.3	743.6	16.08	6.8	.0212	13.81	.029	SI
1430.	210.	3.	3.	274682.	-34.2	953.2	12.06	6.85	.0272	15.98	.044	SI
1640.	420.	3.	6.	-409647.	-39.2	1066.4	16.08	6.8	.0342	13.81	.047	SI
>1640.	0.	3.	6.	-466826.	-44.6	1215.3	16.08	6.8	.0413	13.81	.057	SI
1895.	255.	3.	9.	402490.	-47.7	1205.3	14.07	6.65	.0393	14.55	.057	SI
2150.	510.	3.	6.	-429449.	-41.1	1118.	16.08	6.8	.0366	13.81	.051	SI
>2150.	0.	3.	6.	-353192.	-33.8	919.5	16.08	6.8	.0272	13.81	.038	SI
2349.	199.	3.	3.	195913.	-24.4	679.9	12.06	6.85	.0194	15.98	.031	SI
2510.	360.	3.	6.	-195435.	-18.7	508.8	16.08	6.8	.0145	13.81	.02	SI
>2510.	0.	3.	6.	-197690.	-18.9	514.6	16.08	6.8	.0147	13.81	.02	SI
2675.	165.	3.	3.	169171.	-21.	587.1	12.06	6.85	.0168	15.98	.027	SI
2840.	330.	3.	6.	-152196.	-14.6	396.2	16.08	6.8	.0113	13.81	.016	SI
>2840.	0.	3.	6.	-104424.	-10.	271.8	16.08	6.8	.0078	13.81	.011	SI
3091.	251.	3.	3.	52359.	-6.5	181.7	12.06	6.85	.0052	15.98	.008	SI
3260.	420.	3.	1.	-45478.	-5.7	157.8	12.06	6.85	.0045	15.98	.007	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
12.	12.	3.	1.	4770.	-.6	24.4	8.04	7.48	.0007	29.17	.002	SI
15.	15.	3.	1.	6270.	-.8	32.1	8.04	7.48	.0009	29.17	.003	SI
158.	158.	3.	3.	45082.	-5.6	156.5	12.06	6.85	.0045	15.98	.007	SI
270.	270.	3.	3.	-55428.	-7.4	283.4	8.04	7.48	.0081	29.17	.024	SI
390.	390.	3.	6.	-149849.	-14.3	390.1	16.08	6.8	.0111	13.81	.015	SI
> 390.	0.	3.	6.	-254196.	-24.3	661.8	16.08	6.8	.0189	13.81	.026	SI
586.	196.	3.	3.	273323.	-34.	948.5	12.06	6.85	.0271	15.98	.043	SI
820.	430.	3.	6.	-339972.	-32.5	885.	16.08	6.8	.0255	13.81	.035	SI
> 820.	0.	3.	6.	-323852.	-31.	843.1	16.08	6.8	.0241	13.81	.033	SI
1020.	200.	3.	3.	241746.	-30.1	838.9	12.06	6.85	.024	15.98	.038	SI
1220.	400.	3.	6.	-272450.	-26.1	709.3	16.08	6.8	.0203	13.81	.028	SI
>1220.	0.	3.	6.	-278513.	-26.6	725.1	16.08	6.8	.0207	13.81	.029	SI
1430.	210.	3.	3.	267786.	-33.3	929.3	12.06	6.85	.0266	15.98	.042	SI
1640.	420.	3.	6.	-399371.	-38.2	1039.7	16.08	6.8	.0329	13.81	.045	SI
>1640.	0.	3.	6.	-455126.	-43.5	1184.8	16.08	6.8	.0398	13.81	.055	SI
1895.	255.	3.	9.	392387.	-46.5	1175.1	14.07	6.65	.0378	14.55	.055	SI
2150.	510.	3.	6.	-418705.	-40.	1090.	16.08	6.8	.0353	13.81	.049	SI
>2150.	0.	3.	6.	-344432.	-32.9	896.7	16.08	6.8	.0261	13.81	.036	SI
2349.	199.	3.	3.	191030.	-23.8	662.9	12.06	6.85	.0189	15.98	.03	SI
2510.	360.	3.	6.	-190379.	-18.2	495.6	16.08	6.8	.0142	13.81	.02	SI
>2510.	0.	3.	6.	-192623.	-18.4	501.5	16.08	6.8	.0143	13.81	.02	SI
2675.	165.	3.	3.	164670.	-20.5	571.5	12.06	6.85	.0163	15.98	.026	SI
2840.	330.	3.	6.	-149124.	-14.3	388.2	16.08	6.8	.0111	13.81	.015	SI
>2840.	0.	3.	6.	-103046.	-9.9	268.3	16.08	6.8	.0077	13.81	.011	SI
3091.	251.	3.	3.	52089.	-6.5	180.8	12.06	6.85	.0052	15.98	.008	SI
3260.	420.	3.	1.	-45478.	-5.7	157.8	12.06	6.85	.0045	15.98	.007	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	20.11	1.219	12.06	.731	2d16 +4d16	8.04	.487	4d16
2	24.13	1.462	12.06	.731	2d16 +4d16	12.06	.731	2d16 +4d16
3	20.11	1.219	8.04	.487	4d16	12.06	.731	2d16 +4d16
4	30.16	1.828	16.08	.975	4d16 +4d16	14.07	.853	2d16 +1d16 +4d16
5	26.14	1.584	16.08	.975	4d16 +4d16	10.05	.609	1d16 +4d16
6	34.18	2.072	16.08	.975	4d16 +4d16	18.1	1.097	1d16 +4d16 +4d16
7	28.15	1.706	16.08	.975	4d16 +4d16	12.06	.731	2d16 +4d16
8	30.16	1.828	16.08	.975	4d16 +4d16	14.07	.853	3d16 +4d16
9	22.12	1.34	8.04	.487	4d16	14.07	.853	3d16 +4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

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Nome travata       : 40 - Travata T018 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
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MATERIALI

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CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
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CASI DI CARICO DA MODELLO 3D

SLU

Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A64	3	3	3	0	350.	320.	11.667	1.3	2.644	57.75
2	A70	3	3	3	0	420.	390.	14.	1.3	3.506	76.59

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

	Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
>	0.	0.	3.	1.	-389055.	-.03 !	.064	-1220231.	-.35	2.001	3.	.149	3.136	SI
	0.	0.	3.	1.	316377.	-.026	.077	837728.	-.35	2.592	3.	.119	2.648	SI
	15.	15.	3.	1.	316896.!	-.026	.077!	837728.	-.35	2.592	3.	.119	2.644!	SI
	305.	305.	3.	5.	-306418.	-.021	.038	-1599524.	-.35	1.697	3.	.171	5.22	SI
	335.	335.	3.	6.	18540.	-.001	.002	1800431.!	-.35	1.827	3.	.161	97.11	SI
	350.	350.	3.	6.	-418187.!	-.025	.052	-1613419.!	-.35	2.043	3.	.146	3.858	SI
	350.	350.	3.	6.	2444.	0.	0.	1800431.	-.35	1.827	3.	.161	736.6!	SI
>	350.	0.	3.	6.	-454662.!	-.027	.056	-1613419.!	-.35	2.043	3.	.146	3.549	SI
	350.	0.	3.	6.	9092.	-.001	.001	1800431.!	-.35	1.827	3.	.161	198. !	SI
	377.	27.	3.	5.	-418008.	-.028	.052	-1599524.	-.35	1.697	3.	.171	3.827	SI
	478.	128.	3.	3.	-13891.	-.001	.003	-837728.	-.35	2.592	3.	.119	60.31	SI
	684.	334.	3.	2.	349367.!	-.025	.057	1224861.	-.35	2.177	3.	.138	3.506	SI
	725.	375.	3.	1.	340331.	-.028	.082!	837728.	-.35	2.592	3.	.119	2.462!	SI
	770.	420.	3.	1.	-386511.	-.03 !	.063	-1220231.	-.35	2.001	3.	.149	3.157	SI
	770.	420.	3.	1.	305836.	-.026	.074	837728.	-.35	2.592	3.	.119	2.739	SI

TAGLIO:

	Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
>	0.	0.	3.	-5353.	7975.	54649.	55762.	2.01	6.	1.75	SI
	0.	0.	3.	10466.!	7975.	54649.	55762.	2.01	6.	1.75	SI
	194.	194.	3.	-7950.	10267.!	43746.	31864.	2.01	15.	2.5	SI
	350.	350.	3.	-10007.!	7975.	54649.!	55762.!	2.01	6.	1.75	SI
	350.	350.	3.	5376.	7975.	54649.	55762.	2.01	6.	1.75	SI
>	350.	0.	3.	-3765.	7975.	54649.	55762.	2.01	6.	1.75	SI
	350.	0.	3.	9454.!	7975.	54649.	55762.	2.01	6.	1.75	SI
	519.	169.	3.	-6001.	10267.!	43746.	31864.	2.01	15.	2.5	SI
	770.	420.	3.	-9436.!	7975.	54649.!	55762.!	2.01	6.	1.75	SI
	770.	420.	3.	3346.	7975.	54649.	55762.	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

	Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
	15.	15.	3.	1.	-110369.	-13.1	382.	12.06	6.94	.0109	16.87	.018	SI
	27.	27.	3.	1.	22723.	-2.9	115.9	8.04	7.5	.0033	29.42	.01	SI
	156.	156.	3.	3.	171572.!	-20.4	593.8	12.06	6.94	.017	16.87	.029	SI
	350.	350.	3.	6.	-291226.!	-26.8!	756.8!	16.08	6.87	.0216	14.46	.031!	SI
>	350.	0.	3.	6.	-325034.!	-30. !	844.7	16.08	6.87	.0241	14.46	.035	SI
	601.	251.	3.	3.	251502.!	-29.9	870.4!	12.06	6.94	.0249	16.87	.042!	SI
	770.	420.	3.	1.	-220528.	-26.2	763.2	12.06	6.94	.0218	16.87	.037	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

	Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
	15.	15.	3.	1.	-81960.	-9.7	283.6	12.06	6.94	.0081	16.87	.014	SI
	27.	27.	3.	1.	15911.	-2.	81.2	8.04	7.5	.0023	29.42	.007	SI
	156.	156.	3.	3.	126864.!	-15.1	439.	12.06	6.94	.0125	16.87	.021	SI
	350.	350.	3.	6.	-216182.!	-19.9!	561.8!	16.08	6.87	.0161	14.46	.023!	SI
>	350.	0.	3.	6.	-241226.!	-22.2!	626.9	16.08	6.87	.0179	14.46	.026	SI
	601.	251.	3.	3.	186993.!	-22.2	647.1!	12.06	6.94	.0185	16.87	.031!	SI
	770.	420.	3.	1.	-163771.	-19.5	566.8!	12.06	6.94	.0162	16.87	.027	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

	Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
	15.	15.	3.	1.	-80238.	-9.5	277.7	12.06	6.94	.0079	16.87	.013	SI
	27.	27.	3.	1.	15498.	-2.	79.1	8.04	7.5	.0023	29.42	.007	SI
	156.	156.	3.	3.	124154.!	-14.8	429.7	12.06	6.94	.0123	16.87	.021	SI
	350.	350.	3.	6.	-211634.!	-19.5!	550. !	16.08	6.87	.0157	14.46	.023!	SI
>	350.	0.	3.	6.	-236147.!	-21.8!	613.7	16.08	6.87	.0175	14.46	.025	SI
	601.	251.	3.	3.	183084.!	-21.8	633.6!	12.06	6.94	.0181	16.87	.031!	SI
	770.	420.	3.	1.	-160331.	-19.1	554.9	12.06	6.94	.0159	16.87	.027	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16
2	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
3	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16
4	30.16	1.676	16.08	.894	4d16 +4d16	14.07	.782	2d16 +1d16 +4d16
5	26.14	1.452	16.08	.894	4d16 +4d16	10.05	.559	1d16 +4d16
6	34.18	1.899	16.08	.894	4d16 +4d16	18.1	1.005	1d16 +4d16 +4d16
7	28.15	1.564	16.08	.894	4d16 +4d16	12.06	.67	2d16 +4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

```
Nome travata       : 41 - Travata T019 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
```

MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : wdmax(fre.)=.4  ; wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
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CASI DI CARICO DA MODELLO 3D

Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	

RARE			FREQUENTI			QUASI PERMANENTI		
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A54	3	3	3	0	175.	160.	5.833	.4	5.	31.494
2	A65	3	3	3	0	350.	320.	11.667	1.5	3.934	99.171
3	A71	3	3	3	0	420.	390.	14.	1.3	1.968	42.998

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
12.	12.	3.	1.	-2263.!	0.	.001	-836868.!	-.35	2.524	3.	.122	369.9	SI
97.	97.	3.	2.	-35632.!	-.003	.009	-837360.!	-.35	2.562	3.	.12	!23.5	SI
130.	130.	3.	3.	-59505.!	-.004	.007	-1599524.!	-.35	1.697	3.	.171	!26.88	SI
148.	148.	3.	3.	-75182.!	-.005	.009	-1599524.!	-.35	1.697	3.	.171	21.28	SI
175.	175.	3.	4.	-82380.!	-.005	.01	!-1613419.!	-.35	2.043	3.	.146	19.59	!SI
> 175.	0.	3.	4.	-572238.!	-.035	.071	-1613419.!	-.35	2.043	3.	.146	2.819	SI
175.	0.	3.	4.	457622.!	-.027	.05	1800431.!	-.35	1.827	3.	.161	3.934	SI
202.	27.	3.	3.	-540396.!	-.037	.067	-1599524.!	-.35	1.697	3.	.171	!2.96	SI
202.	27.	3.	3.	447093.!	-.033	.087	1033661.!	-.35	2.46	3.	.125	2.312	!SI
294.	119.	3.	6.	-203158.!	-.017	.049	-837728.!	-.35	2.592	3.	.119	!4.124	SI
369.	194.	3.	6.	-26929.!	-.002	.007	-837728.!	-.35	2.592	3.	.119	!31.11	!SI
525.	350.	3.	4.	-528772.!	-.032	.065	-1613419.!	-.35	2.043	3.	.146	3.051	SI
525.	350.	3.	4.	105030.!	-.006	.012	1800431.!	-.35	1.827	3.	.161	17.14	SI
> 525.	0.	3.	4.	-533142.!	-.032	.066	-1613419.!	-.35	2.043	3.	.146	3.026	SI
525.	0.	3.	4.	60849.!	-.004	.007	1800431.!	-.35	1.827	3.	.161	29.59	!SI
552.	27.	3.	3.	-495579.!	-.034	.062	-1599524.!	-.35	1.697	3.	.171	!3.228	SI
652.	128.	3.	6.	-53322.!	-.004	.013	-837728.!	-.35	2.592	3.	.119	!15.71	!SI
900.	375.	3.	9.	425620.!	-.036	.103	!837728.!	-.35	2.592	3.	.119	1.968	!SI
945.	420.	3.	9.	-540145.!	-.042	.089	-1220231.!	-.35	2.001	3.	.149	2.259	SI
945.	420.	3.	9.	414583.!	-.035	.1	!837728.!	-.35	2.592	3.	.119	2.021	!SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	0.!	7975.!	43746.!	31864.!	2.01	15.	2.5	SI
175.	175.	3.	-936.!	8969.!	54649.!	55762.!	2.01	6.	1.75	SI
> 175.	0.	3.	-6806.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
175.	0.	3.	11678.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
220.	45.	3.	-7242.!	8969.!	54649.!	55762.!	2.01	6.	1.75	SI
525.	350.	3.	-11459.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
525.	350.	3.	6588.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
> 525.	0.	3.	-3575.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
525.	0.	3.	9450.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
694.	169.	3.	-5811.!	10267.!	43746.!	31864.!	2.01	15.	2.5	SI
945.	420.	3.	-9247.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI
945.	420.	3.	3342.!	7975.!	54649.!	55762.!	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 12.	12.	3.	1.	-598.!	-.1	3.1	8.04	7.42	.0001	28.95	0.	SI
30.	30.	3.	1.	-2276.!	-.3	11.6	8.04	7.42	.0003	28.95	.001	SI
63.	63.	3.	1.	-9126.!	-1.2	46.6	8.04	7.42	.0013	28.95	.004	SI
97.	97.	3.	2.	-21287.!	-2.8	108.7	8.04	7.49	.0031	29.19	.009	!SI
175.	175.	3.	4.	-63369.!	-5.8	!164.7	!16.08	6.87	.0047	14.46	.007	SI
> 175.	0.	3.	4.	-149081.!	-13.7	387.4	16.08	6.87	.0111	14.46	.016	SI
331.	156.	3.	6.	149442.!	-17.8	517.2	12.06	6.94	.0148	16.87	.025	SI
525.	350.	3.	4.	-299412.!	-27.6	!778.1	!16.08	6.87	.0222	14.46	.032	!SI
> 525.	0.	3.	4.	-333488.!	-30.7	!866.7	!16.08	6.87	.0248	14.46	.036	SI
735.	210.	3.	6.	251667.!	-29.9	870.9	!12.06	6.94	.0249	16.87	.042	!SI
945.	420.	3.	9.	-220528.!	-26.2	763.2	12.06	6.94	.0218	16.87	.037	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 12.	12.	3.	1.	-598.!	-.1	3.1	8.04	7.42	.0001	28.95	0.	SI
30.	30.	3.	1.	-2276.!	-.3	11.6	8.04	7.42	.0003	28.95	.001	SI
63.	63.	3.	1.	-9126.!	-1.2	46.6	8.04	7.42	.0013	28.95	.004	SI
97.	97.	3.	2.	-21287.!	-2.8	108.7	8.04	7.49	.0031	29.19	.009	!SI
175.	175.	3.	4.	-63369.!	-5.8	!164.7	!16.08	6.87	.0047	14.46	.007	SI
> 175.	0.	3.	4.	-110712.!	-10.2	287.7	16.08	6.87	.0082	14.46	.012	SI
331.	156.	3.	6.	111036.!	-13.2	384.3	!12.06	6.94	.011	16.87	.019	SI
525.	350.	3.	4.	-218040.!	-20.1	!566.6	!16.08	6.87	.0162	14.46	.023	!SI
> 525.	0.	3.	4.	-245690.!	-22.6	!638.5	!16.08	6.87	.0182	14.46	.026	SI
735.	210.	3.	6.	187516.!	-22.3	!648.9	!12.06	6.94	.0185	16.87	.031	!SI
945.	420.	3.	9.	-163771.!	-19.5	!566.8	!12.06	6.94	.0162	16.87	.027	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 12.	12.	3.	1.	-598.!	-.1	3.1	8.04	7.42	.0001	28.95	0.	SI
30.	30.	3.	1.	-2276.!	-.3	11.6	8.04	7.42	.0003	28.95	.001	SI
63.	63.	3.	1.	-9126.!	-1.2	46.6	8.04	7.42	.0013	28.95	.004	SI
97.	97.	3.	2.	-21287.!	-2.8	108.7	8.04	7.49	.0031	29.19	.009	!SI
175.	175.	3.	4.	-63369.!	-5.8	!164.7	!16.08	6.87	.0047	14.46	.007	SI
> 175.	0.	3.	4.	-108387.!	-10.	281.7	16.08	6.87	.008	14.46	.012	SI
331.	156.	3.	6.	108475.!	-12.9	375.4	!12.06	6.94	.0107	16.87	.018	SI
525.	350.	3.	4.	-213108.!	-19.6	!553.8	!16.08	6.87	.0158	14.46	.023	!SI
> 525.	0.	3.	4.	-240369.!	-22.2	!624.7	!16.08	6.87	.0178	14.46	.026	SI
735.	210.	3.	6.	183628.!	-21.8	!635.5	!12.06	6.94	.0182	16.87	.031	!SI
945.	420.	3.	9.	-160331.!	-19.1	!554.9	!12.06	6.94	.0159	16.87	.027	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	16.08	.894	8.04	.447	4d16	8.04	.447	4d16
2	18.1	1.005	8.04	.447	4d16	10.05	.559	1d16 +4d16
3	26.14	1.452	16.08	.894	4d16 +4d16	10.05	.559	1d16 +4d16
4	34.18	1.899	16.08	.894	4d16 +4d16	18.1	1.005	1d16 +4d16 +4d16
5	30.16	1.676	16.08	.894	4d16 +4d16	14.07	.782	2d16 +1d16 +4d16
6	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16
7	28.15	1.564	16.08	.894	4d16 +4d16	12.06	.67	2d16 +4d16
8	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
9	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

```
Nome travata       : 42 - Travata TO20 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2
```

MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
```

CASI DI CARICO DA MODELLO 3D

	SLU	
Nome	Descrizione	Sest
1.	SLU SENZA SISMA	1.
4.	SLU con SISMAX PRINC16	
5.	SLU con SISMAY PRINC16	

	RARE			FREQUENTI			QUASI PERMANENTI	
Nome	Descrizione	Sest	Nome	Descrizione	Sest	Nome	Descrizione	Sest
11.	Rara	1.	12.	Frequente	1.	13.	Quasi Perm	1.

<-

SEZIONI UTILIZZATE

3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A55	3	3	3	0	175.	160.	5.833	.4	5.	31.494
2	A66	3	3	3	0	350.	320.	11.667	1.5	3.232	81.465
3	A72	3	3	3	0	420.	390.	14.	1.3	3.317	72.467

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 12.	12.	3.	1.	-2263.!	0.	.001	-836868.!	-.35	2.524	3.	.122	369.9!	SI
97.	97.	3.	3.	-35632.	-.003	.009	-838012.	-.35	2.614	3.	.118	23.52	SI
130.	130.	3.	4.	-59505.	-.004	.007	-1599524.	-.35	1.697	3.	.171	26.88	SI
148.	148.	3.	4.	-75182.	-.005	.009	-1599524.	-.35	1.697	3.	.171	21.28	SI
175.	175.	3.	5.	-82380.!	-.005	.01 !	-1613419.!	-.35	2.043	3.	.146	19.59	SI
> 175.	0.	3.	5.	-455290.!	-.027	.056	-1613419.	-.35	2.043	3.	.146	3.544	SI
175.	0.	3.	5.	318508.	-.019	.035	1800431.!	-.35	1.827	3.	.161	5.653	SI
202.	27.	3.	4.	-427199.	-.029	.053	-1599524.	-.35	1.697	3.	.171	3.744	SI
220.	45.	3.	4.	319833.!	-.023	.062	1033661.	-.35	2.46	3.	.125	3.232	SI
294.	119.	3.	2.	-138911.	-.011	.034	-837728.	-.35	2.592	3.	.119	6.031	SI
369.	194.	3.	2.	-2679.	0.	.001	-837728.	-.35	2.592	3.	.119	312.7!	SI
525.	350.	3.	5.	-445358.	-.027	.055	-1613419.	-.35	2.043	3.	.146	3.623	SI
525.	350.	3.	5.	18215.	-.001	.002	1800431.	-.35	1.827	3.	.161	98.84	SI
> 525.	0.	3.	5.	-481006.!	-.029	.059	-1613419.!	-.35	2.043	3.	.146	3.354	SI
525.	0.	3.	5.	52119.	-.003	.006	1800431.!	-.35	1.827	3.	.161	34.54	SI
552.	27.	3.	4.	-442275.	-.03	.055	-1599524.	-.35	1.697	3.	.171	3.617	SI
652.	128.	3.	2.	-20823.	-.002	.005	-837728.	-.35	2.592	3.	.119	40.23	SI
859.	334.	3.	8.	369244.!	-.027	.06	1224861.	-.35	2.177	3.	.138	3.317	SI
900.	375.	3.	9.	355999.	-.03	.086!	837728.	-.35	2.592	3.	.119	2.353	SI
945.	420.	3.	9.	-432293.	-.033	.071	-1220231.	-.35	2.001	3.	.149	2.823	SI
945.	420.	3.	9.	313908.	-.026	.076	837728.	-.35	2.592	3.	.119	2.669	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	0.!	7975.	43746.	31864.	2.01	15.	2.5	SI
175.	175.	3.	-936.!	8969.	54649.	55762.	2.01	6.	1.75	SI
> 175.	0.	3.	-5634.	7975.	54649.	55762.	2.01	6.	1.75	SI
175.	0.	3.	10969.!	7975.	54649.	55762.	2.01	6.	1.75	SI
220.	45.	3.	-6094.	8969.	54649.	55762.	2.01	6.	1.75	SI
525.	350.	3.	-10535.!	7975.	54649.	55762.	2.01	6.	1.75	SI
525.	350.	3.	5609.	7975.	54649.	55762.	2.01	6.	1.75	SI
> 525.	0.	3.	-2765.	7975.	54649.	55762.	2.01	6.	1.75	SI
525.	0.	3.	8546.!	7975.	54649.	55762.	2.01	6.	1.75	SI
694.	169.	3.	-5119.	10267.!	43746.	31864.	2.01	15.	2.5	SI
945.	420.	3.	-8737.!	7975.	54649.	55762.	2.01	6.	1.75	SI
945.	420.	3.	2114.	7975.	54649.	55762.	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 12.	12.	3.	1.	-598.!	-.1	3.1	8.04	7.42	.0001	28.95	0.	SI
30.	30.	3.	1.	-2276.	-.3	11.6	8.04	7.42	.0003	28.95	.001	SI
63.	63.	3.	2.	-9126.	-1.2	46.6	8.04	7.5	.0013	29.42	.004	SI
97.	97.	3.	3.	-21287.	-2.6	108.5	8.04	7.5	.0031	29.63	.009	SI
175.	175.	3.	5.	-63369.!	-5.8!	164.7!	16.08	6.87	.0047	14.46	.007	SI
> 175.	0.	3.	5.	-157969.	-14.6	410.5	16.08	6.87	.0117	14.46	.017	SI
331.	156.	3.	2.	158633.!	-18.9	549.	12.06	6.94	.0157	16.87	.026	SI
525.	350.	3.	5.	-304789.!	-28.1!	792.1!	16.08	6.87	.0226	14.46	.033	SI
> 525.	0.	3.	5.	-343130.!	-31.6	891.7	16.08	6.87	.0255	14.46	.037	SI
735.	210.	3.	2.	268169.!	-31.9!	928.1!	12.06	6.94	.0265	16.87	.045	SI
945.	420.	3.	9.	-233675.	-27.8	808.7	12.06	6.94	.0231	16.87	.039	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 12.	12.	3.	1.	-598.!	-.1	3.1	8.04	7.42	.0001	28.95	0.	SI
30.	30.	3.	1.	-2276.	-.3	11.6	8.04	7.42	.0003	28.95	.001	SI
63.	63.	3.	2.	-9126.	-1.2	46.6	8.04	7.5	.0013	29.42	.004	SI
97.	97.	3.	3.	-21287.	-2.6	108.5	8.04	7.5	.0031	29.63	.009	SI
175.	175.	3.	5.	-63369.!	-5.8!	164.7!	16.08	6.87	.0047	14.46	.007	SI
> 175.	0.	3.	5.	-116649.	-10.8	303.1	16.08	6.87	.0087	14.46	.013	SI
331.	156.	3.	2.	117352.!	-13.9	406.1	12.06	6.94	.0116	16.87	.02	SI
525.	350.	3.	5.	-221487.!	-20.4!	575.6!	16.08	6.87	.0164	14.46	.024	SI
> 525.	0.	3.	5.	-251940.!	-23.2	654.7	16.08	6.87	.0187	14.46	.027	SI
735.	210.	3.	2.	198547.!	-23.6!	687.1!	12.06	6.94	.0196	16.87	.033	SI
945.	420.	3.	9.	-172552.	-20.5	597.2	12.06	6.94	.0171	16.87	.029	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
> 12.	12.	3.	1.	-598.!	-.1	3.1	8.04	7.42	.0001	28.95	0.	SI
30.	30.	3.	1.	-2276.	-.3	11.6	8.04	7.42	.0003	28.95	.001	SI
63.	63.	3.	2.	-9126.	-1.2	46.6	8.04	7.5	.0013	29.42	.004	SI
97.	97.	3.	3.	-21287.	-2.6	108.5	8.04	7.5	.0031	29.63	.009	SI
175.	175.	3.	5.	-63369.!	-5.8!	164.7!	16.08	6.87	.0047	14.46	.007	SI
> 175.	0.	3.	5.	-114144.	-10.5	296.6	16.08	6.87	.0085	14.46	.012	SI
331.	156.	3.	2.	114602.!	-13.6	396.6	12.06	6.94	.0113	16.87	.019	SI
525.	350.	3.	5.	-216439.!	-19.9!	562.5!	16.08	6.87	.0161	14.46	.023	SI
> 525.	0.	3.	5.	-246413.!	-22.7	640.4	16.08	6.87	.0183	14.46	.026	SI
735.	210.	3.	2.	192513.!	-22.9!	666.2!	12.06	6.94	.019	16.87	.032	SI
945.	420.	3.	9.	-168848.	-20.1	584.3	12.06	6.94	.0167	16.87	.028	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	16.08	.894	8.04	.447	4d16	8.04	.447	4d16
2	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16
3	22.12	1.229	8.04	.447	4d16	14.07	.782	2d16 +1d16 +4d16
4	26.14	1.452	16.08	.894	4d16 +4d16	10.05	.559	1d16 +4d16
5	34.18	1.899	16.08	.894	4d16 +4d16	18.1	1.005	1d16 +4d16 +4d16
6	30.16	1.676	16.08	.894	4d16 +4d16	14.07	.782	2d16 +1d16 +4d16
7	28.15	1.564	16.08	.894	4d16 +4d16	12.06	.67	2d16 +4d16
8	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
9	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16

VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata : 43 - Travata T021 (trave)
Metodo di verifica : stati limite (NTC18). ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3 ; staffe= 2

MATERIALI

```
CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%
```

TENSIONI E FESSURE MASSIME IN ESERCIZIO

```
GRUPPO  : ordinario.
CLS     :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO :  f (rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
```

CASI DI CARICO DA MODELLO 3D

```
            SLU           |
Nome   Descrizione    Sest|
 1.|SLU SENZA SISMA     1.|
 4.|SLU con SISMAX PRINC16|
 5.|SLU con SISMAY PRINC16|

            RARE          |         FREQUENTI         |     QUASI PERMANENTI      |
Nome   Descrizione    Sest|Nome   Descrizione    Sest|Nome   Descrizione    Sest|
11.|Rara                1.|12.|Frequente           1.|13.|Quasi Perm          1.|
<-
```

SEZIONI UTILIZZATE

3) Rettangolare: 60X30; A=1800.; Jg=135000.; E=330194.3

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	A67	3	3	3	0	350.	320.	11.667	1.3	3.101	67.739
2	A73	3	3	3	0	420.	390.	14.	1.3	3.28	71.66

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
> 0.	0.	3.	1.	-360006.	-.028!	.059	-1220231.	-.35	2.001	3.	.149	3.389	SI
0.	0.	3.	1.	259566.	-.022	.063	837728.	-.35	2.592	3.	.119	3.227	SI
45.	45.	3.	1.	270166.!	-.022	.065!	837728.	-.35	2.592	3.	.119	3.101!	SI
305.	305.	3.	5.	-301229.	-.02	.037	-1599524.	-.35	1.697	3.	.171	5.31	SI
335.	335.	3.	6.	18311.	-.001	.002	1800431.!	-.35	1.827	3.	.161	98.32	SI
338.	338.	3.	6.	14630.	-.001	.002	1800431.	-.35	1.827	3.	.161	123.1!	SI
350.	350.	3.	6.	-411032.!	-.025	.051	-1613419.!	-.35	2.043	3.	.146	3.925	SI
> 350.	0.	3.	6.	-472307.!	-.028	.058	-1613419.!	-.35	2.043	3.	.146	3.416	SI
350.	0.	3.	6.	52533.	-.003	.006	1800431.!	-.35	1.827	3.	.161	34.27	SI
377.	27.	3.	5.	-432597.	-.029!	.054	-1599524.	-.35	1.697	3.	.171	3.697	SI
478.	128.	3.	3.	-18366.	-.002	.004	-837728.	-.35	2.592	3.	.119	45.61!	SI
560.	210.	3.	3.	371988.!	-.029	.061	1220231.	-.35	2.001	3.	.149	3.28	SI
725.	375.	3.	1.	316052.	-.026	.076!	837728.	-.35	2.592	3.	.119	2.651!	SI
770.	420.	3.	1.	-362300.	-.028	.059	-1220231.	-.35	2.001	3.	.149	3.368	SI
770.	420.	3.	1.	263512.	-.022	.064	837728.	-.35	2.592	3.	.119	3.179	SI

TAGLIO:

Progressive	Se	Vsd	VRd	VRcd	VRsd	Asw	s	ctgT	Ve
> 0.	0.	3.	-3950.	7975.	54649.	55762.	2.01	6.	1.75	SI
0.	0.	3.	9754.!	7975.	54649.	55762.	2.01	6.	1.75	SI
194.	194.	3.	-6685.	10267.!	43746.	31864.	2.01	15.	2.5	SI
350.	350.	3.	-8851.!	7975.	54649.!	55762.!	2.01	6.	1.75	SI
350.	350.	3.	4393.	7975.	54649.	55762.	2.01	6.	1.75	SI
> 350.	0.	3.	-2908.	7975.	54649.	55762.	2.01	6.	1.75	SI
350.	0.	3.	8550.!	7975.	54649.	55762.	2.01	6.	1.75	SI
519.	169.	3.	-5263.	10267.!	43746.	31864.	2.01	15.	2.5	SI
770.	420.	3.	-8881.!	7975.	54649.!	55762.!	2.01	6.	1.75	SI
770.	420.	3.	2118.	7975.	54649.	55762.	2.01	6.	1.75	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-116152.	-13.8	402.	12.06	6.94	.0115	16.87	.019	SI
27.	27.	3.	1.	12531.	-1.6	63.9	8.04	7.5	.0018	29.42	.005	SI
156.	156.	3.	3.	180164.!	-21.4	623.5	12.06	6.94	.0178	16.87	.03	SI
350.	350.	3.	6.	-290391.!	-26.8!	754.7!	16.08	6.87	.0216	14.46	.031!	SI
> 350.	0.	3.	6.	-338057.!	-31.2	878.5	16.08	6.87	.0251	14.46	.036	SI
560.	210.	3.	3.	268569.!	-31.9!	929.4	12.06	6.94	.0266	16.87	.045!	SI
770.	420.	3.	1.	-233675.	-27.8	808.7	12.06	6.94	.0231	16.87	.039	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-85782.	-10.2	296.9	12.06	6.94	.0085	16.87	.014	SI
27.	27.	3.	1.	9403.	-1.2	48.	8.04	7.5	.0014	29.42	.004	SI
156.	156.	3.	3.	133996.!	-15.9	463.7	12.06	6.94	.0132	16.87	.022	SI
350.	350.	3.	6.	-214690.!	-19.8!	557.9	16.08	6.87	.0159	14.46	.023!	SI
> 350.	0.	3.	6.	-249893.!	-23.	649.4	16.08	6.87	.0186	14.46	.027	SI
560.	210.	3.	3.	198431.!	-23.6!	686.7!	12.06	6.94	.0196	16.87	.033!	SI
770.	420.	3.	1.	-172552.	-20.5	597.2	12.06	6.94	.0171	16.87	.029	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

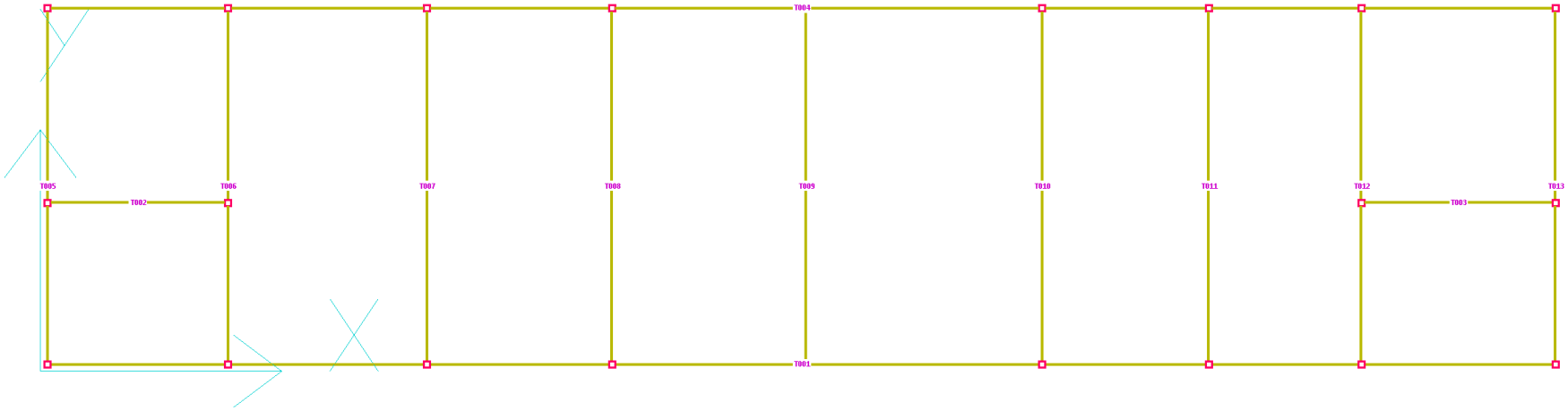
Progressive	Se	Ar	Momento	c	f	As	hc,ef	Eps%	Sr,max	Wd	Ve
15.	15.	3.	1.	-83941.	-10.	290.5	12.06	6.94	.0083	16.87	.014	SI
27.	27.	3.	1.	9149.	-1.2	46.7	8.04	7.5	.0013	29.42	.004	SI
156.	156.	3.	3.	131082.!	-15.6	453.6	12.06	6.94	.013	16.87	.022	SI
350.	350.	3.	6.	-210102.!	-19.4!	546. !	16.08	6.87	.0156	14.46	.023!	SI
> 350.	0.	3.	6.	-244550.!	-22.5!	635.5	16.08	6.87	.0182	14.46	.026	SI
560.	210.	3.	3.	194180.!	-23.1!	672. !	12.06	6.94	.0192	16.87	.032!	SI
770.	420.	3.	1.	-168848.	-20.1	584.3	12.06	6.94	.0167	16.87	.028	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	20.11	1.117	12.06	.67	2d16 +4d16	8.04	.447	4d16
2	24.13	1.34	12.06	.67	2d16 +4d16	12.06	.67	2d16 +4d16
3	20.11	1.117	8.04	.447	4d16	12.06	.67	2d16 +4d16
4	30.16	1.676	16.08	.894	4d16 +4d16	14.07	.782	2d16 +1d16 +4d16
5	26.14	1.452	16.08	.894	4d16 +4d16	10.05	.559	1d16 +4d16
6	34.18	1.899	16.08	.894	4d16 +4d16	18.1	1.005	1d16 +4d16 +4d16
7	28.15	1.564	16.08	.894	4d16 +4d16	12.06	.67	2d16 +4d16

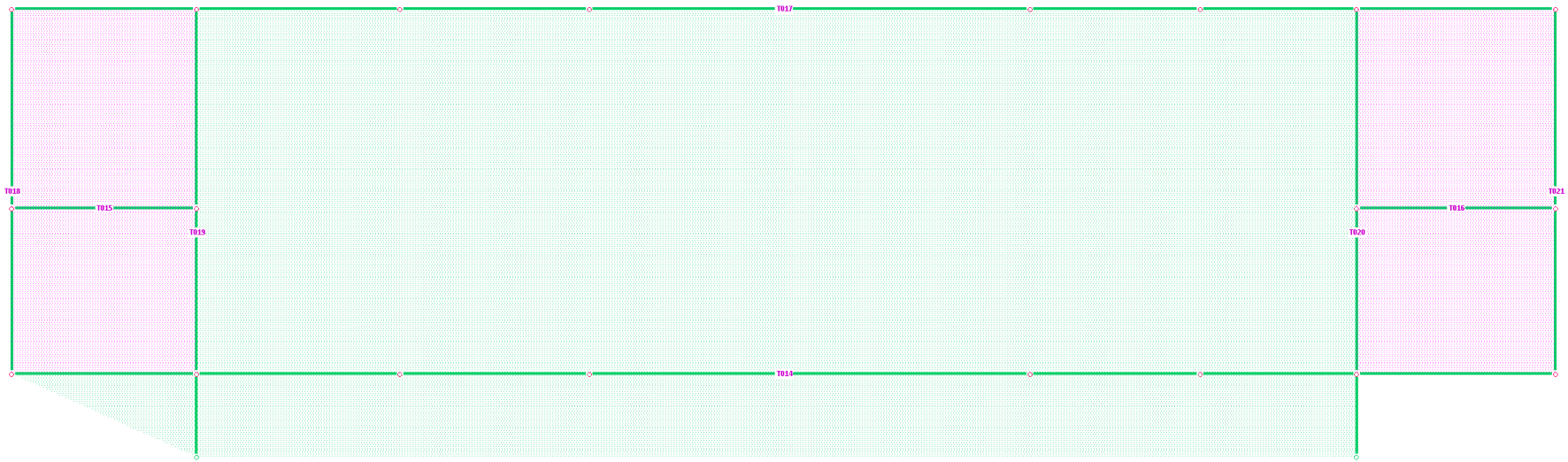
Numerazione travate fondazioni

Piano XY Z = 0 cm



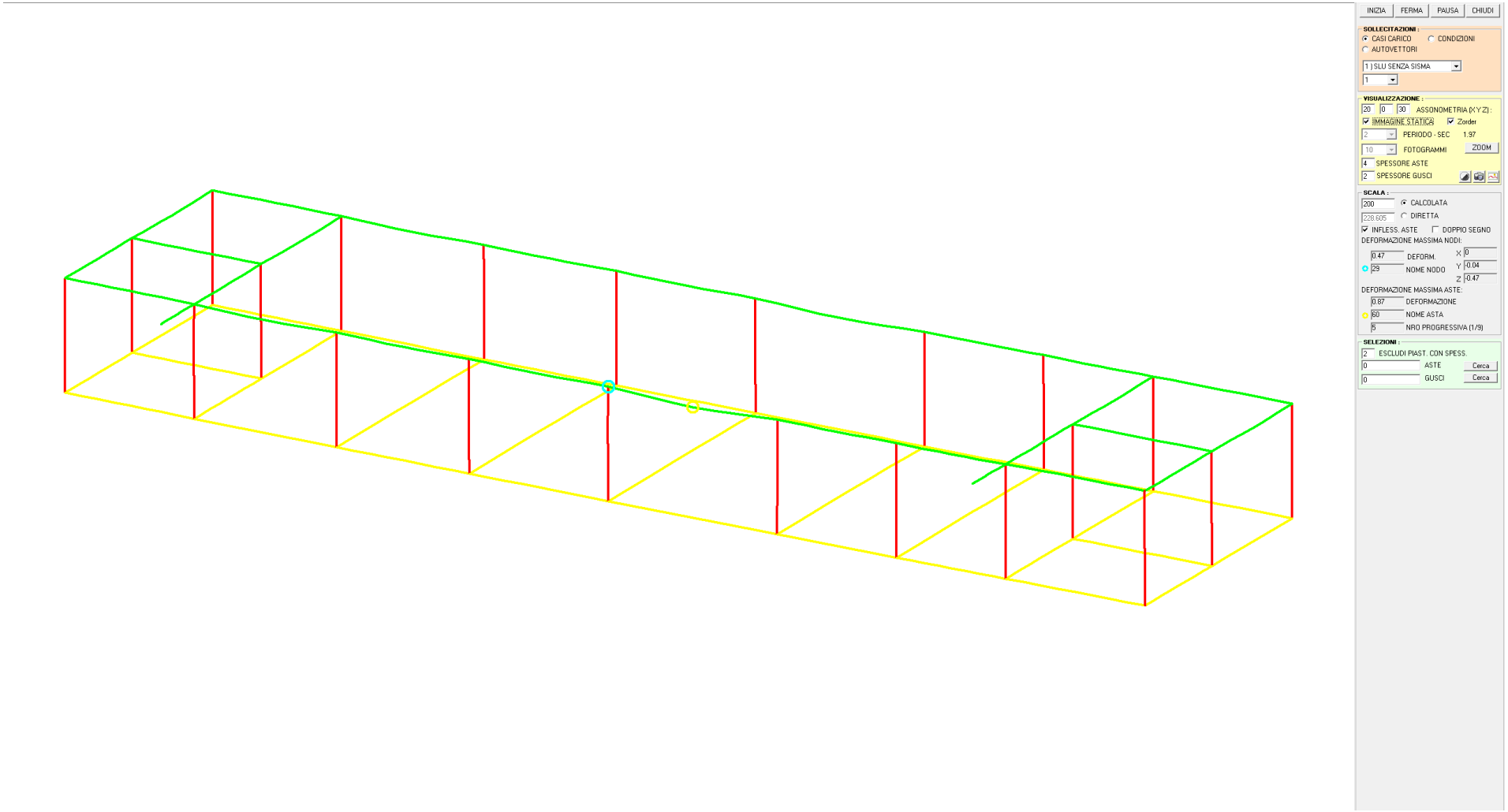
Numerazione travate primo impalcato

Piano XY Z = 320 cm

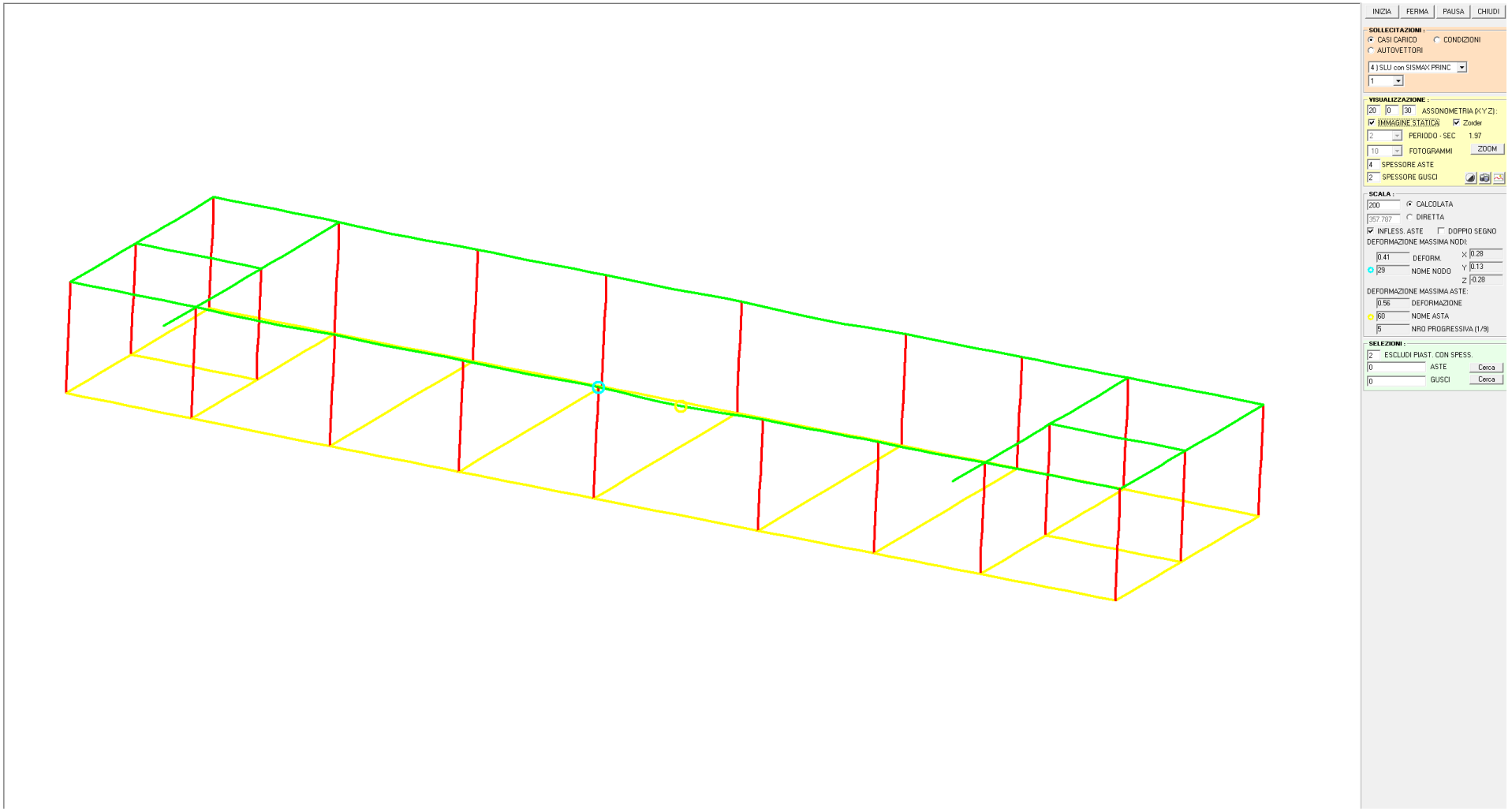


DEFORMATE PRINCIPALI DELLA STRUTTURA:

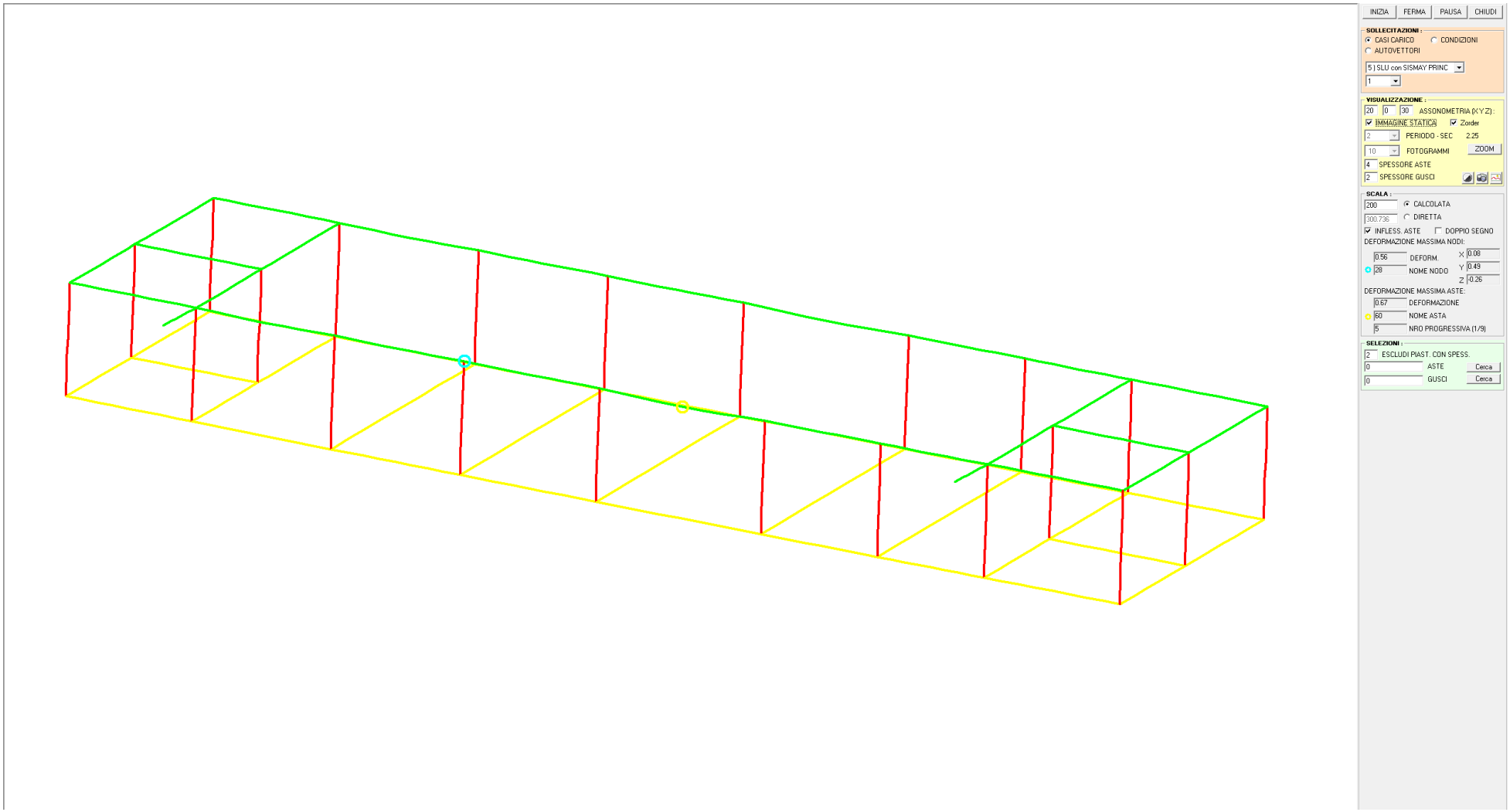
DEFORMATE PRINCIPALI DELLA STRUTTURA: S.L.U. SENZA SISMA (CASO 1)



DEFORMATE PRINCIPALI DELLA STRUTTURA: S.L.U. CON SISMA PRINCIPALE LUNGO X (CASO 4)



DEFORMATE PRINCIPALI DELLA STRUTTURA: S.L.U. CON SISMA PRINCIPALE LUNGO Y (CASO 5)



VERIFICA PILASTRI:

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P001  (ID=1)
Aste               : 32
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Circolare: diametro=30; Acls=705.14; iy=7.49; iz=7.49

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	2.281	8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-10	-598610.	4-10	598610.	5-10	-500420.	5-10	500420.
1 S	4-10	-599490.	4-10	599490.	5-10	-522100.	5-10	522100.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-12	-4817.8	4-12	4817.8	5-12	-4894.9	5-12	4894.9

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5-10	-4809.	-406236.	1.01	-64065.	1.09	-.12	-146.	.158	3314.9	SI
1	5- 7	-1827.	35050.	1.	1290.	1.	-.01	-16.2	.009	184.8	SI
1	5-10	-4243.	366154.	1.01	49678.	1.1	-.107	-136.1	.142	2978.	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-5823.5	-33466.8	63340.1	320.	.7	1.42	2.23	.047	203.8	42.72	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5- 5	-1722.8	-5096.8	-2912.9	320.	.7	1.42	1.13	.014	189.8	42.72	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

```
Asta           : 1
Tipo sezione   : CIRCOLARE
```

Campo	inferiore	superiore
Passo staffe	9	9
D0	25	25
beta	2	2
alfa n	1	1
alfa s	0.6724	0.6724
volume cls	4417.86467	4417.86467
alfa	0.6724	0.6724
nud	0.02358	0.02358
mu phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	123.37006	123.37006
omega wd Z (0.08)	0.62792	0.62792
dutt. nodo Z	0.42221	0.42221
dutt. rich Z	-0.01814	-0.01814
volume staffe Y	123.37006	123.37006
omega wd Y (0.08)	0.62792	0.62792
dutt. nodo Y	0.42221	0.42221
dutt. rich Y	-0.01814	-0.01814
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 5	870.7	4808.	20223.4	20514.9	20223.4	1.57	9.	1.6	SI
1 C	4-12	-1133.2	4817.8	16924.8	16924.8	17178.1	1.57	15.	2.2	SI
1 S	4- 5	870.7	4808.	20132.1	20514.9	20132.1	1.57	9.	1.6	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-12	-2307.2	4894.9	20514.9	20514.9	20662.3	1.57	9.	1.6	SI
1 C	5-13	-1833.3	4882.8	16932.2	17309.4	16932.2	1.57	15.	2.25	SI
1 S	5- 5	1994.	-4794.5	20009.9	20514.9	20009.9	1.57	9.	1.6	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5-12	-5195.6	-79762.	-122710.7	4.23	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-4284.6	-24149.6	24258.5	-11.9	67.3	SI
1 C	11- 1	-4001.9	10756.9	-1800.	-7.3	-30.5	SI
1 S	11- 1	-3719.1	45663.4	-27858.6	-19.6	232.4	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-3506.4	-17788.	18542.2	-9.2	40.8	SI
1 C	12- 1	-3223.6	7832.3	-2743.9	-5.6	-27.2	SI
1 S	12- 1	-2940.9	33452.7	-24030.	-14.5	177.7	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-3459.2	-17402.5	18195.8	-9.1	39.2	SI
1 C	13- 1	-3176.5	7655.1	-2801.1	-5.5	-27.	SI
1 S	13- 1	-2893.7	32712.7	-23797.9	-14.1	174.5	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P002  (ID=2)
Aste               : 33
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: f (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

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SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787 | 8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-10	-723350.	4-10	723350.	5- 7	-541540.	5- 7	541540.
1 S	4-10	-711360.	4-10	711350.	5-10	-674310.	5-10	674310.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 5	-6626.2	4- 5	6626.2	5-13	-6861.9	5-13	6861.9

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5- 7	-10689.	578345.	1.02	211517.	1.06	-.153	-164.3	.189	3913.3	SI
1	1- 1	-24448.	15767.	1.	-47652.	1.	-.02	-33.4	-.008	-172.8	SI
1	5- 7	-9969.	-432348.	1.03	-240883.	1.05	-.128	-151.6	.151	3161.1	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-24916.1	-11944.3	43477.7	320.	.7	1.34	1.98	.159	93.09	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5-13	-15188.6	-32293.7	-20056.8	320.	.7	1.34	1.08	.097	65.14	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.07953	0.07953
mu_phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: 0.02187	0.02187
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396
dutt. nodo Y	: 0.1714	0.1714
dutt. rich Y	: 0.02187	0.02187
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 5	1202.5	6626.2	33649.8	34205.8	33649.8	3.14	9.	1.05	SI
1 C	4- 5	1202.5	6626.2	30296.6	30296.6	30629.5	3.14	15.	1.55	SI
1 S	4- 5	1202.5	6626.2	33506.9	34205.8	33506.9	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-13	-2582.2	6861.9	34106.6	34205.8	34106.6	3.14	9.	1.05	SI
1 C	5-13	-2582.2	6861.9	30629.8	31273.9	30629.8	3.14	15.	1.6	SI
1 S	5-13	-2582.2	6861.9	33963.6	34205.8	33963.6	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5-10	-15664.7	-101803.6	-156621.	10.	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-18021.5	-8331.6	101822.	-34.5	-27.4	SI
1 C	11- 1	-17661.5	11047.8	-33748.4	-23.2	-149.4	SI
1 S	11- 1	-17301.5	30427.3	-169318.9	-53.5	280.9	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-13453.5	-4914.2	66361.7	-23.9	-42.5	SI
1 C	12- 1	-13093.5	6736.3	-22146.4	-16.5	-119.1	SI
1 S	12- 1	-12733.5	18386.8	-110654.5	-35.1	133.8	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-13176.6	-4707.	64212.6	-23.2	-43.3	SI
1 C	13- 1	-12816.6	6475.	-21443.3	-16.1	-117.3	SI
1 S	13- 1	-12456.6	17657.1	-107099.1	-34.	125.2	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro	: P003 (ID=3)
Aste	: 34
Metodo di verifica	: stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'	: bassa con gerarchia.
	: dettagli costruttivi del capito 7 attivi.
Unita' di misura	: cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari	: fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)	: longitudinali= 3.5 ; staffe= 2.5
Imperfezioni	: M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'	: snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: f (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

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SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm		
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8Ø16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 7	-770090.	4- 7	770090.	5- 7	-722770.	5- 7	722770.
1 S	4- 7	-771770.	4- 7	771770.	5-10	-866750.	5-10	866750.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-12	-6808.6	4-12	6808.6	5-12	-6847.6	5-12	6847.7

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd		MEzd		E cls	Øc	E acc	Øf	VE
> 1	5- 7	-14972.	420173.	1.04	152278.	1.12	-.106	-135.6	.112	2361.3	SI
1	5- 7	-14612.	147793.	1.	15703.	1.	-.028	-45.5	.011	223.3	SI
1	4- 7	-14185.	59537.	1.34	328363.	1.05	-.069	-99.3	.069	1449.1	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-30277.	26729.5	8652.5	320.	.7	1.34	1.38	.193	58.86	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-30277.	-6453.2	45288.8	320.	.7	1.34	1.84	.193	78.79	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	1	
Tipo sezione	RETTANGOLARE	
Campo	inferiore	superiore
Passo staffe	9	9
Numero bracci Z	4	4
Numero bracci Y	4	4
bc	30	30
hc	30	30
b0	25	25
h0	25	25
bi medio Z	7.66667	7.66667
bi medio Y	7.66667	7.66667
alfa n	0.81191	0.81191
alfa s	0.6724	0.6724
volume cls	5625	5625
alfa	0.54593	0.54593
nud	0.09096	0.09096
mu phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	78.53982	78.53982
omega wd Z (0.08)	0.31396	0.31396
dutt. nodo Z	0.1714	0.1714
dutt. rich Z	0.03004	0.03004
volume staffe Y	78.53982	78.53982
omega wd Y (0.08)	0.31396	0.31396
dutt. nodo Y	0.1714	0.1714
dutt. rich Y	0.03004	0.03004
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-12	-1715.4	6808.6	34076.7	34205.8	34076.7	3.14	9.	1.05	SI
1 C	4-12	-1715.4	6808.6	30602.8	31273.9	30602.8	3.14	15.	1.6	SI
1 S	4-12	-1715.4	6808.6	33933.7	34205.8	33933.7	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-12	-1508.	6847.7	34068.9	34205.8	34068.9	3.14	9.	1.05	SI
1 C	5-12	-1508.	6847.7	30595.9	31273.9	30595.9	3.14	15.	1.6	SI
1 S	5-12	-1508.	6847.7	33926.	34205.8	33926.	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4-12	-15038.	-101803.6	-156621.	9.6	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	Øc	Øf	VE
1 I	11- 1	-21699.2	19096.	-4900.3	-23.3	-243.2	SI
1 C	11- 1	-21339.2	12555.4	13817.3	-23.4	-233.8	SI
1 S	11- 1	-20979.2	6014.9	32535.	-25.1	-205.7	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	Øc	Øf	VE
1 I	12- 1	-15351.1	13248.9	-4646.2	-16.6	-170.3	SI
1 C	12- 1	-14991.1	8353.1	9350.	-16.3	-165.9	SI
1 S	12- 1	-14631.1	3457.2	23346.1	-17.5	-143.6	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	Øc	Øf	VE
1 I	13- 1	-14966.4	12894.5	-4630.8	-16.2	-165.9	SI
1 C	13- 1	-14606.4	8098.4	9079.2	-15.8	-161.7	SI
1 S	13- 1	-14246.4	3302.2	22789.2	-17.	-139.8	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro : P004 (ID=4)
Aste : 35
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita' : snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : Øc (rara)=184.3; Øc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: Øf (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

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SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm		
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8Ø16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-10	-761250.	4-10	761250.	5- 7	-748210.	5- 7	748210.
1 S	4-10	-771090.	4-10	771090.	5- 7	-888970.	5- 7	888970.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-12	-6742.4	4-12	6742.4	5- 5	-6765.4	5- 5	6765.4

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd		MEzd		E cls	Øc	E acc	Øf	VE
> 1	5- 7	-13774.	365987.	1.04	158688.	1.1	-.097	-127.5	.1	2108.	SI
1	5- 7	-13414.	159002.	1.	5725.	1.	-.028	-45.9	.014	296.9	SI
1	4-10	-13035.	-39973.	3.45	-312480.	1.05	-.062	-91.2	.064	1344.8	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-27778.3	39900.	970.2	320.	.7	1.34	1.68	.177	74.81	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-27778.3	11895.6	-15066.2	320.	.7	1.34	2.49	.177	111.2	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.08341	0.08341
mu_phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: 0.02464	0.02464
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396
dutt. nodo Y	: 0.1714	0.1714
dutt. rich Y	: 0.02464	0.02464
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-12	-1852.3	6742.4	33821.8	34205.8	33821.8	3.14	9.	1.05	SI
1 C	4-12	-1852.3	6742.4	30373.5	31273.9	30373.5	3.14	15.	1.6	SI
1 S	4-12	-1852.3	6742.4	33678.9	34205.8	33678.9	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 5	1187.8	6765.4	33829.1	34205.8	33829.1	3.14	9.	1.05	SI
1 C	5- 5	1187.8	6765.4	30380.1	31273.9	30380.1	3.14	15.	1.6	SI
1 S	5- 5	1187.8	6765.4	33686.2	34205.8	33686.2	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4- 5	-13814.5	-101803.6	-156621.	8.82	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	11- 1	-19918.6	28420.	8381.7	-23.8	-194.9	SI
1 C	11- 1	-19558.6	14534.9	-1127.8	-20.	-230.7	SI
1 S	11- 1	-19198.6	649.8	-10637.2	-18.9	-234.3	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	12- 1	-14134.9	19352.	5313.8	-16.7	-141.1	SI
1 C	12- 1	-13774.9	9808.3	-761.8	-14.	-163.3	SI
1 S	12- 1	-13414.9	264.6	-6837.5	-13.1	-165.2	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	13- 1	-13784.4	18802.4	5127.9	-16.2	-137.8	SI
1 C	13- 1	-13424.4	9521.8	-739.6	-13.6	-159.3	SI
1 S	13- 1	-13064.4	241.3	-6607.2	-12.8	-161.	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro	: P005 (ID=5)
Aste	: 36
Metodo di verifica	: stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'	: bassa con gerarchia.
	: dettagli costruttivi del capito 7 attivi.
Unita' di misura	: cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari	: fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)	: longitudinali= 3.5 ; staffe= 2.5
Imperfezioni	: M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'	: snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : σc (rara)=184.3; σc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: σf (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm	
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8Ø16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-10	-765500.	4-10	765500.	5- 7	-787520.	5- 7	787520.
1 S	4-10	-756800.	4-10	756810.	4-10	-912540.	4-10	912550.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 4	-6909.7	4- 4	6909.7	5- 6	-6950.5	5- 6	6950.5

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	σc	E acc	σf	VE
> 1	5- 7	-16667.	334620.	192801.	1.1	-.097	-127.8	.09	1883.5	SI
1	5- 5	-16419.	150241.	-22940.	1.	-.03	-48.1	.009	195.3	SI
1	4-10	-15834.	-48556.	379096.	1.05	-.076	-107.6	.078	1641.5	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-33897.1	43154.2	-330.9	320.	.7	1.34	1.71	.216	69.02	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5- 1	-16800.8	-39003.7	-10642.5	320.	.7	1.34	1.43	.107	81.93	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625

```
alfa             : 0.54593       | 0.54593       |
nud              : 0.10236       | 0.10236       |
mu_phi           : 10.65895      | 10.65895      |
molt.dutt.rich.  : 1             | 1             |
volume staffe Z  : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396       | 0.31396       |
dutt. nodo Z     : 0.1714        | 0.1714        |
dutt. rich Z     : 0.03819       | 0.03819       |
volume staffe Y  : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396       | 0.31396       |
dutt. nodo Y     : 0.1714        | 0.1714        |
dutt. rich Y     : 0.03819       | 0.03819       |
verifica omega   : SI            | SI            |
verifica nodo    : SI            | non richiesta |
```

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 4	1394.5	6909.7	34338.5	35834.6	34338.5	3.14	9.	1.1	SI
1 C	4- 4	1394.5	6909.7	30942.	31273.9	30942.	3.14	15.	1.6	SI
1 S	4- 4	1394.5	6909.7	34205.8	34205.8	34310.6	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 6	1036.	-6950.5	34307.8	35834.6	34307.8	3.14	9.	1.1	SI
1 C	5- 6	1036.	-6950.5	30914.3	31273.9	30914.3	3.14	15.	1.6	SI
1 S	5- 6	1036.	-6950.5	34205.8	34205.8	34279.8	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4- 7	-16949.7	-101803.6	-156621.	10.82	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	11- 1	-24293.	30723.9	54585.5	-35.8	-160.	SI
1 C	11- 1	-23933.	15234.5	-30401.1	-28.9	-231.4	SI
1 S	11- 1	-23573.	-255.	-115387.7	-40.3	-92.2	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	12- 1	-17182.6	20860.7	38292.4	-25.1	-115.5	SI
1 C	12- 1	-16822.6	10301.9	-21230.1	-20.2	-163.7	SI
1 S	12- 1	-16462.6	-256.9	-80752.6	-28.2	-63.9	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	13- 1	-16751.6	20262.9	37304.9	-24.5	-112.8	SI
1 C	13- 1	-16391.6	10002.9	-20674.3	-19.7	-159.6	SI
1 S	13- 1	-16031.6	-257.	-78653.5	-27.4	-62.2	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P006  (ID=6)
Aste               : 37
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  σc (rara)=184.3;  σc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  σf (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787 | 8φ16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 7	-745320.	4- 7	745320.	5- 2	-786500.	5- 2	786510.
1 S	4- 7	-724900.	4- 7	724910.	4- 7	-903500.	4- 7	903510.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-15	-6868.7	4-15	6868.7	5-15	-6892.4	5-15	6892.4

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	σc	E acc	σf	VE
> 1	4- 5	-15409.	127732.	1.15 | -375819.	1.05	-.092	-123.3	.093	1943.7	SI
1	5- 4	-15491.	136960.	1.	32794.	1.	-.029	-46.7	.009	192.9	SI
1	4- 7	-14669.	44984.	7.98 | 415613.	1.04	-.082	-113.9	.092	1932.2	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-31787.6	37359.7	2229.	320.	.7	1.34	1.64	.203	68.46	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5-15	-15827.3	23949.9	39794.6	320.	.7	1.34	1.1	.101	64.95	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

```
Asta             : 1
Tipo sezione     : RETTANGOLARE
Campo            : inferiore     | superiore     |
Passo staffe     : 9             | 9             |
Numero bracci Z  : 4             | 4             |
Numero bracci Y  : 4             | 4             |
bc               : 30            | 30            |
hc               : 30            | 30            |
b0               : 25            | 25            |
h0               : 25            | 25            |
bi medio Z       : 7.66667       | 7.66667       |
bi medio Y       : 7.66667       | 7.66667       |
alfa n           : 0.81191       | 0.81191       |
alfa s           : 0.6724        | 0.6724        |
volume cls       : 5625          | 5625          |
alfa             : 0.54593       | 0.54593       |
nud              : 0.0959        | 0.0959        |
mu_phi           : 10.65895      | 10.65895      |
molt.dutt.rich.  : 1             | 1             |
volume staffe Z  : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396       | 0.31396       |
dutt. nodo Z     : 0.1714        | 0.1714        |
dutt. rich Z     : 0.03357       | 0.03357       |
volume staffe Y  : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396       | 0.31396       |
dutt. nodo Y     : 0.1714        | 0.1714        |
dutt. rich Y     : 0.03357       | 0.03357       |
verifica omega   : SI            | SI            |
verifica nodo    : SI            | non richiesta |
```

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-15	-1144.6	6868.7	34205.8	34205.8	34277.	3.14	9.	1.05	SI
1 C	4- 7	2427.5	6848.6	30665.5	31273.9	30665.5	3.14	15.	1.6	SI
1 S	4- 7	2427.5	6848.6	34003.3	34205.8	34003.3	3.14	9.	1.05	SI

TAGLIO Z:

```
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  5-15|  -938.3|  6892.4| 34205.8| 34205.8| 34233.3| 3.14| 9. |1.05|SI|
 1 C|  5-15|  -938.3|  6892.4| 30743.9| 31273.9| 30743.9| 3.14|15. |1.6 |SI|
 1 S|  5-15|  -938.3|  6892.4| 34090.4| 34205.8| 34090.4| 3.14| 9. |1.05|SI|

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:
Asta  | Caso |  NEd     |  Nmax    |  Ncls    |% Ncls|VE|
     1|  4-10|  -16091.6| -101803.6| -156621. | 10.27|SI|
```

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

```
Rare:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 11- 1|  -22787.1|   26636.5|  -85102.3| -38.9|  -89.2|SI|
 1 C| 11- 1|  -22427.1|   14082.8|   40805.1| -29.1| -193.6|SI|
 1 S| 11- 1|  -22067.1|    1529.1|  166712.5| -48.9|   63.5|SI|

Frequenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 12- 1|  -16142.8|   18249.2|  -58044.9| -27.1|  -68.7|SI|
 1 C| 12- 1|  -15782.8|    9518.8|   28509.2| -20.4| -137.4|SI|
 1 S| 12- 1|  -15422.8|     788.5|  115063.4| -33.8|   39. |SI|

Quasi permanenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 13- 1|  -15740.1|   17740.9|  -56405.1| -26.4|  -67.5|SI|
 1 C| 13- 1|  -15380.1|    9242.2|   27764. | -19.8| -134. |SI|
 1 S| 13- 1|  -15020.1|     743.6|  111933.1| -32.9|   37.5|SI|
```

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P007  (ID=7)
Aste               : 38
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

```
Nome|   Descrizione       |Tipo          |Ses|
   1|SLU SENZA SISMA      |SLU (statico) |  1|
   4|SLU con SISMAX PRINC |SLU (sismico) | 16|
   5|SLU con SISMAY PRINC |SLU (sismico) | 16|
  11|Rara                 |RARA          |  1|
  12|Frequente            |FREQUENTE     |  1|
  13|Quasi Perm           |QUASI PERMAN. |  1|
<-
```

SEZIONI UTILIZZATE

```
 1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66
```

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

```
As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|1.787|8 16            |
```

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

```
Asta  | caso   Myu- min | caso   Myu+ min | caso   Mzu- min | caso   Mzu+ min |
 1 I  |  4- 7| -744730. |  4- 7|  744730. |  5- 2| -753440. |  5- 2|  753440. |
 1 S  |  4- 7| -757750. |  4- 7|  757750. |  5-15| -854670. |  5-15|  854670. |

TAGLI GERARCHIA:
As| Lp  | caso   VEyd-   | caso   VEyd+   | caso   VEzd-   | caso   VEzd+   |
 1|290. |  4- 7|  -6632.7|  4- 7|   6632.7|  5-12|  -6633.1|  5-12|   6633.1|
```

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

```
Asta Caso |  NEd    |  MEyd        |  MEzd        |E cls|  c  |E acc|  f  |VE|
> 1|  4- 5| -11747.|  130374.|1.11| -326702.|1.04|-.083|-114.5| .088|1858.2|SI|
  1|  5- 2| -11396.|  115721.|1.  |   -7508.|1.  |-.021| -34.8| .008| 162.9|SI|
  1|  4-12| -11129.|   50571.|1.31| -293399.|1.04|-.061| -89.4| .065|1370.6|SI|
```

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

```
Asta Caso |  NEd    |MEyd inf|MEyd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -23814.8| 21364.1| 12994.2|320. |.7  |1.34|1.09| .152|52.64|36.95|SI|
```

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

```
Asta Caso |  NEd    |MEzd inf|MEzd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -23814.8|-22978. |  2633.2|320. |.7  |1.34|1.82| .152|87.5 |36.95|SI|
```

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

```
Asta            : 1
Tipo sezione    : RETTANGOLARE
Campo           : inferiore     | superiore     |
Passo staffe    : 9             | 9             |
Numero bracci Z : 4             | 4             |
Numero bracci Y : 4             | 4             |
bc              : 30            | 30            |
hc              : 30            | 30            |
b0              : 25            | 25            |
h0              : 25            | 25            |
bi medio Z      : 7.66667       | 7.66667       |
bi medio Y      : 7.66667       | 7.66667       |
alfa n          : 0.81191       | 0.81191       |
alfa s          : 0.6724        | 0.6724        |
volume cls      : 5625          | 5625          |
alfa            : 0.54593       | 0.54593       |
nud             : 0.07073       | 0.07073       |
mu phi          : 10.65895      | 10.65895      |
molt.dutt.rich. : 1             | 1             |
volume staffe Z : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396      | 0.31396       |
dutt. nodo Z    : 0.1714        | 0.1714        |
dutt. rich Z    : 0.01557       | 0.01557       |
volume staffe Y : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396      | 0.31396       |
dutt. nodo Y    : 0.1714        | 0.1714        |
dutt. rich Y    : 0.01557       | 0.01557       |
verifica omega  : SI            | SI            |
verifica nodo   : SI            | non richiesta |
```

TAGLIO Y:

```
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  4- 7|  1958.9|  6632.7| 33426.6| 34205.8| 33426.6| 3.14| 9. |1.05|SI|
 1 C|  4- 7|  1958.9|  6632.7| 30296.6| 30296.6| 30425.8| 3.14|15. |1.55|SI|
 1 S|  4- 7|  1958.9|  6632.7| 33283.6| 34205.8| 33283.6| 3.14| 9. |1.05|SI|
```

TAGLIO Z:

```
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  5-12|  -983.2| -6633.1| 33440.6| 34205.8| 33440.6| 3.14| 9. |1.05|SI|
 1 C|  5-12|  -983.2| -6633.1| 30296.6| 30296.6| 30438.7| 3.14|15. |1.55|SI|
 1 S|  5-12|  -983.2| -6633.1| 33297.7| 34205.8| 33297.7| 3.14| 9. |1.05|SI|

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:
Asta  | Caso |  NEd     |  Nmax    |  Ncls    |% Ncls|VE|
     1|  4-12|  -11849.2| -101803.6| -156621. |  7.57|SI|
```

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

```
Rare:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 11- 1|  -17072.9|   15323.7|  -15964.6| -20.4| -167.5|SI|
 1 C| 11- 1|  -16712.9|   12192.2|   -7184.9| -18.1| -185.6|SI|
 1 S| 11- 1|  -16352.9|    9060.7|    1594.8| -16.3| -197.5|SI|

Frequenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 12- 1|  -12099.6|   10892.8|   -9137.4| -14.1| -122.8|SI|
 1 C| 12- 1|  -11739.6|    8111.4|   -4630.8| -12.6| -132. |SI|
 1 S| 12- 1|  -11379.6|    5329.9|    -124.1| -11. | -141.2|SI|
```

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I 13- 1	-11798.1	10624.3	-8723.6	-13.7	-120.1	SI
1	C 13- 1	-11438.1	7864.1	-4476.	-12.2	-128.8	SI
1	S 13- 1	-11078.1	5103.8	-228.3	-10.7	-137.4	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P008  (ID=8)
Aste               : 39
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 7	-720470.	4- 7	720470.	5- 2	-690530.	5- 2	690530.
1 S	4- 7	-716440.	4- 7	716440.	5- 2	-747290.	5- 2	747280.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-10	-6511.7	4-10	6511.7	5-16	-6665.2	5-16	6665.2

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5-13	-12009.	-395430.	1.03	-155995.	1.09	-.102	-132.2	.114	2398.2	SI
1	1- 1	-18232.	17290.	1.	27513.	1.	-.015	-24.6	-.006	-132.6	SI
1	5-13	-11289.	310540.	1.04	169507.	1.08	-.088	-119.5	.093	1953.7	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-18700.1	-16371.	50951.7	320.	.7	1.34	2.02	.119	110.	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5-16	-12031.3	29501.7	-1384.	320.	.7	1.34	1.75	.077	118.5	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta : 1		
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.06089	0.06089
mu_phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: 0.00854	0.00854
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396
dutt. nodo Y	: 0.1714	0.1714
dutt. rich Y	: 0.00854	0.00854
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-10	-1529.9	6511.7	33070.6	34205.8	33070.6	3.14	9.	1.05	SI
1 C	4-10	-1529.9	6511.7	30101.1	30296.6	30101.1	3.14	15.	1.55	SI
1 S	4-10	-1529.9	6511.7	32927.7	34205.8	32927.7	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-16	-2167.3	6665.2	33479.8	34205.8	33479.8	3.14	9.	1.05	SI
1 C	5-16	-2167.3	6665.2	30296.6	30296.6	30474.4	3.14	15.	1.55	SI
1 S	5-16	-2167.3	6665.2	33336.9	34205.8	33336.9	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5-15	-12061.2	-101803.6	-156621.	7.7	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-13595.8	-11416.7	-75607.5	-26.7	-12.6	SI
1 C	11- 1	-13235.8	12136.	19267.7	-17.	-116.1	SI
1 S	11- 1	-12875.8	35688.8	114142.9	-39.8	193.9	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-10447.5	-6722.2	-46821.3	-18.2	-36.5	SI
1 C	12- 1	-10087.5	7489.9	11700.8	-12.2	-97.6	SI
1 S	12- 1	-9727.5	21701.9	70222.8	-25.	68.8	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-10256.7	-6437.6	-45076.7	-17.7	-37.8	SI
1 C	13- 1	-9896.7	7208.3	11242.2	-11.9	-96.5	SI
1 S	13- 1	-9536.7	20854.2	67561.	-24.2	62.	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P009  (ID=9)
Aste               : 40
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
```

```
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

```
 1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66
```

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 7	-709950.	4- 7	709950.	5-15	-649070.	5-15	649070.
1 S	4- 7	-728760.	4- 7	728760.	5-15	-674480.	5-15	674480.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 7	-6089.8	4- 7	6089.8	5-16	-6142.	5-16	6142.

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5-13	-5344.	-395526.	1.01	-114222.	1.05	-.092	-123.6	.126	2648.2	SI
1	5- 4	-1531.	49305.	1.	12305.	1.	-.01	-17.6	.012	259.6	SI
1	5-13	-4624.	344458.	1.01	104419.	1.05	-.081	-112.1	.11	2320.2	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-5921.5	-55087.6	102294.2	320.	.7	1.34	2.24	.038	216.5	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5-12	-4533.8	8277.7	7962.5	320.	.7	1.34	.738	.029	81.57	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	1	
Tipo sezione	RETTANGOLARE	
Campo	inferiore	superiore
Passo staffe	9	9
Numero bracci Z	4	4
Numero bracci Y	4	4
bc	30	30
hc	30	30
b0	25	25
h0	25	25
bi medio Z	7.66667	7.66667
bi medio Y	7.66667	7.66667
alfa n	0.81191	0.81191
alfa s	0.6724	0.6724
volume cls	5625	5625
alfa	0.54593	0.54593
nud	0.0185	0.0185
mu phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	78.53982	78.53982
omega wd Z (0.08)	0.31396	0.31396
dutt. nodo Z	0.1714	0.1714
dutt. rich Z	-0.02177	-0.02177
volume staffe Y	78.53982	78.53982
omega wd Y (0.08)	0.31396	0.31396
dutt. nodo Y	0.1714	0.1714
dutt. rich Y	-0.02177	-0.02177
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 2	1477.1	6068.2	31929.3	32576.9	31929.3	3.14	9.	1.	SI
1 C	4- 7	1688.4	6089.8	29319.3	29319.3	29514.4	3.14	15.	1.5	SI
1 S	4- 2	1477.1	6068.2	31786.2	32576.9	31786.2	3.14	9.	1.	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-11	-1713.9	6133.6	32035.6	32576.9	32035.6	3.14	9.	1.	SI
1 C	5-16	-2323.4	6142.	29319.3	29319.3	29565.2	3.14	15.	1.5	SI
1 S	5-11	-1713.9	6133.6	31892.5	32576.9	31892.5	3.14	9.	1.	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5-13	-5343.9	-101803.6	-156621.	3.41	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-4375.8	-39636.9	-28255.	-17.6	126.5	SI
1 C	11- 1	-4015.8	16994.6	1116.1	-6.6	-18.8	SI
1 S	11- 1	-3655.8	73626.	30487.2	-27.6	364.4	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-3660.8	-28709.6	-22354.1	-13.2	81.2	SI
1 C	12- 1	-3300.8	12358.1	3735.1	-5.6	-13.1	SI
1 S	12- 1	-2940.8	53425.8	29824.4	-22.1	279.7	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-3617.5	-28047.4	-21996.5	-13.	78.5	SI
1 C	13- 1	-3257.5	12077.1	3893.8	-5.6	-12.8	SI
1 S	13- 1	-2897.5	52201.6	29784.2	-21.7	274.7	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P010  (ID=10)
Aste               : 41
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16

```
  11|Rara                |RARA          |  1|
  12|Frequente            |FREQUENTE     |  1|
  13|Quasi Perm           |QUASI PERMAN. |  1|
<-
```

SEZIONI UTILIZZATE

1) Circolare: diametro=30; Acls=705.14; iy=7.49; iz=7.49

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

```
As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|2.281|8Ø16            |
```

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 7	-631950.	4- 7	631950.	5-10	-474190.	5-10	474200.
1 S	4-11	-634030.	4-11	634030.	5-10	-473580.	5-10	473580.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-12	-4987.8	4-12	4987.7	5- 5	-5003.2	5- 5	5003.2

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	Øc	E acc	Øf	VE
> 1	5-10	-7299.	-456712.	1.02	-44782.	1.21	-.138	-157.1	.172	3612.9	SI
1	1- 1	-13853.	7376.	1.	-1991.	1.	-.01	-17.7	-.008	-172.1	SI
1	5-10	-6734.	454152.	1.02	33396.	1.27	-.137	-156.5	.173	3622.6	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-14220.1	-30076.	44827.1	320.	.7	1.42	2.37	.116	138.8	42.72	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-14220.1	25282.7	-29264.8	320.	.7	1.42	2.56	.116	150.1	42.72	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	1	
Tipo sezione	CIRCOLARE	
Campo	inferiore	superiore
Passo staffe	9	9
D0	25	25
beta	2	2
alfa n	1	1
alfa s	0.6724	0.6724
volume cls	4417.86467	4417.86467
alfa	0.6724	0.6724
nud	0.05986	0.05986
mu phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	123.37006	123.37006
omega wd Z (0.08)	0.62792	0.62792
dutt. nodo Z	0.42221	0.42221
dutt. rich Z	0.0078	0.0078
volume staffe Y	123.37006	123.37006
omega wd Y (0.08)	0.62792	0.62792
dutt. nodo Y	0.42221	0.42221
dutt. rich Y	0.0078	0.0078
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 5	866.6	-4975.3	20678.	21156.	20678.	1.57	9.	1.65	SI
1 C	4-12	-1087.4	-4987.8	17309.4	17309.4	17497.6	1.57	15.	2.25	SI
1 S	4- 5	866.6	-4975.3	20587.9	21156.	20587.9	1.57	9.	1.65	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-10	-2799.7	4982.5	20713.	21156.	20713.	1.57	9.	1.65	SI
1 C	5- 5	2462.8	5003.2	17309.4	17309.4	17396.6	1.57	15.	2.25	SI
1 S	5-10	-2799.7	4982.5	20622.9	21156.	20622.9	1.57	9.	1.65	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4-10	-8921.3	-79762.	-122710.7	7.27	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	Øc	Øf	VE
1 I	11- 1	-10359.9	-21804.8	18542.4	-17.1	-76.7	SI
1 C	11- 1	-10077.2	5344.7	-1804.4	-12.3	-145.5	SI
1 S	11- 1	-9794.5	32494.3	-22151.1	-19.5	-35.5	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	Øc	Øf	VE
1 I	12- 1	-8050.9	-16495.	14927.5	-13.2	-59.4	SI
1 C	12- 1	-7768.2	4032.6	-2893.1	-9.5	-109.7	SI
1 S	12- 1	-7485.4	24560.2	-20713.6	-14.8	-19.1	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	Øc	Øf	VE
1 I	13- 1	-7911.	-16173.2	14708.4	-13.	-58.4	SI
1 C	13- 1	-7628.2	3953.1	-2959.	-9.3	-107.5	SI
1 S	13- 1	-7345.5	24079.3	-20626.5	-14.5	-18.	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P011  (ID=11)
Aste               : 42
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  Øc (rara)=184.3;  Øc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  Øf (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

```
Nome|   Descrizione       |Tipo          |Ses|
   1|SLU SENZA SISMA      |SLU (statico) |  1|
   4|SLU con SISMAX PRINC |SLU (sismico) | 16|
   5|SLU con SISMAY PRINC |SLU (sismico) | 16|
  11|Rara                 |RARA          |  1|
  12|Frequente            |FREQUENTE     |  1|
  13|Quasi Perm           |QUASI PERMAN. |  1|
<-
```

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

```
As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|1.787|8Ø16            |
```

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-12	-737670.	4-12	737670.	5-10	-350700.	5-10	350700.
1 S	4-12	-755740.	4-12	755740.	5-10	-370470.	5-10	370460.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 5	-6361.8	4- 5	6361.8	5- 5	-6419.5	5- 5	6419.5

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	Øc	E acc	Øf	VE

```
> 1|  5-10|  -7901.| -709620.|1.01|  -72157.|1.13|-.165|-168.8| .265|3919.4|SI|
  1|  1- 1| -14260.|   10756.|1.  |   -2709.|1.  |-.009| -15.5|-.007|-139.6|SI|
  1|  5-10|  -7181.|  692755.|1.01|   60206.|1.15|-.152|-164. | .241|3917.4|SI|

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:
Asta Caso |  NEd    |MEyd inf|MEyd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -14727.8|-36158.1| 57670.7|320. |.7  |1.34|2.33| .094|142.7|36.95|SI|

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:
Asta Caso |  NEd    |MEzd inf|MEzd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -14727.8| 51781. |-57198.9|320. |.7  |1.34|2.61| .094|159.7|36.95|SI|

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:
Asta              : 1
Tipo sezione      : RETTANGOLARE
Campo             : inferiore     | superiore     |
Passo staffe      : 9             | 9             |
Numero bracci Z   : 4             | 4             |
Numero bracci Y   : 4             | 4             |
bc                : 30            | 30            |
hc                : 30            | 30            |
b0                : 25            | 25            |
h0                : 25            | 25            |
bi medio Z        : 7.66667       | 7.66667       |
bi medio Y        : 7.66667       | 7.66667       |
alfa n            : 0.81191       | 0.81191       |
alfa s            : 0.6724        | 0.6724        |
volume cls        : 5625          | 5625          |
alfa              : 0.54593       | 0.54593       |
nud               : 0.04774       | 0.04774       |
mu_phi            : 10.65895      | 10.65895      |
molt.dutt.rich.   : 1             | 1             |
volume staffe Z   : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396        | 0.31396       |
dutt. nodo Z      : 0.1714        | 0.1714        |
dutt. rich Z      : -0.00086      | -0.00086      |
volume staffe Y   : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396        | 0.31396       |
dutt. nodo Y      : 0.1714        | 0.1714        |
dutt. rich Y      : -0.00086      | -0.00086      |
verifica omega    : SI            | SI            |
verifica nodo     : SI            | non richiesta |

TAGLIO Y:
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  4- 5|  1387.2|  6361.8| 32900.5| 34205.8| 32900.5| 3.14| 9. |1.05|SI|
 1 C|  4- 5|  1387.2|  6361.8| 29946. | 30296.6| 29946. | 3.14|15. |1.55|SI|
 1 S|  4- 5|  1387.2|  6361.8| 32757.6| 34205.8| 32757.6| 3.14| 9. |1.05|SI|

TAGLIO Z:
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  5- 5|  3892.9|  6419.5| 32872.2| 34205.8| 32872.2| 3.14| 9. |1.05|SI|
 1 C|  5- 5|  3892.9|  6419.5| 29920.2| 30296.6| 29920.2| 3.14|15. |1.55|SI|
 1 S|  5- 5|  3892.9|  6419.5| 32729.3| 34205.8| 32729.3| 3.14| 9. |1.05|SI|

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:
Asta  | Caso |  NEd     |  Nmax    |  Ncls    |% Ncls|VE|
     1|  4- 2|   -9164.5| -101803.6| -156621. |  5.85|SI|

                    VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 11- 1|  -10730.6|  -26443.8|   35780.5| -19.9|  -23.5|SI|
 1 C| 11- 1|  -10370.6|    7840.2|   -1433.2| -10.8| -120.4|SI|
 1 S| 11- 1|  -10010.6|   42124.2|  -38647. | -22.7|   27.6|SI|

Frequenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 12- 1|   -8342. |  -20976.1|   19613.8| -14.2|  -33.3|SI|
 1 C| 12- 1|   -7982. |    6108.5|    1162.8|  -8.3|  -92.4|SI|
 1 S| 12- 1|   -7622. |   33193.1|  -17288.1| -15.2|   -3.9|SI|

Quasi permanenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 13- 1|   -8197.2|  -20644.8|   18634. | -13.8|  -33.9|SI|
 1 C| 13- 1|   -7837.2|    6003.6|    1320.2|  -8.2|  -90.4|SI|
 1 S| 13- 1|   -7477.2|   32651.9|  -15993.6| -14.8|   -5.7|SI|
```

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : PO12  (ID=12)
Aste               : 43
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

```
Nome|   Descrizione       |Tipo           |Ses|
   1|SLU SENZA SISMA      |SLU (statico)  |  1|
   4|SLU con SISMAX PRINC |SLU (sismico)  | 16|
   5|SLU con SISMAY PRINC |SLU (sismico)  | 16|
  11|Rara                 |RARA           |  1|
  12|Frequente            |FREQUENTE      |  1|
  13|Quasi Perm           |QUASI PERMAN.  |  1|
<-
```

SEZIONI UTILIZZATE

```
 1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66
```

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

```
As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                 |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|1.787|8 16            |
```

GERARCHIA DELLE RESISTENZE

```
MOMENTI ULTIMI MINIMI (CASI SISMICI):
Asta  | caso   Myu- min | caso   Myu+ min | caso   Mzu- min | caso   Mzu+ min |
 1 I  |  4- 7| -743000. |  4- 7|  743010. |  5-15| -594940. |  5-15|  594940. |
 1 S  |  4- 7| -761980. |  4- 7|  761980. |  5-15| -595380. |  5-15|  595390. |

TAGLI GERARCHIA:
As| Lp  | caso   VEyd-   | caso   VEyd+   | caso   VEzd-   | caso   VEzd+   |
 1|290. |  4-10|  -6459.3|  4-10|   6459.4|  5- 4|  -6398. |  5- 4|   6398. |
```

VERIFICHE ALLO STATO LIMITE ULTIMO

```
PRESSO-FLESSIONE (incluse le imperfezioni):
Asta Caso |  NEd    |  MEyd        |  MEzd        |E cls|  c  |E acc|  f  |VE|
> 1|  5-13|  -7793.| -492737.|1.02|  -95681.|1.1 |-.107|-136.5| .146|3055.9|SI|
  1|  1- 1| -14808.|   11459.|1.  |   -3913.|1.  |-.01 | -16.4|-.007|-142.7|SI|
  1|  5-15|  -7592.|  501318.|1.02|  -77172.|1.12|-.104|-134.3| .145|3050.6|SI|

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:
Asta Caso |  NEd    |MEyd inf|MEyd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -15275.5|-37336.3| 60254.2|320. |.7  |1.34|2.32| .098|139.7|36.95|SI|

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:
Asta Caso |  NEd    |MEzd inf|MEzd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -15275.5|-32790.7| 24964.3|320. |.7  |1.34|2.46| .098|148.2|36.95|SI|

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:
Asta              : 1
Tipo sezione      : RETTANGOLARE
Campo             : inferiore     | superiore     |
Passo staffe      : 9             | 9             |
Numero bracci Z   : 4             | 4             |
Numero bracci Y   : 4             | 4             |
bc                : 30            | 30            |
hc                : 30            | 30            |
b0                : 25            | 25            |
```

h0	25	25
bi medio Z	7.66667	7.66667
bi medio Y	7.66667	7.66667
alfa n	0.81191	0.81191
alfa s	0.6724	0.6724
volume cls	5625	5625
alfa	0.54593	0.54593
nud	0.04944	0.04944
mu_phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	78.53982	78.53982
omega wd Z (0.08)	0.31396	0.31396
dutt. nodo Z	0.1714	0.1714
dutt. rich Z	0.00035	0.00035
volume staffe Y	78.53982	78.53982
omega wd Y (0.08)	0.31396	0.31396
dutt. nodo Y	0.1714	0.1714
dutt. rich Y	0.00035	0.00035
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-10	-1513.6	6459.4	32961.4	34205.8	32961.4	3.14	9.	1.05	SI
1 C	4-10	-1513.6	6459.4	30001.6	30296.6	30001.6	3.14	15.	1.55	SI
1 S	4-10	-1513.6	6459.4	32818.5	34205.8	32818.5	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 4	2673.6	6398.	32904.8	34205.8	32904.8	3.14	9.	1.05	SI
1 C	5- 4	2673.6	6398.	29949.9	30296.6	29949.9	3.14	15.	1.55	SI
1 S	5- 4	2673.6	6398.	32761.9	34205.8	32761.9	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4-13	-9462.2	-101803.6	-156621.	6.04	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	11- 1	-11122.3	-27229.	-21939.3	-18.1	-53.9	SI
1 C	11- 1	-10762.3	8334.5	-3372.7	-11.5	-121.	SI
1 S	11- 1	-10402.3	43898.	15194.	-19.1	-25.2	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	12- 1	-8615.9	-21278.1	-8832.8	-12.7	-57.	SI
1 C	12- 1	-8255.9	6418.6	-4819.6	-9.2	-88.5	SI
1 S	12- 1	-7895.9	34115.4	-806.3	-12.8	-38.2	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	13- 1	-8464.	-20917.4	-8038.5	-12.4	-57.2	SI
1 C	13- 1	-8104.	6302.5	-4907.3	-9.1	-86.5	SI
1 S	13- 1	-7744.	33522.5	-1776.	-12.8	-35.5	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro : P013 (ID=13)
Aste : 44
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita' : snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : σc (rara)=184.3; σc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: σf (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm	
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8Ø16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 7	-758190.	4- 7	758190.	5-15	-623260.	5-15	623260.
1 S	4- 7	-770370.	4- 7	770370.	5-15	-628550.	5-15	628550.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 2	-6424.3	4- 2	6424.3	5- 4	-6394.	5- 4	6394.

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	σc	E acc	σf	VE
> 1	5-13	-8394.	-455762.	1.02	-104206.	1.09	-.102	-132.3	.134	2807.5	SI
1	1- 1	-14664.	11061.	1.	6482.	1.	-.01	-16.6	-.007	-137.4	SI
1	5-13	-7674.	446003.	1.02	102452.	1.09	-.1	-130.2	.132	2781.6	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	4-10	-7482.7	11482.1	1547.2	320.	.7	1.34	1.57	.048	134.7	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-15131.9	-34622.1	47586.8	320.	.7	1.34	2.43	.097	146.9	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	1	
Tipo sezione	RETTANGOLARE	
Campo	inferiore	superiore
Passo staffe	9	9
Numero bracci Z	4	4
Numero bracci Y	4	4
bc	30	30
hc	30	30
b0	25	25
h0	25	25
bi medio Z	7.66667	7.66667
bi medio Y	7.66667	7.66667
alfa n	0.81191	0.81191
alfa s	0.6724	0.6724
volume cls	5625	5625
alfa	0.54593	0.54593
nud	0.04915	0.04915
mu_phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	78.53982	78.53982
omega wd Z (0.08)	0.31396	0.31396
dutt. nodo Z	0.1714	0.1714
dutt. rich Z	0.00014	0.00014
volume staffe Y	78.53982	78.53982
omega wd Y (0.08)	0.31396	0.31396
dutt. nodo Y	0.1714	0.1714
dutt. rich Y	0.00014	0.00014
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1	I	4-10	-1240.	6351.4	32576.9	32576.9	32615.6	3.14	9.	1.	SI
1	C	4-10	-1240.	6351.4	29650.7	30296.6	29650.7	3.14	15.	1.55	SI
1	S	4- 2	1567.	6424.3	32824.4	34205.8	32824.4	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1	I	5- 4	2383.1	6394.	32767.1	34205.8	32767.1	3.14	9.	1.05	SI
1	C	5- 4	2383.1	6394.	29824.3	30296.6	29824.3	3.14	15.	1.55	SI
1	S	5- 4	2383.1	6394.	32624.2	34205.8	32624.2	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4- 5	-9510.6	-101803.6	-156621.	6.07	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I	11- 1	-11024.1	-33608.9	-25438.1	-19.7	-33.6	SI
1	C	11- 1	-10664.1	8003.4	5337.9	-11.7	-116.5	SI
1	S	11- 1	-10304.1	49615.7	36113.8	-23.9	35.1	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I	12- 1	-8566.7	-25156.6	-20671.8	-15.3	-26.2	SI
1	C	12- 1	-8206.7	5988.9	6740.5	-9.4	-85.	SI
1	S	12- 1	-7846.7	37134.4	34152.8	-19.4	42.5	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I	13- 1	-8417.7	-24644.3	-20382.9	-15.	-25.8	SI
1	C	13- 1	-8057.7	5866.8	6825.5	-9.3	-83.	SI
1	S	13- 1	-7697.7	36377.9	34034.	-19.1	43.	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro : P014 (ID=14)
Aste : 45
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita' : snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: f (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Circolare: diametro=30; Acls=705.14; iy=7.49; iz=7.49

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	2.281	8 16	

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1	I	4-15	-606540.	4-15	606530.	5- 7	-504070.	5- 7	504070.
1	S	4-15	-608540.	4-15	608540.	5- 7	-517640.	5- 7	517640.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-12	-4872.6	4-12	4872.6	5- 7	-4904.7	5- 7	4904.7

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5- 7	-5001.	402789.	1.01	35343.	1.18	-.119	-145.4	.155	3259.6	SI
1	5-10	-1850.	-49036.	1.	-1480.	1.	-.013	-22.5	.014	302.5	SI
1	5- 7	-4435.	-375559.	1.01	-33210.	1.17	-.11	-138.7	.145	3045.8	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	4-12	-4040.2	-35196.2	-10284.6	320.	.7	1.42	1.41	.033	154.6	42.72	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-5974.8	17494.2	-11283.3	320.	.7	1.42	2.35	.049	211.8	42.72	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta : 1		
Tipo sezione	: CIRCOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
D0	: 25	25
beta	: 2	2
alfa n	: 1	1
alfa s	: 0.6724	0.6724
volume cls	: 4417.86467	4417.86467
alfa	: 0.6724	0.6724
nud	: 0.02446	0.02446
mu phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 123.37006	123.37006
omega wd Z (0.08)	: 0.62792	0.62792
dutt. nodo Z	: 0.42221	0.42221
dutt. rich Z	: -0.01751	-0.01751
volume staffe Y	: 123.37006	123.37006
omega wd Y (0.08)	: 0.62792	0.62792
dutt. nodo Y	: 0.42221	0.42221
dutt. rich Y	: -0.01751	-0.01751
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1	I	4-12	-974.2	4872.6	20475.6	20514.9	20475.6	1.57	9.	1.6	SI
1	C	4-12	-974.2	4872.6	16924.8	16924.8	17124.1	1.57	15.	2.2	SI
1	S	4-12	-974.2	4872.6	20384.2	20514.9	20384.2	1.57	9.	1.6	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1	I	5- 7	2400.9	4904.7	20514.9	20514.9	20630.7	1.57	9.	1.6	SI
1	C	5- 7	2400.9	4904.7	16998.6	17309.4	16998.6	1.57	15.	2.25	SI
1	S	5-10	-1946.2	-4812.	20076.1	20514.9	20076.1	1.57	9.	1.6	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5- 7	-5000.6	-79762.	-122710.7	4.08	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I	11- 1	-4399.3	25905.4	12916.5	-12.3	27.4	SI
1	C	11- 1	-4116.6	-24456.6	1864.	-11.4	17.3	SI
1	S	11- 1	-3833.8	-74818.6	-9188.5	-31.7	415.8	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I	12- 1	-3614.3	18933.9	10759.1	-9.3	13.9	SI
1	C	12- 1	-3331.5	-18238.1	-230.5	-8.7	6.8	SI
1	S	12- 1	-3048.8	-55410.1	-11220.1	-23.5	297.8	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I 13- 1	-3566.7	18511.4	10628.3	-9.1	13.2	SI
1	C 13- 1	-3284.	-17861.2	-357.4	-8.6	6.2	SI
1	S 13- 1	-3001.2	-54233.9	-11343.2	-23.	290.7	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P015  (ID=15)
Aste               : 46
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

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CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-15	-714850.	4-15	714850.	5- 7	-532420.	5- 7	532430.
1 S	4-15	-705540.	4-15	705540.	5- 7	-622030.	5- 7	622020.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-12	-6417.8	4-12	6417.8	5- 2	-6592.6	5- 2	6592.6

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5-12	-7592.	-538979.	193415.	1.04	-.139	-157.9	.181	3800.4	SI
1	5-10	-7261.	-98646.	-21543.	1.	-.02	-33.4	.013	278.6	SI
1	5- 7	-10624.	-496451.	-131562.	1.09	-.117	-143.7	.145	3050.3	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-17649.2	35150.6	-131932.	320.	.7	1.34	1.97	.113	110.1	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5-13	-7995.1	-17807.7	-28934.1	320.	.7	1.34	1.09	.051	90.26	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	1	
Tipo sezione	RETTANGOLARE	
Campo	inferiore	superiore
Passo staffe	9	9
Numero bracci Z	4	4
Numero bracci Y	4	4
bc	30	30
hc	30	30
b0	25	25
h0	25	25
bi medio Z	7.66667	7.66667
bi medio Y	7.66667	7.66667
alfa n	0.81191	0.81191
alfa s	0.6724	0.6724
volume cls	5625	5625
alfa	0.54593	0.54593
nud	0.05595	0.05595
mu_phi	10.65895	10.65895
molt.dutt.rich.	1	1
volume staffe Z	78.53982	78.53982
omega wd Z (0.08)	0.31396	0.31396
dutt. nodo Z	0.1714	0.1714
dutt. rich Z	0.005	0.005
volume staffe Y	78.53982	78.53982
omega wd Y (0.08)	0.31396	0.31396
dutt. nodo Y	0.1714	0.1714
dutt. rich Y	0.005	0.005
verifica omega	SI	SI
verifica nodo	SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-12	-2044.3	6417.8	32883.7	34205.8	32883.7	3.14	9.	1.05	SI
1 C	4-12	-2044.3	6417.8	29930.7	30296.6	29930.7	3.14	15.	1.55	SI
1 S	4-12	-2044.3	6417.8	32740.8	34205.8	32740.8	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 2	2633.6	6592.6	33274.9	34205.8	33274.9	3.14	9.	1.05	SI
1 C	5- 2	2633.6	6592.6	30287.5	30296.6	30287.5	3.14	15.	1.55	SI
1 S	5- 2	2633.6	6592.6	33132.	34205.8	33132.	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5- 5	-11373.	-101803.6	-156621.	7.26	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-12794.	25384.3	86619.	-31.	63.5	SI
1 C	11- 1	-12434.	-35003.3	-30301.3	-22.	-40.4	SI
1 S	11- 1	-12074.	-95390.8	-147221.7	-63.4	613.8	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-9671.9	18781.4	56477.8	-21.5	21.4	SI
1 C	12- 1	-9311.9	-26143.2	-19866.7	-16.	-35.8	SI
1 S	12- 1	-8951.9	-71067.7	-96211.2	-43.5	388.2	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-9482.7	18381.2	54651.1	-20.9	19.1	SI
1 C	13- 1	-9122.7	-25606.2	-19234.3	-15.6	-35.5	SI
1 S	13- 1	-8762.7	-69593.6	-93119.6	-42.3	374.7	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P016  (ID=16)
Aste               : 47
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
```

```
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]

                                MATERIALI

CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

                        TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15

                                CASI DI CARICO

Nome|   Descrizione       |Tipo          |Ses|
   1|SLU SENZA SISMA      |SLU (statico) |  1|
   4|SLU con SISMAX PRINC |SLU (sismico) | 16|
   5|SLU con SISMAY PRINC |SLU (sismico) | 16|
  11|Rara                 |RARA          |  1|
  12|Frequente            |FREQUENTE     |  1|
  13|Quasi Perm           |QUASI PERMAN. |  1|
<-
                             SEZIONI UTILIZZATE

 1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

                    DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                 |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|1.787|8 16            |

                          GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):
Asta  | caso   Myu- min | caso   Myu+ min | caso   Mzu- min | caso   Mzu+ min |
 1 I  |  4- 2| -752330. |  4- 2|  752330. |  5-10| -700020. |  5-10|  700030. |
 1 S  |  4- 2| -755590. |  4- 2|  755590. |  5- 7| -839810. |  5- 7|  839810. |

TAGLI GERARCHIA:
As| Lp  | caso   VEyd-   | caso   VEyd+   | caso   VEzd-   | caso   VEzd+   |
 1|290. |  4- 5|  -6555. |  4- 5|   6554.9|  5- 7|  -6599.9|  5- 7|   6599.9|

                       VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):
Asta Caso |  NEd    |  MEyd        |  MEzd        |E cls|  c  |E acc|  f  |VE|
> 1|  5-12| -11014.| -404593.|1.03|  143027.|1.09|-.101|-131.3| .117|2465.6|SI|
  1|  5-12| -10654.| -156332.|1.  |   14448.|1.  |-.029| -47.1| .02 | 427.1|SI|
  1|  4- 2| -10215.|  -54053.|1.25|  299196.|1.04|-.062| -91.4| .07 |1474.8|SI|

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:
Asta Caso |  NEd    |MEyd inf|MEyd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -21796.7|-27159.4|-29287.9|320. |.7  |1.34|.773| .139|38.94|36.95|SI|

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:
Asta Caso |  NEd    |MEzd inf|MEzd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -21796.7| -7023.7| 38814.3|320. |.7  |1.34|1.88| .139|94.8 |36.95|SI|

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:
Asta             : 1
Tipo sezione     : RETTANGOLARE
Campo            : inferiore     | superiore     |
Passo staffe     : 9             | 9             |
Numero bracci Z  : 4             | 4             |
Numero bracci Y  : 4             | 4             |
bc               : 30            | 30            |
hc               : 30            | 30            |
b0               : 25            | 25            |
h0               : 25            | 25            |
bi medio Z       : 7.66667       | 7.66667       |
bi medio Y       : 7.66667       | 7.66667       |
alfa n           : 0.81191       | 0.81191       |
alfa s           : 0.6724        | 0.6724        |
volume cls       : 5625          | 5625          |
alfa             : 0.54593       | 0.54593       |
nud              : 0.06564       | 0.06564       |
mu phi           : 10.65895      | 10.65895      |
molt.dutt.rich.  : 1             | 1             |
volume staffe Z  : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396       | 0.31396       |
dutt. nodo Z     : 0.1714        | 0.1714        |
dutt. rich Z     : 0.01193       | 0.01193       |
volume staffe Y  : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396       | 0.31396       |
dutt. nodo Y     : 0.1714        | 0.1714        |
dutt. rich Y     : 0.01193       | 0.01193       |
verifica omega   : SI            | SI            |
verifica nodo    : SI            | non richiesta |

TAGLIO Y:
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd   | Asw | s  |ctgT|VE|
 1 I|  4- 5|  1719.4| -6555. | 33263.3| 34205.8| 33263.3| 3.14| 9. |1.05|SI|
 1 C|  4- 5|  1719.4| -6555. | 30276.9| 30296.6| 30276.9| 3.14|15. |1.55|SI|
 1 S|  4- 5|  1719.4| -6555. | 33120.3| 34205.8| 33120.3| 3.14| 9. |1.05|SI|

TAGLIO Z:
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd   | Asw | s  |ctgT|VE|
 1 I|  5- 7|  1512.7|  6599.9| 33280.3| 34205.8| 33280.3| 3.14| 9. |1.05|SI|
 1 C|  5- 7|  1512.7|  6599.9| 30292.4| 30296.6| 30292.4| 3.14|15. |1.55|SI|
 1 S|  5- 7|  1512.7|  6599.9| 33137.4| 34205.8| 33137.4| 3.14| 9. |1.05|SI|

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:
Asta  | Caso |  NEd     |  Nmax    |  Ncls    |% Ncls|VE|
     1|  4-13|  -11072.2| -101803.6| -156621. |  7.07|SI|

                  VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 11- 1|  -15664.7|  -19659.3|   -5151.5| -18.1| -161.2|SI|
 1 C| 11- 1|  -15304.7|  -20417.8|   11317.9| -18.9| -143.1|SI|
 1 S| 11- 1|  -14944.7|  -21176.3|   27787.3| -21.5| -105.2|SI|

Frequenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 12- 1|  -11267. |  -14740.7|   -4148.7| -13.2| -113.9|SI|
 1 C| 12- 1|  -10907. |  -15259.1|    7689.3| -13.5| -101.3|SI|
 1 S| 12- 1|  -10547. |  -15777.4|   19527.2| -15.3|  -72.8|SI|

Quasi permanenti:
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  c  |  f   |VE|
 1 I| 13- 1|  -11000.5|  -14442.6|   -4087.9| -12.9| -111.1|SI|
 1 C| 13- 1|  -10640.5|  -14946.4|    7469.4| -13.2|  -98.8|SI|
 1 S| 13- 1|  -10280.5|  -15450.2|   19026.6| -14.9|  -70.8|SI|

                    VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro      : P017  (ID=17)
Aste               : 48
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]

                                MATERIALI

CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

                        TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15

                                CASI DI CARICO

Nome|   Descrizione       |Tipo          |Ses|
   1|SLU SENZA SISMA      |SLU (statico) |  1|
   4|SLU con SISMAX PRINC |SLU (sismico) | 16|
   5|SLU con SISMAY PRINC |SLU (sismico) | 16|
```

```
  11|Rara                |RARA          |  1|
  12|Frequente            |FREQUENTE     |  1|
  13|Quasi Perm           |QUASI PERMAN. |  1|
<-
```

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

```
As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|1.787|8Ø16            |
```

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

```
Asta  | caso   Myu- min | caso   Myu+ min | caso   Mzu- min | caso   Mzu+ min |
 1 I  |  4-15| -744700. |  4-15|  744700. |  5-10| -720880. |  5-10|  720880. |
 1 S  |  4-15| -754410. |  4-15|  754420. |  5- 7| -857290. |  5- 7|  857290. |
```

TAGLI GERARCHIA:

```
As| Lp  | caso   VEyd-   | caso   VEyd+   | caso   VEzd-   | caso   VEzd+   |
 1|290. |  4- 5|  -6514.2|  4- 5|   6514.2|  5-10|  -6532.3|  5-10|   6532.3|
```

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

```
Asta Caso |  NEd    |  MEyd       |  MEzd       |E cls|  Øc  |E acc|  Øf  |VE|
> 1|  5-12| -10098.| -359275.|1.03|  149912.|1.08|-.094|-124.7| .107|2256.5|SI|
  1|  5-12|  -9738.| -162742.|1.  |    6104.|1.  |-.029| -46.5| .023| 485.6|SI|
  1|  4-15|  -9361.|   28708.|7.08| -288067.|1.04|-.055| -82.6| .065|1363.9|SI|
```

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

```
Asta Caso |  NEd    |MEyd inf|MEyd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -19917.2|-42225.2| -6981.3|320. |.7  |1.34|1.54| .127|80.92|36.95|SI|
```

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

```
Asta Caso |  NEd    |MEzd inf|MEzd sup| l0  |  A |  B |  C | nu  |L lim|Lambd|VE|
  1|  1- 1| -19917.2| 11023.2|-13847.8|320. |.7  |1.34|2.5 | .127|131.6|36.95|SI|
```

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

```
Asta              : 1
Tipo sezione      : RETTANGOLARE
Campo             : inferiore     | superiore     |
Passo staffe      : 9             | 9             |
Numero bracci Z   : 4             | 4             |
Numero bracci Y   : 4             | 4             |
bc                : 30            | 30            |
hc                : 30            | 30            |
b0                : 25            | 25            |
h0                : 25            | 25            |
bi medio Z        : 7.66667       | 7.66667       |
bi medio Y        : 7.66667       | 7.66667       |
alfa n            : 0.81191       | 0.81191       |
alfa s            : 0.6724        | 0.6724        |
volume cls        : 5625          | 5625          |
alfa              : 0.54593       | 0.54593       |
nud               : 0.05994       | 0.05994       |
mu_phi            : 10.65895      | 10.65895      |
molt.dutt.rich.   : 1             | 1             |
volume staffe Z   : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396        | 0.31396       |
dutt. nodo Z      : 0.1714        | 0.1714        |
dutt. rich Z      : 0.00786       | 0.00786       |
volume staffe Y   : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396        | 0.31396       |
dutt. nodo Y      : 0.1714        | 0.1714        |
dutt. rich Y      : 0.00786       | 0.00786       |
verifica omega    : SI            | SI            |
verifica nodo     : SI            | non richiesta |
```

TAGLIO Y:

```
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  4- 5|  1625.5| -6514.2| 33102.8| 34205.8| 33102.8| 3.14| 9. |1.05|SI|
 1 C|  4- 5|  1625.5| -6514.2| 30130.5| 30296.6| 30130.5| 3.14|15. |1.55|SI|
 1 S|  4- 5|  1625.5| -6514.2| 32959.9| 34205.8| 32959.9| 3.14| 9. |1.05|SI|
```

TAGLIO Z:

```
Asta| Caso | VEd    VEd ger. | VRd      VRsd     VRcd    | Asw | s  |ctgT|VE|
 1 I|  5-10| -1174. |  6532.3| 33099.1| 34205.8| 33099.1| 3.14| 9. |1.05|SI|
 1 C|  5-10| -1174. |  6532.3| 30127.2| 30296.6| 30127.2| 3.14|15. |1.55|SI|
 1 S|  5-10| -1174. |  6532.3| 32956.2| 34205.8| 32956.2| 3.14| 9. |1.05|SI|
```

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

```
Asta  | Caso |  NEd     |  Nmax    |  Ncls    |% Ncls|VE|
     1|  4- 4|  -10136.2| -101803.6| -156621. |  6.47|SI|
```

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

```
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  Øc  |  Øf   |VE|
 1 I| 11- 1|  -14324.8|  -30544.6|    7834.9| -19.1| -117.3|SI|
 1 C| 11- 1|  -13964.8|  -17796.7|   -1002.1| -15.5| -150.1|SI|
 1 S| 11- 1|  -13604.8|   -5048.8|   -9839.2| -14.6| -152.8|SI|
```

Frequenti:

```
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  Øc  |  Øf   |VE|
 1 I| 12- 1|  -10349.5|  -22817.4|    5262.9| -13.9|  -84.1|SI|
 1 C| 12- 1|   -9989.5|  -13291.7|    -665.9| -11.2| -106.4|SI|
 1 S| 12- 1|   -9629.5|   -3766.1|   -6594.8| -10.3| -108.5|SI|
```

Quasi permanenti:

```
Asta| Caso |  NEd     |  MEyd    |  MEzd    |  Øc  |  Øf   |VE|
 1 I| 13- 1|  -10108.6|  -22349. |    5107. | -13.6|  -82. |SI|
 1 C| 13- 1|   -9748.6|  -13018.7|    -645.6| -10.9| -103.7|SI|
 1 S| 13- 1|   -9388.6|   -3688.3|   -6398.1| -10. | -105.8|SI|
```

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : P018  (ID=18)
Aste               : 49
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  Øc (rara)=184.3;  Øc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  Øf (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

```
Nome|   Descrizione       |Tipo          |Ses|
   1|SLU SENZA SISMA      |SLU (statico) |  1|
   4|SLU con SISMAX PRINC |SLU (sismico) | 16|
   5|SLU con SISMAY PRINC |SLU (sismico) | 16|
  11|Rara                 |RARA          |  1|
  12|Frequente            |FREQUENTE     |  1|
  13|Quasi Perm           |QUASI PERMAN. |  1|
<-
```

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

```
As Se|e0z |e0y |eiz |eiy |Lassi Lnet  Lcr.I Lcr.S| Af    % arm                |
 1| 1|2.  |2.  |1.07|1.07|320. |290. | 49. | 49. | 16.08|1.787|8Ø16            |
```

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

```
Asta  | caso   Myu- min | caso   Myu+ min | caso   Mzu- min | caso   Mzu+ min |
 1 I  |  4-15| -747690. |  4-15|  747690. |  5-12| -754380. |  5-12|  754380. |
 1 S  |  4-15| -744710. |  4-15|  744710. |  4-15| -876290. |  4-15|  876290. |
```

TAGLI GERARCHIA:

```
As| Lp  | caso   VEyd-   | caso   VEyd+   | caso   VEzd-   | caso   VEzd+   |
```

```
 1|290. |  4- 5|  -6660.6|  4- 5|   6660.6|  5- 9|  -6679.9|  5- 9|   6680. |
```

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5-12	-12150.	-331044.	1.04	176239.	1.08	-.093	-124.6	.098	2061.1	SI
1	5-10	-11894.	-154136.	1.	-17571.	1.	-.029	-47.3	.017	366.7	SI
1	4-15	-11325.	34730.	17.6	-336875.	1.04	-.065	-95.	.075	1582.7	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-24227.6	-44629.8	-3139.4	320.	.7	1.34	1.63	.155	77.91	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5- 9	-12255.7	-7590.1	-27942.5	320.	.7	1.34	1.43	.078	96.01	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.07349	0.07349
mu_phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: 0.01755	0.01755
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396
dutt. nodo Y	: 0.1714	0.1714
dutt. rich Y	: 0.01755	0.01755
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 5	1346.1	6660.6	33553.3	34205.8	33553.3	3.14	9.	1.05	SI
1 C	4- 5	1346.1	6660.6	30296.6	30296.6	30541.4	3.14	15.	1.55	SI
1 S	4- 5	1346.1	6660.6	33410.3	34205.8	33410.3	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 9	-1027.1	6680.	33524.3	34205.8	33524.3	3.14	9.	1.05	SI
1 C	5- 9	-1027.1	6680.	30296.6	30296.6	30515.	3.14	15.	1.55	SI
1 S	5- 9	-1027.1	6680.	33381.4	34205.8	33381.4	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4- 2	-12415.	-101803.6	-156621.	7.93	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-17412.2	-32285.	43339.1	-28.1	-86.9	SI
1 C	11- 1	-17052.2	-17277.1	-22569.3	-21.8	-150.8	SI
1 S	11- 1	-16692.2	-2269.2	-88477.8	-30.	-48.3	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-12526.	-24121.5	30774.2	-20.3	-61.6	SI
1 C	12- 1	-12166.	-12904.5	-15964.8	-15.6	-106.8	SI
1 S	12- 1	-11806.	-1687.6	-62703.7	-21.2	-33.7	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-12229.9	-23626.7	30012.7	-19.8	-60.	SI
1 C	13- 1	-11869.9	-12639.5	-15564.5	-15.3	-104.1	SI

```
 1 S| 13- 1|  -11509.9|   -1652.3|  -61141.7| -20.7|  -32.9|SI|
```

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro	: PO19 (ID=19)
Aste	: 50
Metodo di verifica	: stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'	: bassa con gerarchia.
	: dettagli costruttivi del capito 7 attivi.
Unita' di misura	: cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari	: fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)	: longitudinali= 3.5 ; staffe= 2.5
Imperfezioni	: M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'	: snellezza limite [EC2 5.8.3.1]

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  c (rara)=184.3;  c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  f (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

```
 1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66
```

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 2	-735050.	4- 2	735050.	5-15	-756900.	5-15	756900.
1 S	4- 2	-724500.	4- 2	724500.	4- 2	-869000.	4- 2	869000.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-10	-6633.	4-10	6633.	5- 3	-6635.5	5- 3	6635.5

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	4- 4	-11204.	-115380.	1.12	-334505.	1.04	-.081	-112.8	.09	1880.4	SI
1	5-15	-11256.	-143322.	1.	26388.	1.	-.029	-46.6	.017	360.9	SI
1	4- 2	-10463.	-32087.	2.87	361449.	1.03	-.069	-99.4	.085	1783.4	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-22750.	-38786.6	-9815.3	320.	.7	1.34	1.45	.145	71.38	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5- 3	-11588.5	30581.1	19622.6	320.	.7	1.34	1.06	.074	73.16	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore

Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.06891	0.06891
mu_phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: 0.01427	0.01427
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396
dutt. nodo Y	: 0.1714	0.1714
dutt. rich Y	: 0.01427	0.01427
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1	I	4-10	-1159.4	6633.	33433.	34205.8	33433.	3.14	9.	1.05	SI
1	C	4-10	-1159.4	6633.	30296.6	30296.6	30431.7	3.14	15.	1.55	SI
1	S	4-10	-1159.4	6633.	33290.1	34205.8	33290.1	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1	I	5- 3	900.6	6635.5	33391.9	34205.8	33391.9	3.14	9.	1.05	SI
1	C	5- 3	900.6	6635.5	30296.6	30296.6	30394.2	3.14	15.	1.55	SI
1	S	5- 3	900.6	6635.5	33249.	34205.8	33249.	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4-15	-11841.4	-101803.6	-156621.	7.56	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I 11- 1	-16355.7	-28075.9	-58940.6	-29.1	-51.	SI
1	C 11- 1	-15995.7	-17580.9	30794.	-22.3	-120.4	SI
1	S 11- 1	-15635.7	-7086.	120528.6	-36.3	66.8	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I 12- 1	-11789.1	-21052.4	-40812.7	-20.8	-38.4	SI
1	C 12- 1	-11429.1	-13142.8	21770.6	-16.	-85.3	SI
1	S 12- 1	-11069.1	-5233.3	84353.8	-25.6	44.5	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1	I 13- 1	-11512.3	-20626.7	-39714.	-20.3	-37.6	SI
1	C 13- 1	-11152.3	-12873.9	21223.7	-15.6	-83.2	SI
1	S 13- 1	-10792.3	-5121.	82161.4	-24.9	43.1	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro	: P020 (ID=20)
Aste	: 51
Metodo di verifica	: stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'	: bassa con gerarchia.
	: dettagli costruttivi del capito 7 attivi.
Unita' di misura	: cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€°(permille)
Unita' particolari	: fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)	: longitudinali= 3.5 ; staffe= 2.5
Imperfezioni	: M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'	: snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS	: C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;	
	gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%	
ACCIAIO	: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;	
	ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)	

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: f (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As	Se	e0z	e0y	eiz	eiy	Lassi	Lnet	Lcr.I	Lcr.S	Af	% arm
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787 8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1	I	4- 2	-735400.	4- 2	735400.	5-15	-732560.	5-15	732570.
1	S	4-15	-742750.	4-15	742750.	5- 2	-829940.	5- 2	829950.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4-10	-6416.3	4-10	6416.3	5- 7	-6423.5	5- 7	6423.5

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5-16	-8662.	-315569.	1.03	104724.	1.1	-.076	-106.7	.089	1872.9	SI
1	5-13	-8281.	-124394.	1.	-6107.	1.	-.022	-36.4	.016	332.5	SI
1	4- 2	-7925.	-46098.	1.22	280488.	1.03	-.057	-85.1	.07	1463.9	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-17131.1	-20269.2	-37238.3	320.	.7	1.34	1.16	.109	65.7	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	1- 1	-17131.1	-6381.5	-7755.9	320.	.7	1.34	.877	.109	49.87	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.05079	0.05079
mu_phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: 0.00132	0.00132
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396

```
dutt. nodo Y     : 0.1714        | 0.1714        |
dutt. rich Y     : 0.00132       | 0.00132       |
verifica omega   : SI            | SI            |
verifica nodo    : SI            | non richiesta |
```

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4-10	-1576.	6416.3	32821.4	34205.8	32821.4	3.14	9.	1.05	SI
1 C	4-10	-1576.	6416.3	29873.8	30296.6	29873.8	3.14	15.	1.55	SI
1 S	4-10	-1576.	6416.3	32678.4	34205.8	32678.4	3.14	9.	1.05	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5-10	-912.8	-6421.5	32807.8	34205.8	32807.8	3.14	9.	1.05	SI
1 C	5-10	-912.8	-6421.5	29861.4	30296.6	29861.4	3.14	15.	1.55	SI
1 S	5-10	-912.8	-6421.5	32664.9	34205.8	32664.9	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	4-13	-8717.6	-101803.6	-156621.	5.57	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	11- 1	-12317.3	-14714.9	-4316.7	-14.1	-127.7	SI
1 C	11- 1	-11957.3	-20798.3	-4979.4	-14.9	-109.9	SI
1 S	11- 1	-11597.3	-26881.7	-5642.1	-15.7	-92.2	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	12- 1	-8883.3	-11215.9	-1953.3	-10.1	-93.1	SI
1 C	12- 1	-8523.3	-15530.8	-3151.2	-10.7	-77.8	SI
1 S	12- 1	-8163.3	-19845.8	-4349.1	-11.3	-62.4	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	σc	σf	VE
1 I	13- 1	-8675.2	-11003.8	-1810.1	-9.8	-91.	SI
1 C	13- 1	-8315.2	-15211.6	-3040.4	-10.4	-75.8	SI
1 S	13- 1	-7955.2	-19419.4	-4270.8	-11.	-60.6	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

```
Nome pilastro      : PO21  (ID=21)
Aste               : 52
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€˚(permille)
Unita' particolari : fessure [wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni       : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita'       : snellezza limite [EC2 5.8.3.1]
```

MATERIALI

```
CLS    : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
         gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
         ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)
```

TENSIONI MASSIME IN ESERCIZIO

```
GRUPPO : ordinario.
CLS    :  σc (rara)=184.3;  σc (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO:  σf (rara)=3600; Coeff.Omogeneizzazione=15
```

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se	e0z	e0y	eiz	eiy	Lassi Lnet	Lcr.I	Lcr.S	Af	% arm	
1	1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8φ16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4- 2	-726750.	4- 2	726740.	5- 2	-689110.	5- 2	689110.
1 S	4- 2	-726600.	4- 2	726590.	5- 2	-717530.	5- 2	717530.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 7	-6384.9	4- 7	6384.9	5- 3	-6500.7	5- 3	6500.8

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	σc	E acc	σf	VE
> 1	5- 2	-9802.	413819.	1.03	-131383.	1.09	-.1	-130.6	.122	2553.9	SI
1	5-15	-6653.	-81314.	1.	11809.	1.	-.016	-26.1	.009	181.8	SI
1	5- 2	-9082.	-353829.	1.03	137609.	1.08	-.09	-121.2	.106	2232.9	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	4- 7	-8189.4	-40553.7	-30213.5	320.	.7	1.34	.955	.052	78.52	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5- 8	-9487.4	6390.8	12195.5	320.	.7	1.34	1.18	.061	89.84	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

```
Asta             : 1
Tipo sezione     : RETTANGOLARE
Campo            : inferiore     | superiore     |
Passo staffe     : 9             | 9             |
Numero bracci Z  : 4             | 4             |
Numero bracci Y  : 4             | 4             |
bc               : 30            | 30            |
hc               : 30            | 30            |
b0               : 25            | 25            |
h0               : 25            | 25            |
bi medio Z       : 7.66667       | 7.66667       |
bi medio Y       : 7.66667       | 7.66667       |
alfa n           : 0.81191       | 0.81191       |
alfa s           : 0.6724        | 0.6724        |
volume cls       : 5625          | 5625          |
alfa             : 0.54593       | 0.54593       |
nud              : 0.04908       | 0.04908       |
mu_phi           : 10.65895      | 10.65895      |
molt.dutt.rich.  : 1             | 1             |
volume staffe Z  : 78.53982      | 78.53982      |
omega wd Z (0.08): 0.31396       | 0.31396       |
dutt. nodo Z     : 0.1714        | 0.1714        |
dutt. rich Z     : 9E-05         | 9E-05         |
volume staffe Y  : 78.53982      | 78.53982      |
omega wd Y (0.08): 0.31396       | 0.31396       |
dutt. nodo Y     : 0.1714        | 0.1714        |
dutt. rich Y     : 9E-05         | 9E-05         |
verifica omega   : SI            | SI            |
verifica nodo    : SI            | non richiesta |
```

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 7	1732.5	6384.9	32717.1	34205.8	32717.1	3.14	9.	1.05	SI
1 C	4- 7	1732.5	6384.9	29778.7	30296.6	29778.7	3.14	15.	1.55	SI
1 S	4- 7	1732.5	6384.9	32576.9	32576.9	32613.	3.14	9.	1.	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 8	1836.8	6497.2	32974.8	34205.8	32974.8	3.14	9.	1.05	SI
1 C	5- 8	1836.8	6497.2	30013.7	30296.6	30013.7	3.14	15.	1.55	SI
1 S	5- 8	1836.8	6497.2	32831.9	34205.8	32831.9	3.14	9.	1.05	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5- 2	-9801.8	-101803.6	-156621.	6.26	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-11205.7	28786.	-47916.4	-22.9	-.5	SI
1 C	11- 1	-10845.7	-35530.1	13627.9	-17.8	-50.2	SI
1 S	11- 1	-10485.7	-99846.2	75172.3	-45.4	356.6	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-8567.3	20932.7	-28543.9	-15.9	-19.2	SI
1 C	12- 1	-8207.3	-26404.4	7994.5	-13.	-43.4	SI
1 S	12- 1	-7847.3	-73741.5	44532.8	-30.7	215.4	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-8407.4	20456.7	-27369.8	-15.5	-20.2	SI
1 C	13- 1	-8047.4	-25851.3	7653.	-12.7	-42.9	SI
1 S	13- 1	-7687.4	-72159.4	42675.9	-29.8	207.1	SI

VERIFICA PILASTRO IN CEMENTO ARMATO

Nome pilastro : PO22 (ID=22)
Aste : 53
Metodo di verifica : stati limite - NTC18 (q=3.3 ; muphi=10.66) ->
Duttilita' : bassa con gerarchia.
: dettagli costruttivi del capito 7 attivi.
Unita' di misura : cm; daN; daN/cm; daNcm; daN/cm2; deform. %; 1/r â€˚(permille)
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi) : longitudinali= 3.5 ; staffe= 2.5
Imperfezioni : M minimo = N * e0 ; M aggiunto = N * ei
Instabilita' : snellezza limite [EC2 5.8.3.1]

MATERIALI

CLS : C30/37; Rck=370; fck=307.1; fctk=20.59; fctm=29.42; Ecm=330194;
gc=1.5; fcd=174; fbd=30.89; fctd=13.73; Ec2=0.2%; Ecu=0.35%
ACCIAIO: B450C; ftk=5175; fyk=4500; Es=2100000; gs=1.15; fyd=3913;
ftd=4500; fud=4439.8; Eyd=0.1863%; Eud=6.75% (0.1863% casi sismici)

TENSIONI MASSIME IN ESERCIZIO

GRUPPO : ordinario.
CLS : c (rara)=184.3; c (quasi permanente)=138.2; fbd(esercizio)=30.89
ACCIAIO: f (rara)=3600; Coeff.Omogeneizzazione=15

CASI DI CARICO

Nome	Descrizione	Tipo	Ses
1	SLU SENZA SISMA	SLU (statico)	1
4	SLU con SISMAX PRINC	SLU (sismico)	16
5	SLU con SISMAY PRINC	SLU (sismico)	16
11	Rara	RARA	1
12	Frequente	FREQUENTE	1
13	Quasi Perm	QUASI PERMAN.	1

<-

SEZIONI UTILIZZATE

1) Rettangolare: base=30; alt.=30; Acls=900; iy=8.66; iz=8.66

DESCRIZIONE ASTE E ARMATURA LONGITUDINALE

As Se	eOz	eOy	eiz	eiy	Lassi Lnet	Lcr.I Lcr.S	Af	% arm
1 1	2.	2.	1.07	1.07	320.	290.	49.	49.	16.08	1.787	8 16

GERARCHIA DELLE RESISTENZE

MOMENTI ULTIMI MINIMI (CASI SISMICI):

Asta	caso	Myu- min	caso	Myu+ min	caso	Mzu- min	caso	Mzu+ min
1 I	4-15	-726230.	4-15	726230.	5- 2	-658130.	5- 2	658130.
1 S	4- 2	-744260.	4- 2	744250.	5- 2	-671450.	5- 2	671450.

TAGLI GERARCHIA:

As	Lp	caso	VEyd-	caso	VEyd+	caso	VEzd-	caso	VEzd+
1	290.	4- 7	-6125.6	4- 7	6125.6	5- 3	-6158.1	5- 3	6158.1

VERIFICHE ALLO STATO LIMITE ULTIMO

PRESSO-FLESSIONE (incluse le imperfezioni):

Asta	Caso	NEd	MEyd	MEzd	E cls	c	E acc	f	VE
> 1	5- 2	-5609.	407702.	1.01	-103919.	1.06	-.092	-123.7	.127	2667.8	SI
1	5-15	-2358.	-71467.	1.	13445.	1.	-.014	-24.	.017	352.7	SI
1	5- 2	-4889.	-374363.	1.01	95810.	1.06	-.084	-115.8	.117	2462.4	SI

SNELLEZZA LIMITE Y [EC2 5.8.3.1]:

Asta	Caso	NEd	MEyd inf	MEyd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	4- 3	-4676.	-37646.4	-34251.3	320.	.7	1.34	.79	.03	85.99	36.95	SI

SNELLEZZA LIMITE Z [EC2 5.8.3.1]:

Asta	Caso	NEd	MEzd inf	MEzd sup	l0	A	B	C	nu	L lim	Lambd	VE
1	5- 8	-4851.7	10144.8	7629.3	320.	.7	1.34	.948	.031	101.3	36.95	SI

DETTAGLI COSTRUTTIVI PER LA DUTTILITA' [NTC18 7.4.6.2.2]:

Asta	: 1	
Tipo sezione	: RETTANGOLARE	
Campo	: inferiore	superiore
Passo staffe	: 9	9
Numero bracci Z	: 4	4
Numero bracci Y	: 4	4
bc	: 30	30
hc	: 30	30
b0	: 25	25
h0	: 25	25
bi medio Z	: 7.66667	7.66667
bi medio Y	: 7.66667	7.66667
alfa n	: 0.81191	0.81191
alfa s	: 0.6724	0.6724
volume cls	: 5625	5625
alfa	: 0.54593	0.54593
nud	: 0.02199	0.02199
mu phi	: 10.65895	10.65895
molt.dutt.rich.	: 1	1
volume staffe Z	: 78.53982	78.53982
omega wd Z (0.08)	: 0.31396	0.31396
dutt. nodo Z	: 0.1714	0.1714
dutt. rich Z	: -0.01928	-0.01928
volume staffe Y	: 78.53982	78.53982
omega wd Y (0.08)	: 0.31396	0.31396
dutt. nodo Y	: 0.1714	0.1714
dutt. rich Y	: -0.01928	-0.01928
verifica omega	: SI	SI
verifica nodo	: SI	non richiesta

TAGLIO Y:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	4- 7	1328.9	6125.6	32072.3	32576.9	32072.3	3.14	9.	1.	SI
1 C	4- 7	1328.9	6125.6	29319.3	29319.3	29539.1	3.14	15.	1.5	SI
1 S	4- 7	1328.9	6125.6	31929.2	32576.9	31929.2	3.14	9.	1.	SI

TAGLIO Z:

Asta	Caso	VEd	VEd ger.	VRd	VRsd	VRcd	Asw	s	ctgT	VE
1 I	5- 8	1677.	6155.9	32092.7	32576.9	32092.7	3.14	9.	1.	SI
1 C	5- 3	2269.	6158.1	29319.3	29319.3	29601.9	3.14	15.	1.5	SI
1 S	5- 8	1677.	6155.9	31949.6	32576.9	31949.6	3.14	9.	1.	SI

NEd LIMITE (NEd < Nmax , Nmax=65% di Ncls ; Ncls=fcd*Ac) [7.4.4.2.1]:

Asta	Caso	NEd	Nmax	Ncls	% Ncls	VE
1	5- 2	-5608.8	-101803.6	-156621.	3.58	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

Rare:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	11- 1	-5174.3	39873.5	-19485.1	-15.6	69.3	SI
1 C	11- 1	-4814.3	-37948.7	2839.6	-11.5	25.1	SI
1 S	11- 1	-4454.3	-115771.	25164.2	-37.	561.7	SI

Frequenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	12- 1	-4221.3	28697.3	-16040.1	-11.9	43.	SI
1 C	12- 1	-3861.3	-28182.7	4770.1	-9.2	18.4	SI
1 S	12- 1	-3501.3	-85062.8	25580.3	-29.2	425.9	SI

Quasi permanenti:

Asta	Caso	NEd	MEyd	MEzd	c	f	VE
1 I	13- 1	-4163.6	28020.	-15831.3	-11.6	41.4	SI
1 C	13- 1	-3803.6	-27590.9	4887.1	-9.1	18.	SI
1 S	13- 1	-3443.6	-83201.7	25605.5	-28.7	417.7	SI

VERIFICHE DI RESISTENZA DEL NODO [7.4.4.3.1]

La domanda di resistenza viene valutata secondo le formule al [7.4.4.3.1], ma assunta comunque non superiore alla domanda di resistenza valutata sulla base delle massime tensioni dovute alle azioni sismiche nelle armature delle travi.

Struttura in CD "B"
Valore minimo richiesto per il fattore di sovraresistenza: 1.10

TAGLIO / COMPRESSIONE - formule[7.4.6] e [7.4.7]
TAGLIO / TRAZIONE - formula [7.4.10] o, in alternativa, formule[7.4.11] e [7.4.12]

TAGLIO / COMPRESSIONE

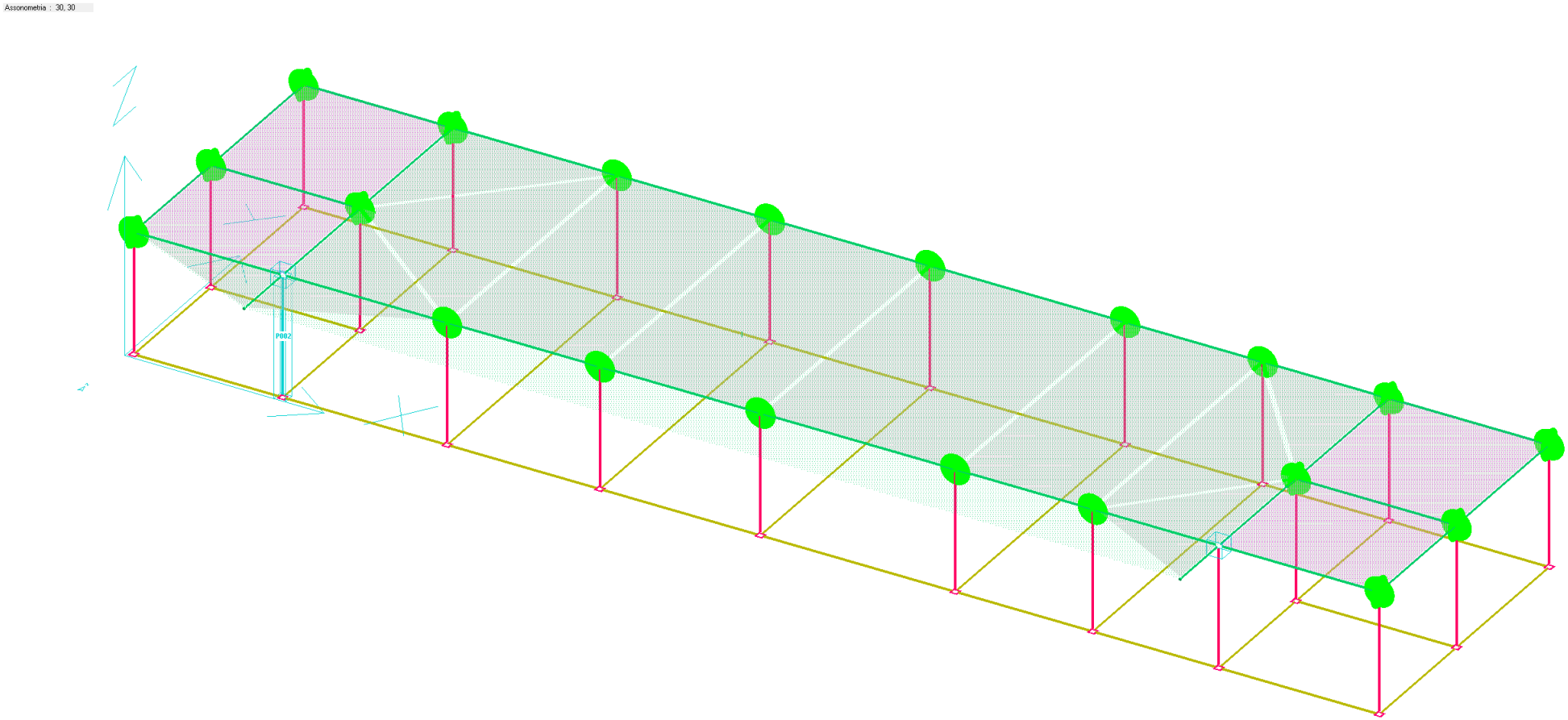
Legenda:
As1 - armatura superiore trave
As2 - armatura inferiore trave, non considerata nei nodi esterni
fy1 - massima tensione in As1 nel caso sismico
fy2 - massima tensione in As2 nel caso sismico
Cap.T.- capacità a taglio in daN
csic - rapporto capacità/domanda

Nodo	As1	fy1	As2	fy2	Vc	Vjbd	Nu	eta	bj	hjc	Cap.T.	csic
P001 - ID 1												
N25	X 12.06	615.5			0	8168	0.00	0.42	45.0	23.0	75835	9.28
	Y 12.06	1413.7			0	18759	0.00	0.42	45.0	23.0	75835	4.04
P002 - ID 2												
N26	:	- - -	nodo confinato	- - -								
P003 - ID 3												
N27	X 16.08	1684.4	10.05	0.0	0	29803	0.00	0.53	45.0	23.0	94793	3.18
P004 - ID 4												
N28	X 16.08	1468.1	10.05	0.0	0	25975	0.00	0.53	45.0	23.0	94793	3.65
P005 - ID 5												
N29	X 16.08	2094.3	10.05	0.0	0	37055	0.00	0.53	45.0	23.0	94793	2.56
P006 - ID 6												
N30	X 16.08	1956.4	10.05	0.0	0	34615	0.00	0.53	45.0	23.0	94793	2.74
P007 - ID 7												
N31	X 16.08	1157.3	10.05	0.0	0	20476	0.00	0.53	45.0	23.0	94793	4.63
P008 - ID 8												
N32	:	- - -	nodo confinato	- - -								
P009 - ID 9												
N33	X 12.06	800.2			0	10618	0.00	0.42	45.0	23.0	75835	7.14
	Y 12.06	1315.0			0	17450	0.00	0.42	45.0	23.0	75835	4.35
P010 - ID 10												
N34	X 12.06	624.2			0	8284	0.00	0.42	45.0	23.0	75835	9.15
	Y 16.08	1201.1	10.05	0.0	0	21251	0.00	0.53	45.0	23.0	94793	4.46
P011 - ID 11												
N35	X 12.06	871.2			0	11560	0.00	0.42	45.0	23.0	75835	6.56
	Y 16.08	1460.1	10.05	419.6	0	30474	0.00	0.53	45.0	23.0	94793	3.11
P012 - ID 12												
N36	X 12.06	855.4			0	11351	0.00	0.42	45.0	23.0	75835	6.68
	Y 16.08	1258.9	10.05	27.6	0	22579	0.00	0.53	45.0	23.0	94793	4.20
P013 - ID 13												
N37	X 12.06	851.1			0	11294	0.00	0.42	45.0	23.0	75835	6.71
	Y 16.08	1195.0	10.05	0.0	0	21143	0.00	0.53	45.0	23.0	94793	4.48
P014 - ID 14												
N38	X 12.06	501.8			0	6659	0.00	0.42	45.0	23.0	75835	11.39
	Y 12.06	1409.2			0	18700	0.00	0.42	45.0	23.0	75835	4.06
P015 - ID 15												
N39	X 16.08	1079.9	10.05	0.0	0	19108	0.00	0.53	45.0	23.0	94793	4.96
	Y 12.06	1948.5			0	25857	0.00	0.42	45.0	23.0	75835	2.93
P016 - ID 16												
N40	X 16.08	1296.5	10.05	0.0	0	22940	0.00	0.53	45.0	23.0	94793	4.13
P017 - ID 17												
N41	X 16.08	1136.7	10.05	0.0	0	20112	0.00	0.53	45.0	23.0	94793	4.71
P018 - ID 18												
N42	X 16.08	1580.4	10.05	0.0	0	27962	0.00	0.53	45.0	23.0	94793	3.39
P019 - ID 19												
N43	X 16.08	1478.5	10.05	0.0	0	26160	0.00	0.53	45.0	23.0	94793	3.62
P020 - ID 20												
N44	X 16.08	910.5	10.05	0.0	0	16110	0.00	0.53	45.0	23.0	94793	5.88

```
P021 - ID 21
   N45 X 16.08  800.9 10.05  141.4      0  15734 0.00 0.53  45.0  23.0   94793  6.02
       Y 12.06 1571.9                   0  20859 0.00 0.42  45.0  23.0   75835  3.64
P022 - ID 22
   N46 X 12.06  730.5                   0   9694 0.00 0.42  45.0  23.0   75835  7.82
       Y 12.06 1327.5                   0  17616 0.00 0.42  45.0  23.0   75835  4.30

fck   =    307.1 daN/cm2
fcd   =    174.0 daN/cm2
fctd  =     13.7 daN/cm2
fywd  =   3913.0 daN/cm2


TAGLIO / TRAZIONE

Legenda:
DT[10]  - domanda a taglio  secondo la [7.4.10] in daN/cm2
CT[10]  - capacità a taglio secondo la [7.4.10] in daN/cm2
Ashb    - area della sezione della singola staffa nel nodo
Ash     - area totale della sezione delle  staffe nel nodo
As1     - armatura superiore trave, non considerata nei nodi esterni
As2     - armatura inferiore trave
fy1     - massima tensione in As1 nel caso sismico
fy2     - massima tensione in As2 nel caso sismico
DT[11]  - domanda a taglio  secondo la [7.4.11] o [7.4.12] in daN
CT[11]  - capacità a taglio secondo la [7.4.11] o [7.4.12] in daN
csic    - rapporto capacità/domanda
As*     - area aggiuntiva di staffe richiesta per la verifica del nodo.

  Nodo   DT[10]   hjw Ashb   Ash CT[10]   As1    fy1   As2    fy2    Nu  DT[11]  CT[11]  csic   As*
P001 - ID 1
   N25 X    0.0  24.0 1.57  5.24   19.0              8.04  658.9  0.02    5719   20489  99.9
       Y   10.2  24.0 1.57  5.24   19.0              8.04 1616.7  0.02   14033   20489  1.86
P002 - ID 2
   N26 :     - - -   nodo confinato    - - -
P003 - ID 3
   N27 X   46.7  24.0 3.14 10.47   37.9 16.08 1684.4 10.05    0.0  0.00   29803   40977  1.37
P004 - ID 4
   N28 X   32.1  24.0 3.14 10.47   37.9 16.08 1468.1 10.05    0.0  0.00   25975   40977  1.58
P005 - ID 5
   N29 X   79.6  24.0 3.14 10.47   37.9 16.08 2094.3 10.05    0.0  0.00   37055   40977  1.11
P006 - ID 6
   N30 X   67.7  24.0 3.14 10.47   37.9 16.08 1956.4 10.05    0.0  0.00   34615   40977  1.18
P007 - ID 7
   N31 X   14.8  24.0 3.14 10.47   37.9 16.08 1157.3 10.05    0.0  0.00   20476   40977  2.57
P008 - ID 8
   N32 :     - - -   nodo confinato    - - -
P009 - ID 9
   N33 X    0.0  24.0 3.14 10.47   37.9              8.04  935.3  0.02    8152   40977  99.9
       Y    7.0  24.0 3.14 10.47   37.9              8.04 1306.5  0.02   11387   40977  5.44
P010 - ID 10
   N34 X    0.0  24.0 1.57  5.24   19.0              8.04  667.1  0.06    5619   20489  99.9
       Y   17.0  24.0 1.57  5.24   19.0 16.08 1201.1 10.05    0.0  0.00   21251   20489  1.12
P011 - ID 11
   N35 X    0.0  24.0 3.14 10.47   37.9              8.04  586.9  0.05    4994   40977  99.9
       Y   49.4  24.0 3.14 10.47   37.9 16.08 1460.1 10.05  419.6  0.00   30474   40977  1.34
P012 - ID 12
   N36 X    0.0  24.0 3.14 10.47   37.9              8.04  665.3  0.05    5653   40977  99.9
       Y   20.9  24.0 3.14 10.47   37.9 16.08 1258.9 10.05   27.6  0.00   22579   40977  1.81
P013 - ID 13
   N37 X    0.0  24.0 3.14 10.47   37.9              8.04  852.1  0.05    7242   40977  99.9
       Y   16.7  24.0 3.14 10.47   37.9 16.08 1195.0 10.05    0.0  0.00   21143   40977  2.28
P014 - ID 14
   N38 X    0.0  24.0 1.57  5.24   19.0              8.04  715.7  0.02    6208   20489  99.9
       Y   10.0  24.0 1.57  5.24   19.0              8.04 1463.2  0.02   12691   20489  1.89
P015 - ID 15
   N39 X   11.1  24.0 3.14 10.47   37.9 16.08 1079.9 10.05    0.0  0.00   19108   40977  3.42
       Y   31.7  24.0 3.14 10.47   37.9              8.04 2100.5  0.06   17751   40977  2.31
P016 - ID 16
   N40 X   22.1  24.0 3.14 10.47   37.9 16.08 1296.5 10.05    0.0  0.00   22940   40977  1.79
P017 - ID 17
   N41 X   13.8  24.0 3.14 10.47   37.9 16.08 1136.7 10.05    0.0  0.00   20112   40977  2.75
P018 - ID 18
```

```
   N42 X   39.4  24.0 3.14 10.47   37.9 16.08 1580.4 10.05    0.0  0.00   27962   40977  1.47
P019 - ID 19
   N43 X   32.8  24.0 3.14 10.47   37.9 16.08 1478.5 10.05    0.0  0.00   26160   40977  1.57
P020 - ID 20
   N44 X    3.9  24.0 3.14 10.47   37.9 16.08  910.5 10.05    0.0  0.00   16110   40977  9.68
P021 - ID 21
   N45 X    3.1  24.0 3.14 10.47   37.9 16.08  800.9 10.05  141.4  0.00   15734   40977 12.22
       Y   15.9  24.0 3.14 10.47   37.9               8.04 1399.5  0.05   11895   40977  3.44
P022 - ID 22
   N46 X    0.0  24.0 3.14 10.47   37.9               8.04  870.1  0.02    7563   40977  99.9
       Y    7.4  24.0 3.14 10.47   37.9               8.04 1101.4  0.02    9573   40977  5.15
```

GRAFICO VERIFICA RESISTENZA NODI



Pressioni sul terreno di fondazione

Si riportano di seguito i valori e i grafici delle pressioni esercitate dalla struttura sul terreno di fondazione nelle varie condizioni di carico.
Le verifiche della capacità portante sono state condotte per le singole travi e si rinvia al fascicolo (A9) dove per le verifiche nei confronti degli stati limite ultimi (SLU), è stata rispettata la condizione

$$E_d \leq R_d$$

dove E_d è il valore di progetto dell'azione o dell'effetto dell'azione

ed R_d è il valore di progetto della resistenza del sistema geotecnica

La verifica della suddetta condizione è stata effettuata impiegando diverse combinazioni di gruppi di coefficienti parziali, rispettivamente definiti per le azioni (A1 e A2), per i parametri geotecnici (M1 e M2) e per le resistenze (R1, R2 e R3).
I diversi gruppi di coefficienti di sicurezza parziali sono scelti nell'ambito di due approcci progettuali distinti e alternativi.

Analogamente per le verifiche nei confronti degli stati limite di esercizio, si rinvia al fascicolo (A9) dove sono state condotte per le singole travi le valutazioni dei cedimenti a breve e lungo termine.

VERIFICHE ALLO STATO LIMITE ULTIMO STRUTTURALE (**STR**)

CONDIZIONE R2: APPROCCIO 1 - COMBINAZIONE 2

SPOSTAMENTI NODI

CASO DI CARICO : 1 SLU SENZA SISMA COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____ +	1.30
2	Permanente_____ +	1.50
3	Var_copertura +	1.50
4	Neve_(<1000m_slm)__ +	1.50

1) +1.30*c001 +1.50*c002 +1.50*c003 +1.50*c004

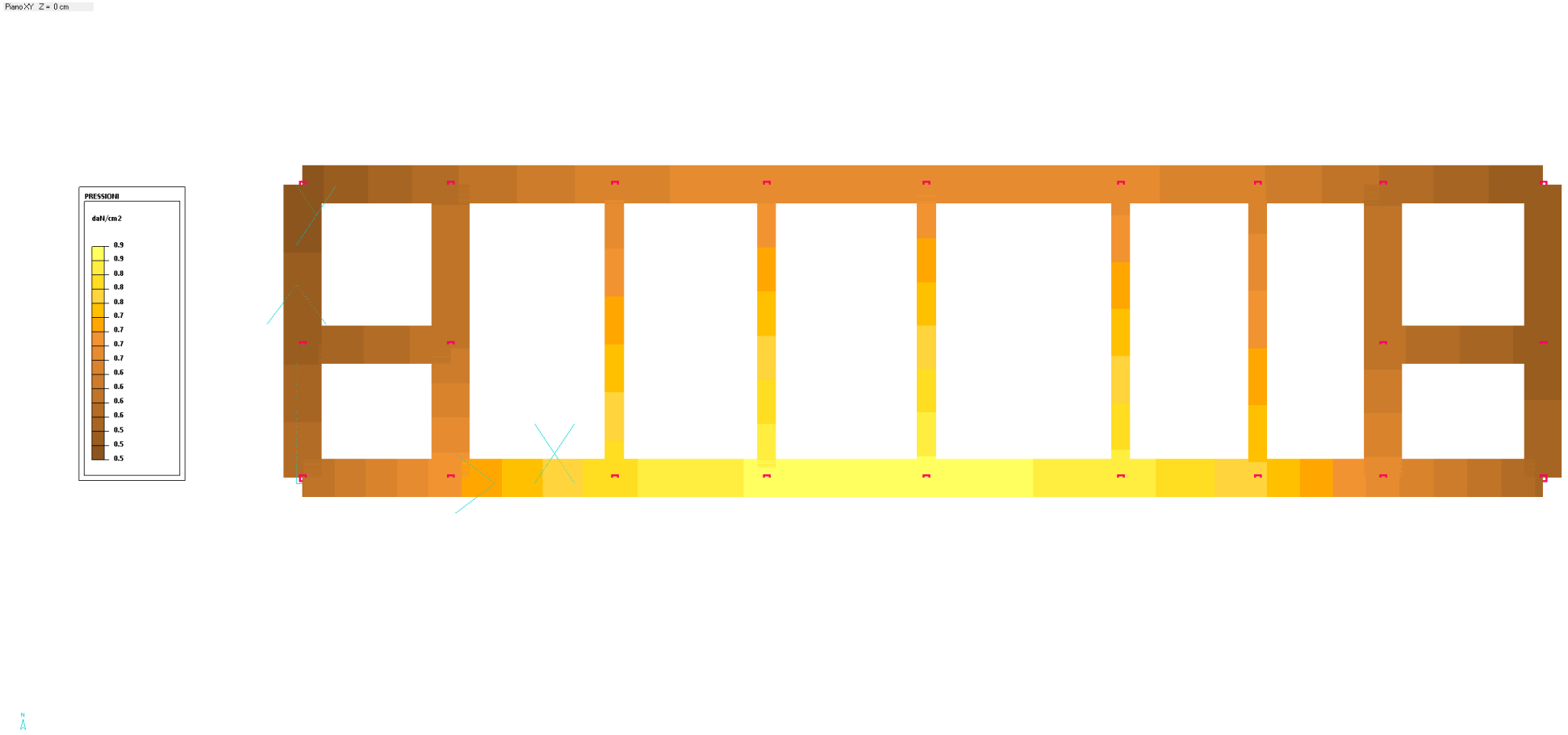
Unità di misura: SX,SY,SZ [cm]; RX,RY,RZ [rad]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	0.000000	0.000000	-0.590817	0.00023	0.00027	0.00000
2	0.000000	0.000000	-0.714297	0.00037	0.00029	0.00000
3	0.000000	0.000000	-0.819348	0.00059	0.00017	0.00000
4	0.000000	0.000000	-0.856552	0.00068	0.00005	0.00000
5	0.000000	0.000000	-0.863945	0.00070	-0.00004	0.00000
6	0.000000	0.000000	-0.840435	0.00064	-0.00006	0.00000
7	0.000000	0.000000	-0.780420	0.00052	-0.00024	0.00000
8	0.000000	0.000000	-0.682121	0.00031	-0.00031	0.00000
9	0.000000	0.000000	-0.560155	0.00016	-0.00022	0.00000
10	0.000000	0.000000	-0.530928	0.00013	0.00019	0.00000
11	0.000000	0.000000	-0.615037	0.00018	0.00025	0.00000
12	0.000000	0.000000	-0.602927	0.00014	-0.00024	0.00000
13	0.000000	0.000000	-0.525425	0.00008	-0.00014	0.00000
14	0.000000	0.000000	-0.501428	0.00000	0.00020	0.00000
15	0.000000	0.000000	-0.588373	-0.00005	0.00020	0.00000
16	0.000000	0.000000	-0.661014	-0.00018	0.00011	0.00000
17	0.000000	0.000000	-0.684486	-0.00023	0.00003	0.00000
18	0.000000	0.000000	-0.689261	-0.00025	-0.00002	0.00000
19	0.000000	0.000000	-0.678545	-0.00023	-0.00002	0.00000
20	0.000000	0.000000	-0.647079	-0.00018	-0.00014	0.00000
21	0.000000	0.000000	-0.590036	-0.00008	-0.00020	0.00000
22	0.000000	0.000000	-0.513975	-0.00003	-0.00014	0.00000

GRAFICO DELLE PRESSIONI SUL TERRENO ALLO STATO LIMITE ULTIMO STRUTTURALE (**STR**)

CONDIZIONE R1: APPROCCIO 1 – COMBINAZIONE 1



VERIFICHE ALLO STATO LIMITE ULTIMO GEOTECNICO (**GEO**)

CONDIZIONE R2: APPROCCIO 1 - COMBINAZIONE 2

SPOSTAMENTI NODI

CASO DI CARICO : 10 SLUGeo COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.30
3 Var_copertura + 1.30
4 Neve_(<1000m_slm)__ + 1.30

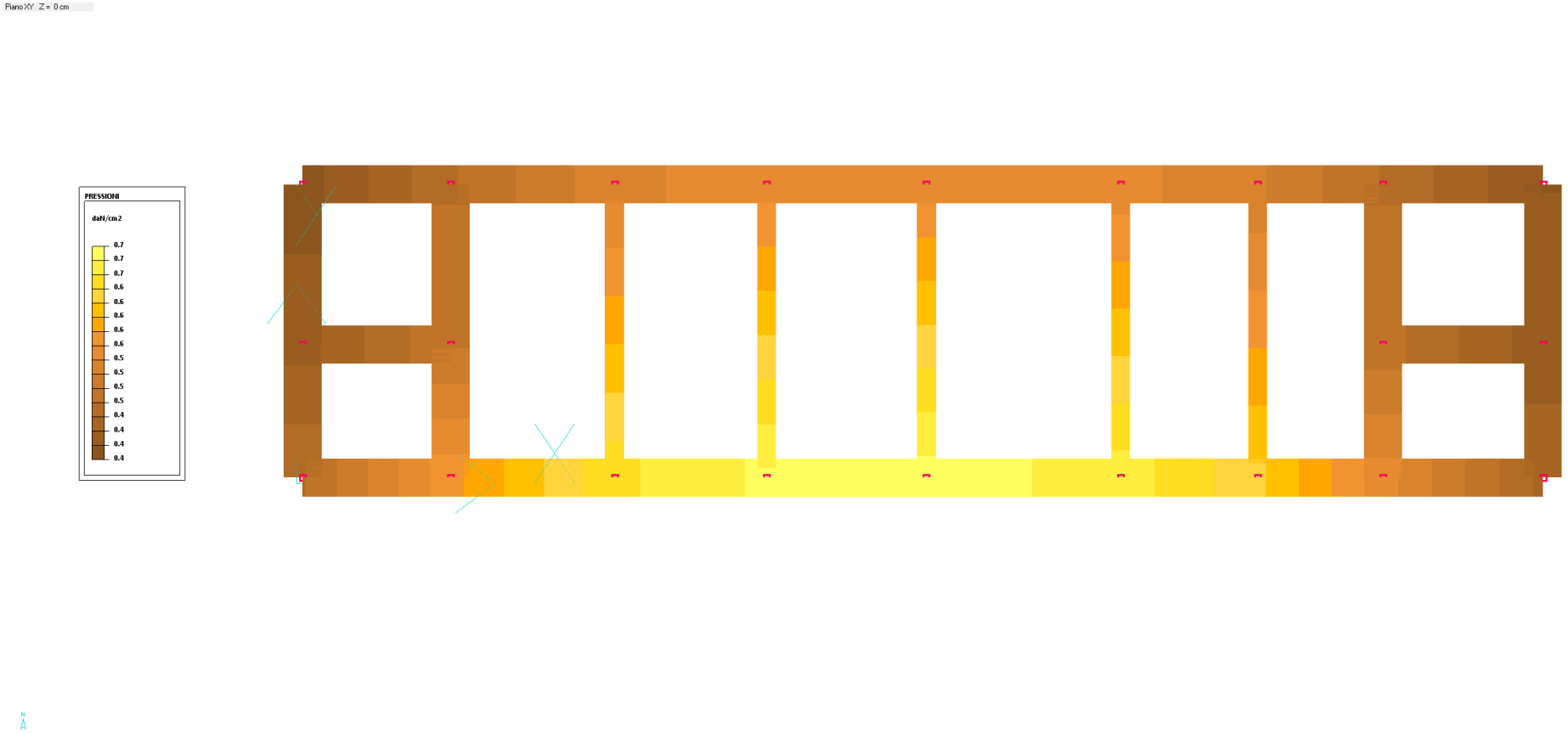
1) +1.00*c001 +1.30*c002 +1.30*c003 +1.30*c004
Unità di misura: SX,SY,SZ [cm]; RX,RY,RZ [rad]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	0.000000	0.000000	-0.464397	0.00019	0.00023	0.00000
2	0.000000	0.000000	-0.566734	0.00030	0.00024	0.00000
3	0.000000	0.000000	-0.654256	0.00048	0.00014	0.00000
4	0.000000	0.000000	-0.685409	0.00056	0.00004	0.00000
5	0.000000	0.000000	-0.691646	0.00057	-0.00003	0.00000
6	0.000000	0.000000	-0.672044	0.00053	-0.00005	0.00000
7	0.000000	0.000000	-0.621985	0.00043	-0.00020	0.00000
8	0.000000	0.000000	-0.540189	0.00025	-0.00026	0.00000
9	0.000000	0.000000	-0.438867	0.00013	-0.00018	0.00000
10	0.000000	0.000000	-0.415627	0.00011	0.00016	0.00000
11	0.000000	0.000000	-0.485475	0.00015	0.00021	0.00000
12	0.000000	0.000000	-0.475513	0.00011	-0.00020	0.00000
13	0.000000	0.000000	-0.410888	0.00006	-0.00012	0.00000
14	0.000000	0.000000	-0.391399	0.00000	0.00017	0.00000
15	0.000000	0.000000	-0.463656	-0.00004	0.00017	0.00000
16	0.000000	0.000000	-0.524123	-0.00015	0.00009	0.00000
17	0.000000	0.000000	-0.543720	-0.00019	0.00002	0.00000
18	0.000000	0.000000	-0.547733	-0.00020	-0.00002	0.00000
19	0.000000	0.000000	-0.538806	-0.00019	-0.00002	0.00000
20	0.000000	0.000000	-0.512547	-0.00015	-0.00011	0.00000
21	0.000000	0.000000	-0.465023	-0.00006	-0.00016	0.00000
22	0.000000	0.000000	-0.401512	-0.00003	-0.00012	0.00000

GRAFICO DELLE PRESSIONI SUL TERRENO ALLO STATO LIMITE ULTIMO GEOTECNICO (**GEO**)

CONDIZIONE R2: APPROCCIO 1 – COMBINAZIONE 2



VERIFICHE PER LA CONDIZIONE SISMICA LUNGO X DI APPROCCIO 1

CONDIZIONE SISMA X

SPOSTAMENTI NODI

CASO DI CARICO : 4 SLU con SISMAX PRINC COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
2 SISMAX SLU 1.00
3 SISMAY SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*c002.001 +0.30*c003.001
2) +1.00*c001 +1.00*c002 +1.00*c002.001 +0.30*c003.002
3) +1.00*c001 +1.00*c002 +1.00*c002.001 +0.30*c003.003
4) +1.00*c001 +1.00*c002 +1.00*c002.001 +0.30*c003.004
5) +1.00*c001 +1.00*c002 +1.00*c002.002 +0.30*c003.001
6) +1.00*c001 +1.00*c002 +1.00*c002.002 +0.30*c003.002
7) +1.00*c001 +1.00*c002 +1.00*c002.002 +0.30*c003.003
8) +1.00*c001 +1.00*c002 +1.00*c002.002 +0.30*c003.004
9) +1.00*c001 +1.00*c002 +1.00*c002.003 +0.30*c003.001
10) +1.00*c001 +1.00*c002 +1.00*c002.003 +0.30*c003.002
11) +1.00*c001 +1.00*c002 +1.00*c002.003 +0.30*c003.003
12) +1.00*c001 +1.00*c002 +1.00*c002.003 +0.30*c003.004
13) +1.00*c001 +1.00*c002 +1.00*c002.004 +0.30*c003.001
14) +1.00*c001 +1.00*c002 +1.00*c002.004 +0.30*c003.002
15) +1.00*c001 +1.00*c002 +1.00*c002.004 +0.30*c003.003
16) +1.00*c001 +1.00*c002 +1.00*c002.004 +0.30*c003.004
Unità di misura: SX,SY,SZ [cm]; RX,RY,RZ [rad]

Coefficiente moltiplicativo: 2.000000

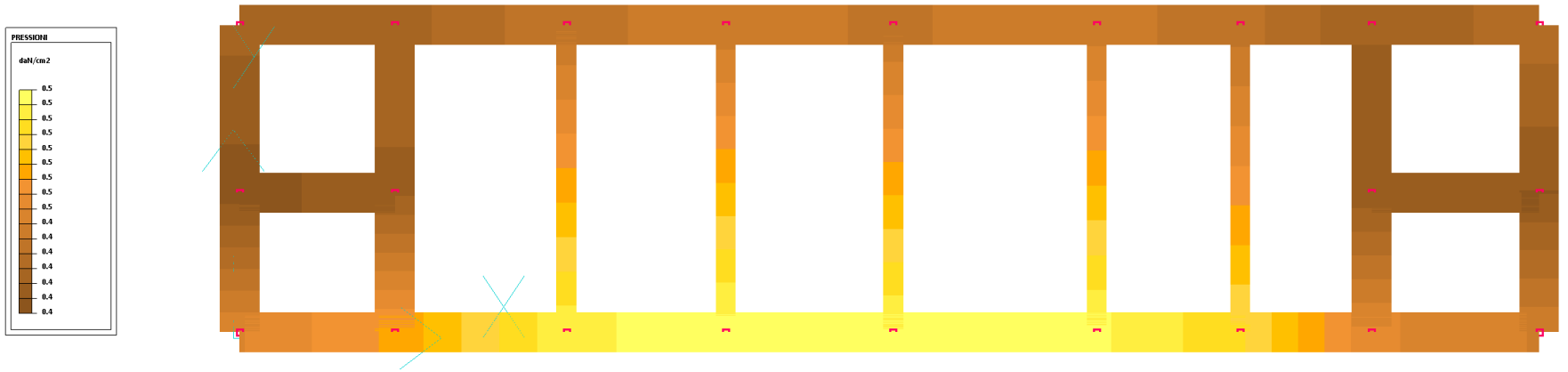
Nodo	SX	SY	SZ	RX	RY	RZ
1	0.000000	0.000000	-0.347435	0.00005	0.00023	0.00000
	0.000000	0.000000	-0.342803	0.00003	0.00023	0.00000
	0.000000	0.000000	-0.393953	0.00019	0.00021	0.00000
	0.000000	0.000000	-0.389321	0.00018	0.00021	0.00000
	0.000000	0.000000	-0.351787	0.00006	0.00023	0.00000
	0.000000	0.000000	-0.347155	0.00004	0.00023	0.00000
	0.000000	0.000000	-0.398305	0.00020	0.00021	0.00000
	0.000000	0.000000	-0.393673	0.00019	0.00021	0.00000
	0.000000	0.000000	-0.405979	0.00005	0.00003	0.00000
	0.000000	0.000000	-0.401347	0.00004	0.00003	0.00000
	0.000000	0.000000	-0.452497	0.00020	0.00000	0.00000
	0.000000	0.000000	-0.447865	0.00018	0.00000	0.00000
	0.000000	0.000000	-0.410331	0.00007	0.00002	0.00000
	0.000000	0.000000	-0.405699	0.00005	0.00003	0.00000
	0.000000	0.000000	-0.456849	0.00021	0.00000	0.00000
	0.000000	0.000000	-0.452217	0.00020	0.00000	0.00000
2	0.000000	0.000000	-0.437338	0.00011	0.00020	0.00000
	0.000000	0.000000	-0.433719	0.00009	0.00020	0.00000
	0.000000	0.000000	-0.474111	0.00023	0.00017	0.00000
	0.000000	0.000000	-0.470492	0.00022	0.00017	0.00000
	0.000000	0.000000	-0.440757	0.00012	0.00020	0.00000
	0.000000	0.000000	-0.437138	0.00011	0.00020	0.00000
	0.000000	0.000000	-0.477530	0.00025	0.00017	0.00000
	0.000000	0.000000	-0.473911	0.00023	0.00017	0.00000
	0.000000	0.000000	-0.434709	0.00013	0.00008	0.00000
	0.000000	0.000000	-0.431090	0.00012	0.00008	0.00000
	0.000000	0.000000	-0.471482	0.00026	0.00005	0.00000
	0.000000	0.000000	-0.467863	0.00025	0.00005	0.00000
	0.000000	0.000000	-0.438128	0.00014	0.00008	0.00000
	0.000000	0.000000	-0.434509	0.00013	0.00008	0.00000
	0.000000	0.000000	-0.474901	0.00027	0.00005	0.00000
	0.000000	0.000000	-0.471282	0.00026	0.00005	0.00000
3	0.000000	0.000000	-0.495110	0.00024	0.00009	0.00000
	0.000000	0.000000	-0.493271	0.00023	0.00009	0.00000
	0.000000	0.000000	-0.516198	0.00034	0.00006	0.00000
	0.000000	0.000000	-0.514358	0.00034	0.00006	0.00000
	0.000000	0.000000	-0.496852	0.00025	0.00009	0.00000
	0.000000	0.000000	-0.495012	0.00024	0.00009	0.00000
	0.000000	0.000000	-0.517939	0.00035	0.00006	0.00000
	0.000000	0.000000	-0.516100	0.00034	0.00006	0.00000
	0.000000	0.000000	-0.480179	0.00024	0.00008	0.00000
	0.000000	0.000000	-0.478339	0.00023	0.00008	0.00000
	0.000000	0.000000	-0.501266	0.00034	0.00005	0.00000
	0.000000	0.000000	-0.499427	0.00033	0.00005	0.00000
	0.000000	0.000000	-0.481920	0.00025	0.00007	0.00000
	0.000000	0.000000	-0.480081	0.00024	0.00008	0.00000
	0.000000	0.000000	-0.503008	0.00035	0.00004	0.00000
	0.000000	0.000000	-0.501168	0.00034	0.00005	0.00000
4	0.000000	0.000000	-0.511513	0.00030	0.00003	0.00000
	0.000000	0.000000	-0.510754	0.00029	0.00003	0.00000
	0.000000	0.000000	-0.523766	0.00038	0.00001	0.00000
	0.000000	0.000000	-0.523007	0.00037	0.00001	0.00000
	0.000000	0.000000	-0.512238	0.00030	0.00002	0.00000
	0.000000	0.000000	-0.511478	0.00030	0.00003	0.00000
	0.000000	0.000000	-0.524491	0.00038	0.00001	0.00000
	0.000000	0.000000	-0.523731	0.00038	0.00001	0.00000
	0.000000	0.000000	-0.501864	0.00029	0.00002	0.00000
	0.000000	0.000000	-0.501104	0.00029	0.00002	0.00000
	0.000000	0.000000	-0.514117	0.00037	0.00001	0.00000
	0.000000	0.000000	-0.513357	0.00037	0.00001	0.00000
	0.000000	0.000000	-0.502588	0.00030	0.00002	0.00000
	0.000000	0.000000	-0.501828	0.00029	0.00002	0.00000
	0.000000	0.000000	-0.514841	0.00038	0.00001	0.00000
	0.000000	0.000000	-0.514081	0.00037	0.00001	0.00000
5	0.000000	0.000000	-0.511747	0.00031	-0.00002	0.00000
	0.000000	0.000000	-0.511631	0.00031	-0.00002	0.00000
	0.000000	0.000000	-0.520761	0.00038	-0.00002	0.00000
	0.000000	0.000000	-0.520645	0.00038	-0.00002	0.00000
	0.000000	0.000000	-0.511862	0.00031	-0.00002	0.00000
	0.000000	0.000000	-0.511745	0.00031	-0.00002	0.00000
	0.000000	0.000000	-0.520876	0.00038	-0.00002	0.00000
	0.000000	0.000000	-0.520759	0.00038	-0.00002	0.00000
	0.000000	0.000000	-0.510156	0.00031	-0.00001	0.00000
	0.000000	0.000000	-0.510040	0.00031	-0.00001	0.00000
	0.000000	0.000000	-0.519170	0.00038	-0.00001	0.00000
	0.000000	0.000000	-0.519054	0.00038	-0.00001	0.00000
	0.000000	0.000000	-0.510271	0.00031	-0.00001	0.00000
	0.000000	0.000000	-0.510154	0.00031	-0.00001	0.00000
	0.000000	0.000000	-0.519285	0.00038	-0.00002	0.00000
	0.000000	0.000000	-0.519169	0.00038	-0.00001	0.00000
6	0.000000	0.000000	-0.490493	0.00028	-0.00004	0.00000
	0.000000	0.000000	-0.491437	0.00028	-0.00003	0.00000
	0.000000	0.000000	-0.501994	0.00035	-0.00002	0.00000
	0.000000	0.000000	-0.502938	0.00035	-0.00002	0.00000
	0.000000	0.000000	-0.489590	0.00027	-0.00004	0.00000
	0.000000	0.000000	-0.490534	0.00028	-0.00004	0.00000
	0.000000	0.000000	-0.501091	0.00034	-0.00002	0.00000
	0.000000	0.000000	-0.502035	0.00035	-0.00002	0.00000
	0.000000	0.000000	-0.509424	0.00029	-0.00002	0.00000
	0.000000	0.000000	-0.510368	0.00029	-0.00002	0.00000
	0.000000	0.000000	-0.520925	0.00036	-0.00001	0.00000
	0.000000	0.000000	-0.521870	0.00036	-0.00001	0.00000
	0.000000	0.000000	-0.508521	0.00028	-0.00003	0.00000
	0.000000	0.000000	-0.509465	0.00029	-0.00002	0.00000
	0.000000	0.000000	-0.520022	0.00035	-0.00001	0.00000
	0.000000	0.000000	-0.520967	0.00036	-0.00001	0.00000
7	0.000000	0.000000	-0.460085	0.00021	-0.00010	0.00000
	0.000000	0.000000	-0.462182	0.00022	-0.00010	0.00000
	0.000000	0.000000	-0.479309	0.00030	-0.00007	0.00000
	0.000000	0.000000	-0.481406	0.00031	-0.00007	0.00000
	0.000000	0.000000	-0.458100	0.00021	-0.00010	0.00000
	0.000000	0.000000	-0.460196	0.00022	-0.00010	0.00000
	0.000000	0.000000	-0.477324	0.00029	-0.00008	0.00000
	0.000000	0.000000	-0.479420	0.00030	-0.00007	0.00000

	0.000000	0.000000	-0.482600	0.00022	-0.00013	0.00000
	0.000000	0.000000	-0.484697	0.00023	-0.00013	0.00000
	0.000000	0.000000	-0.501824	0.00031	-0.00010	0.00000
	0.000000	0.000000	-0.503921	0.00031	-0.00010	0.00000
	0.000000	0.000000	-0.480615	0.00021	-0.00014	0.00000
	0.000000	0.000000	-0.482711	0.00022	-0.00013	0.00000
	0.000000	0.000000	-0.499838	0.00030	-0.00011	0.00000
	0.000000	0.000000	-0.501935	0.00031	-0.00010	0.00000
8	0.000000	0.000000	-0.422620	0.00012	-0.00008	0.00000
	0.000000	0.000000	-0.426081	0.00013	-0.00008	0.00000
	0.000000	0.000000	-0.451751	0.00022	-0.00006	0.00000
	0.000000	0.000000	-0.455212	0.00024	-0.00005	0.00000
	0.000000	0.000000	-0.419355	0.00011	-0.00009	0.00000
	0.000000	0.000000	-0.422816	0.00012	-0.00008	0.00000
	0.000000	0.000000	-0.448486	0.00021	-0.00006	0.00000
	0.000000	0.000000	-0.451947	0.00022	-0.00006	0.00000
	0.000000	0.000000	-0.426945	0.00009	-0.00022	0.00000
	0.000000	0.000000	-0.430406	0.00010	-0.00021	0.00000
	0.000000	0.000000	-0.456076	0.00019	-0.00019	0.00000
	0.000000	0.000000	-0.459537	0.00020	-0.00019	0.00000
	0.000000	0.000000	-0.423680	0.00008	-0.00022	0.00000
	0.000000	0.000000	-0.427141	0.00009	-0.00021	0.00000
	0.000000	0.000000	-0.452811	0.00018	-0.00019	0.00000
	0.000000	0.000000	-0.456272	0.00019	-0.00019	0.00000
9	0.000000	0.000000	-0.402523	0.00003	0.00003	0.00000
	0.000000	0.000000	-0.407534	0.00005	0.00003	0.00000
	0.000000	0.000000	-0.442725	0.00016	0.00005	0.00000
	0.000000	0.000000	-0.447736	0.00017	0.00006	0.00000
	0.000000	0.000000	-0.397807	0.00002	0.00002	0.00000
	0.000000	0.000000	-0.402818	0.00003	0.00003	0.00000
	0.000000	0.000000	-0.438009	0.00014	0.00005	0.00000
	0.000000	0.000000	-0.443021	0.00016	0.00005	0.00000
	0.000000	0.000000	-0.330868	0.00002	-0.00023	0.00000
	0.000000	0.000000	-0.335879	0.00004	-0.00023	0.00000
	0.000000	0.000000	-0.371071	0.00014	-0.00020	0.00000
	0.000000	0.000000	-0.376082	0.00016	-0.00020	0.00000
	0.000000	0.000000	-0.326153	0.00000	-0.00023	0.00000
	0.000000	0.000000	-0.331164	0.00002	-0.00023	0.00000
	0.000000	0.000000	-0.366355	0.00013	-0.00020	0.00000
	0.000000	0.000000	-0.371366	0.00014	-0.00020	0.00000
10	0.000000	0.000000	-0.338250	0.00001	0.00018	0.00000
	0.000000	0.000000	-0.338066	0.00000	0.00018	0.00000
	0.000000	0.000000	-0.340510	0.00013	0.00018	0.00000
	0.000000	0.000000	-0.340327	0.00012	0.00018	0.00000
	0.000000	0.000000	-0.338416	0.00003	0.00018	0.00000
	0.000000	0.000000	-0.338232	0.00001	0.00018	0.00000
	0.000000	0.000000	-0.340677	0.00014	0.00018	0.00000
	0.000000	0.000000	-0.340493	0.00013	0.00018	0.00000
	0.000000	0.000000	-0.396768	0.00000	-0.00002	0.00000
	0.000000	0.000000	-0.396584	-0.00001	-0.00002	0.00000
	0.000000	0.000000	-0.399029	0.00012	-0.00003	0.00000
	0.000000	0.000000	-0.398845	0.00011	-0.00003	0.00000
	0.000000	0.000000	-0.396934	0.00002	-0.00002	0.00000
	0.000000	0.000000	-0.396750	0.00000	-0.00002	0.00000
	0.000000	0.000000	-0.399195	0.00013	-0.00003	0.00000
	0.000000	0.000000	-0.399011	0.00012	-0.00003	0.00000
11	0.000000	0.000000	-0.410466	0.00005	0.00021	0.00000
	0.000000	0.000000	-0.410388	0.00004	0.00021	0.00000
	0.000000	0.000000	-0.411177	0.00015	0.00020	0.00000
	0.000000	0.000000	-0.411099	0.00014	0.00020	0.00000
	0.000000	0.000000	-0.410541	0.00006	0.00021	0.00000
	0.000000	0.000000	-0.410463	0.00005	0.00021	0.00000
	0.000000	0.000000	-0.411252	0.00016	0.00020	0.00000
	0.000000	0.000000	-0.411174	0.00015	0.00020	0.00000
	0.000000	0.000000	-0.398781	0.00004	0.00002	0.00000
	0.000000	0.000000	-0.398703	0.00003	0.00002	0.00000
	0.000000	0.000000	-0.399492	0.00014	0.00002	0.00000
	0.000000	0.000000	-0.399413	0.00013	0.00002	0.00000
	0.000000	0.000000	-0.398856	0.00005	0.00002	0.00000
	0.000000	0.000000	-0.398778	0.00004	0.00002	0.00000
	0.000000	0.000000	-0.399567	0.00015	0.00002	0.00000
	0.000000	0.000000	-0.399489	0.00014	0.00002	0.00000
12	0.000000	0.000000	-0.391438	0.00003	-0.00001	0.00000
	0.000000	0.000000	-0.391524	0.00004	-0.00001	0.00000
	0.000000	0.000000	-0.392002	0.00011	-0.00001	0.00000
	0.000000	0.000000	-0.392088	0.00012	-0.00001	0.00000
	0.000000	0.000000	-0.391356	0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.391442	0.00003	-0.00001	0.00000
	0.000000	0.000000	-0.391921	0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.392007	0.00011	-0.00001	0.00000
	0.000000	0.000000	-0.406424	0.00004	-0.00021	0.00000
	0.000000	0.000000	-0.406510	0.00004	-0.00021	0.00000
	0.000000	0.000000	-0.406988	0.00011	-0.00020	0.00000
	0.000000	0.000000	-0.407074	0.00012	-0.00020	0.00000
	0.000000	0.000000	-0.406342	0.00003	-0.00021	0.00000
	0.000000	0.000000	-0.406428	0.00004	-0.00021	0.00000
	0.000000	0.000000	-0.406907	0.00011	-0.00020	0.00000
	0.000000	0.000000	-0.406993	0.00012	-0.00020	0.00000
13	0.000000	0.000000	-0.401447	-0.00002	0.00007	0.00000
	0.000000	0.000000	-0.401622	0.00000	0.00007	0.00000
	0.000000	0.000000	-0.403471	0.00009	0.00008	0.00000
	0.000000	0.000000	-0.403646	0.00010	0.00008	0.00000
	0.000000	0.000000	-0.401284	-0.00003	0.00007	0.00000
	0.000000	0.000000	-0.401460	-0.00001	0.00007	0.00000
	0.000000	0.000000	-0.403308	0.00008	0.00008	0.00000
	0.000000	0.000000	-0.403483	0.00009	0.00008	0.00000
	0.000000	0.000000	-0.330890	0.00000	-0.00018	0.00000
	0.000000	0.000000	-0.331065	0.00001	-0.00018	0.00000
	0.000000	0.000000	-0.332914	0.00010	-0.00018	0.00000
	0.000000	0.000000	-0.333089	0.00011	-0.00018	0.00000
	0.000000	0.000000	-0.330727	-0.00002	-0.00018	0.00000
	0.000000	0.000000	-0.330903	0.00000	-0.00018	0.00000
	0.000000	0.000000	-0.332751	0.00009	-0.00018	0.00000
	0.000000	0.000000	-0.332926	0.00010	-0.00018	0.00000
14	0.000000	0.000000	-0.342066	-0.00004	0.00017	0.00000
	0.000000	0.000000	-0.346534	-0.00006	0.00017	0.00000
	0.000000	0.000000	-0.297010	0.00009	0.00020	0.00000
	0.000000	0.000000	-0.301478	0.00007	0.00019	0.00000
	0.000000	0.000000	-0.337868	-0.00003	0.00018	0.00000
	0.000000	0.000000	-0.342336	-0.00004	0.00017	0.00000
	0.000000	0.000000	-0.292811	0.00010	0.00020	0.00000
	0.000000	0.000000	-0.297279	0.00008	0.00020	0.00000
	0.000000	0.000000	-0.411524	-0.00009	-0.00003	0.00000
	0.000000	0.000000	-0.415992	-0.00010	-0.00003	0.00000
	0.000000	0.000000	-0.366468	0.00004	-0.00001	0.00000
	0.000000	0.000000	-0.370936	0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.407326	-0.00008	-0.00003	0.00000
	0.000000	0.000000	-0.411794	-0.00009	-0.00003	0.00000
	0.000000	0.000000	-0.362269	0.00005	0.00000	0.00000
	0.000000	0.000000	-0.366737	0.00004	-0.00001	0.00000
15	0.000000	0.000000	-0.404789	-0.00005	0.00014	0.00000
	0.000000	0.000000	-0.408265	-0.00006	0.00013	0.00000
	0.000000	0.000000	-0.369195	0.00006	0.00016	0.00000
	0.000000	0.000000	-0.372670	0.00005	0.00016	0.00000
	0.000000	0.000000	-0.401507	-0.00004	0.00014	0.00000
	0.000000	0.000000	-0.404982	-0.00005	0.00013	0.00000
	0.000000	0.000000	-0.365912	0.00007	0.00016	0.00000
	0.000000	0.000000	-0.369388	0.00006	0.00016	0.00000
	0.000000	0.000000	-0.413947	-0.00011	0.00001	0.00000
	0.000000	0.000000	-0.417422	-0.00012	0.00001	0.00000
	0.000000	0.000000	-0.378352	0.00000	0.00004	0.00000
	0.000000	0.000000	-0.381828	-0.00001	0.00004	0.00000
	0.000000	0.000000	-0.410664	-0.00010	0.00002	0.00000
	0.000000	0.000000	-0.414140	-0.00011	0.00001	0.00000
	0.000000	0.000000	-0.375070	0.00001	0.00004	0.00000
	0.000000	0.000000	-0.378546	0.00000	0.00004	0.00000
16	0.000000	0.000000	-0.436501	-0.00013	0.00004	0.00000
	0.000000	0.000000	-0.438265	-0.00014	0.00004	0.00000
	0.000000	0.000000	-0.416002	-0.00004	0.00007	0.00000

	0.000000	0.000000	-0.417767	-0.00004	0.00007	0.00000
	0.000000	0.000000	-0.434831	-0.00013	0.00005	0.00000
	0.000000	0.000000	-0.436595	-0.00013	0.00004	0.00000
	0.000000	0.000000	-0.414333	-0.00003	0.00008	0.00000
	0.000000	0.000000	-0.416097	-0.00004	0.00007	0.00000
	0.000000	0.000000	-0.428439	-0.00016	0.00002	0.00000
	0.000000	0.000000	-0.430203	-0.00016	0.00002	0.00000
	0.000000	0.000000	-0.407940	-0.00006	0.00005	0.00000
	0.000000	0.000000	-0.409704	-0.00007	0.00005	0.00000
	0.000000	0.000000	-0.426769	-0.00015	0.00002	0.00000
	0.000000	0.000000	-0.428533	-0.00016	0.00002	0.00000
	0.000000	0.000000	-0.406271	-0.00005	0.00005	0.00000
	0.000000	0.000000	-0.408035	-0.00006	0.00005	0.00000
17	0.000000	0.000000	-0.441236	-0.00016	0.00001	0.00000
	0.000000	0.000000	-0.441973	-0.00016	0.00001	0.00000
	0.000000	0.000000	-0.429187	-0.00008	0.00002	0.00000
	0.000000	0.000000	-0.429924	-0.00009	0.00002	0.00000
	0.000000	0.000000	-0.440534	-0.00015	0.00001	0.00000
	0.000000	0.000000	-0.441271	-0.00016	0.00001	0.00000
	0.000000	0.000000	-0.428485	-0.00008	0.00002	0.00000
	0.000000	0.000000	-0.429222	-0.00008	0.00002	0.00000
	0.000000	0.000000	-0.434436	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.435173	-0.00017	0.00000	0.00000
	0.000000	0.000000	-0.422387	-0.00009	0.00001	0.00000
	0.000000	0.000000	-0.423124	-0.00009	0.00001	0.00000
	0.000000	0.000000	-0.433734	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.434471	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.421685	-0.00009	0.00001	0.00000
	0.000000	0.000000	-0.422421	-0.00009	0.00001	0.00000
18	0.000000	0.000000	-0.438721	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.438838	-0.00016	-0.00002	0.00000
	0.000000	0.000000	-0.429781	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.429898	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.438608	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.438725	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.429668	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.429785	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.437478	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.437595	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.428538	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.428655	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.437365	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.437482	-0.00016	-0.00001	0.00000
	0.000000	0.000000	-0.428425	-0.00010	-0.00001	0.00000
	0.000000	0.000000	-0.428542	-0.00010	-0.00001	0.00000
19	0.000000	0.000000	-0.427257	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.426343	-0.00015	0.00000	0.00000
	0.000000	0.000000	-0.415966	-0.00009	-0.00002	0.00000
	0.000000	0.000000	-0.415052	-0.00009	-0.00002	0.00000
	0.000000	0.000000	-0.428137	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.427222	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.416846	-0.00009	-0.00001	0.00000
	0.000000	0.000000	-0.415931	-0.00009	-0.00002	0.00000
	0.000000	0.000000	-0.442382	-0.00015	0.00000	0.00000
	0.000000	0.000000	-0.441468	-0.00015	0.00000	0.00000
	0.000000	0.000000	-0.431091	-0.00008	-0.00001	0.00000
	0.000000	0.000000	-0.430176	-0.00008	-0.00002	0.00000
	0.000000	0.000000	-0.443262	-0.00016	0.00000	0.00000
	0.000000	0.000000	-0.442347	-0.00015	0.00000	0.00000
	0.000000	0.000000	-0.431970	-0.00009	-0.00001	0.00000
	0.000000	0.000000	-0.431056	-0.00008	-0.00001	0.00000
20	0.000000	0.000000	-0.418466	-0.00015	-0.00002	0.00000
	0.000000	0.000000	-0.416455	-0.00014	-0.00002	0.00000
	0.000000	0.000000	-0.399726	-0.00007	-0.00005	0.00000
	0.000000	0.000000	-0.397715	-0.00006	-0.00005	0.00000
	0.000000	0.000000	-0.420375	-0.00016	-0.00002	0.00000
	0.000000	0.000000	-0.418364	-0.00015	-0.00002	0.00000
	0.000000	0.000000	-0.401635	-0.00008	-0.00005	0.00000
	0.000000	0.000000	-0.399624	-0.00007	-0.00005	0.00000
	0.000000	0.000000	-0.432916	-0.00013	-0.00006	0.00000
	0.000000	0.000000	-0.430905	-0.00012	-0.00007	0.00000
	0.000000	0.000000	-0.414176	-0.00004	-0.00009	0.00000
	0.000000	0.000000	-0.412165	-0.00004	-0.00009	0.00000
	0.000000	0.000000	-0.434825	-0.00013	-0.00006	0.00000
	0.000000	0.000000	-0.432814	-0.00012	-0.00006	0.00000
	0.000000	0.000000	-0.416085	-0.00005	-0.00009	0.00000
	0.000000	0.000000	-0.414074	-0.00004	-0.00009	0.00000
21	0.000000	0.000000	-0.410372	-0.00012	0.00000	0.00000
	0.000000	0.000000	-0.407052	-0.00011	-0.00001	0.00000
	0.000000	0.000000	-0.382054	-0.00003	-0.00003	0.00000
	0.000000	0.000000	-0.378734	-0.00002	-0.00003	0.00000
	0.000000	0.000000	-0.413503	-0.00013	0.00000	0.00000
	0.000000	0.000000	-0.410183	-0.00012	0.00000	0.00000
	0.000000	0.000000	-0.385185	-0.00004	-0.00003	0.00000
	0.000000	0.000000	-0.381865	-0.00003	-0.00003	0.00000
	0.000000	0.000000	-0.403067	-0.00005	-0.00014	0.00000
	0.000000	0.000000	-0.399747	-0.00004	-0.00014	0.00000
	0.000000	0.000000	-0.374749	0.00004	-0.00016	0.00000
	0.000000	0.000000	-0.371429	0.00005	-0.00017	0.00000
	0.000000	0.000000	-0.406198	-0.00006	-0.00014	0.00000
	0.000000	0.000000	-0.402878	-0.00005	-0.00014	0.00000
	0.000000	0.000000	-0.377880	0.00003	-0.00016	0.00000
	0.000000	0.000000	-0.374560	0.00004	-0.00016	0.00000
22	0.000000	0.000000	-0.422745	-0.00010	0.00009	0.00000
	0.000000	0.000000	-0.417917	-0.00009	0.00009	0.00000
	0.000000	0.000000	-0.383741	0.00001	0.00006	0.00000
	0.000000	0.000000	-0.378913	0.00002	0.00006	0.00000
	0.000000	0.000000	-0.427274	-0.00012	0.00009	0.00000
	0.000000	0.000000	-0.422446	-0.00010	0.00009	0.00000
	0.000000	0.000000	-0.388270	-0.00001	0.00006	0.00000
	0.000000	0.000000	-0.383442	0.00001	0.00006	0.00000
	0.000000	0.000000	-0.339570	-0.00005	-0.00016	0.00000
	0.000000	0.000000	-0.334742	-0.00003	-0.00017	0.00000
	0.000000	0.000000	-0.300566	0.00006	-0.00019	0.00000
	0.000000	0.000000	-0.295738	0.00008	-0.00019	0.00000
	0.000000	0.000000	-0.344099	-0.00006	-0.00016	0.00000
	0.000000	0.000000	-0.339271	-0.00005	-0.00016	0.00000
	0.000000	0.000000	-0.305095	0.00005	-0.00019	0.00000
	0.000000	0.000000	-0.300267	0.00006	-0.00019	0.00000

GRAFICO DELLE PRESSIONI SUL TERRENO PER LA CONDIZIONE SISMICA LUNGO X DI APPROCCIO 1

Piano XY Z = 0 cm



VERIFICHE PER LA CONDIZIONE SISMICA LUNGO Y DI APPROCCIO 1

CONDIZIONE SISMA Y

SPOSTAMENTI NODI

CASO DI CARICO : 5 SLU con SISMAY PRINC COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
3 SISMAY SLU 1.00
2 SISMAX SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.001
2) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.002
3) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.003
4) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.004
5) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.001
6) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.002
7) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.003
8) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.004
9) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.001
10) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.002
11) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.003
12) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.004
13) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.001
14) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.002
15) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.003
16) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.004
Unità di misura: SX,SY,SZ [cm]; RX,RY,RZ [rad]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	0.000000	0.000000	-0.320582	-0.00010	0.00018	0.00000
	0.000000	0.000000	-0.321887	-0.00009	0.00018	0.00000
	0.000000	0.000000	-0.338145	-0.00010	0.00012	0.00000
	0.000000	0.000000	-0.339450	-0.00009	0.00012	0.00000
	0.000000	0.000000	-0.305142	-0.00015	0.00019	0.00000
	0.000000	0.000000	-0.306447	-0.00014	0.00019	0.00000
	0.000000	0.000000	-0.322705	-0.00014	0.00013	0.00000
	0.000000	0.000000	-0.324011	-0.00014	0.00013	0.00000
	0.000000	0.000000	-0.475641	0.00038	0.00011	0.00000
	0.000000	0.000000	-0.476947	0.00039	0.00011	0.00000
	0.000000	0.000000	-0.493205	0.00039	0.00004	0.00000
	0.000000	0.000000	-0.494510	0.00039	0.00004	0.00000
	0.000000	0.000000	-0.460202	0.00034	0.00011	0.00000
	0.000000	0.000000	-0.461507	0.00034	0.00011	0.00000
	0.000000	0.000000	-0.477765	0.00034	0.00005	0.00000
	0.000000	0.000000	-0.479070	0.00034	0.00005	0.00000
2	0.000000	0.000000	-0.398935	-0.00002	0.00018	0.00000
	0.000000	0.000000	-0.399961	-0.00001	0.00018	0.00000
	0.000000	0.000000	-0.398146	-0.00001	0.00015	0.00000
	0.000000	0.000000	-0.399172	0.00000	0.00015	0.00000
	0.000000	0.000000	-0.386871	-0.00006	0.00019	0.00000
	0.000000	0.000000	-0.387897	-0.00005	0.00019	0.00000
	0.000000	0.000000	-0.386082	-0.00005	0.00016	0.00000
	0.000000	0.000000	-0.387108	-0.00005	0.00016	0.00000
	0.000000	0.000000	-0.521512	0.00041	0.00009	0.00000
	0.000000	0.000000	-0.522538	0.00042	0.00009	0.00000
	0.000000	0.000000	-0.520723	0.00042	0.00005	0.00000
	0.000000	0.000000	-0.521749	0.00042	0.00005	0.00000
	0.000000	0.000000	-0.509448	0.00037	0.00010	0.00000
	0.000000	0.000000	-0.510474	0.00037	0.00010	0.00000
	0.000000	0.000000	-0.508659	0.00038	0.00006	0.00000
	0.000000	0.000000	-0.509685	0.00038	0.00006	0.00000
3	0.000000	0.000000	-0.468038	0.00013	0.00012	0.00000
	0.000000	0.000000	-0.468560	0.00013	0.00012	0.00000
	0.000000	0.000000	-0.463558	0.00013	0.00011	0.00000
	0.000000	0.000000	-0.464081	0.00013	0.00011	0.00000
	0.000000	0.000000	-0.461906	0.00010	0.00013	0.00000
	0.000000	0.000000	-0.462429	0.00011	0.00013	0.00000
	0.000000	0.000000	-0.457427	0.00010	0.00012	0.00000
	0.000000	0.000000	-0.457949	0.00011	0.00012	0.00000
	0.000000	0.000000	-0.538330	0.00048	0.00001	0.00000
	0.000000	0.000000	-0.538852	0.00048	0.00001	0.00000
	0.000000	0.000000	-0.533850	0.00048	0.00001	0.00000
	0.000000	0.000000	-0.534373	0.00048	0.00001	0.00000
	0.000000	0.000000	-0.532198	0.00045	0.00003	0.00000
	0.000000	0.000000	-0.532720	0.00045	0.00002	0.00000
	0.000000	0.000000	-0.527718	0.00045	0.00002	0.00000
	0.000000	0.000000	-0.528241	0.00045	0.00002	0.00000
4	0.000000	0.000000	-0.494980	0.00021	0.00004	0.00000
	0.000000	0.000000	-0.495198	0.00021	0.00004	0.00000
	0.000000	0.000000	-0.492085	0.00021	0.00004	0.00000
	0.000000	0.000000	-0.492303	0.00021	0.00004	0.00000
	0.000000	0.000000	-0.492448	0.00019	0.00004	0.00000
	0.000000	0.000000	-0.492666	0.00020	0.00004	0.00000
	0.000000	0.000000	-0.489553	0.00019	0.00004	0.00000
	0.000000	0.000000	-0.489771	0.00019	0.00004	0.00000
	0.000000	0.000000	-0.535824	0.00047	-0.00001	0.00000
	0.000000	0.000000	-0.536041	0.00048	-0.00001	0.00000
	0.000000	0.000000	-0.532929	0.00047	-0.00001	0.00000
	0.000000	0.000000	-0.533147	0.00047	-0.00001	0.00000
	0.000000	0.000000	-0.533292	0.00046	0.00000	0.00000
	0.000000	0.000000	-0.533509	0.00046	0.00000	0.00000
	0.000000	0.000000	-0.530397	0.00046	0.00000	0.00000
	0.000000	0.000000	-0.530614	0.00046	0.00000	0.00000
5	0.000000	0.000000	-0.500850	0.00023	-0.00002	0.00000
	0.000000	0.000000	-0.500884	0.00023	-0.00002	0.00000
	0.000000	0.000000	-0.500372	0.00023	-0.00001	0.00000
	0.000000	0.000000	-0.500407	0.00023	-0.00002	0.00000
	0.000000	0.000000	-0.500461	0.00023	-0.00001	0.00000
	0.000000	0.000000	-0.500496	0.00023	-0.00001	0.00000
	0.000000	0.000000	-0.499984	0.00023	-0.00001	0.00000
	0.000000	0.000000	-0.500019	0.00023	-0.00001	0.00000
	0.000000	0.000000	-0.530897	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530932	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530420	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530454	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530509	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530543	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530032	0.00046	-0.00002	0.00000
	0.000000	0.000000	-0.530066	0.00046	-0.00002	0.00000
6	0.000000	0.000000	-0.482283	0.00019	-0.00005	0.00000
	0.000000	0.000000	-0.482012	0.00019	-0.00005	0.00000
	0.000000	0.000000	-0.487963	0.00019	-0.00005	0.00000
	0.000000	0.000000	-0.487692	0.00019	-0.00005	0.00000
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	0.000000	0.000000	-0.491110	0.00020	-0.00004	0.00000
	0.000000	0.000000	-0.490839	0.00020	-0.00004	0.00000
	0.000000	0.000000	-0.520621	0.00043	0.00000	0.00000
	0.000000	0.000000	-0.520350	0.00043	0.00000	0.00000
	0.000000	0.000000	-0.526300	0.00043	0.00000	0.00000
	0.000000	0.000000	-0.526029	0.00043	0.00000	0.00000
	0.000000	0.000000	-0.523768	0.00044	0.00000	0.00000
	0.000000	0.000000	-0.523497	0.00044	0.00000	0.00000
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	0.000000	0.000000	-0.529176	0.00045	0.00001	0.00000
7	0.000000	0.000000	-0.442397	0.00010	-0.00015	0.00000
	0.000000	0.000000	-0.441801	0.00010	-0.00015	0.00000
	0.000000	0.000000	-0.449151	0.00010	-0.00016	0.00000
	0.000000	0.000000	-0.448556	0.00010	-0.00016	0.00000
	0.000000	0.000000	-0.449386	0.00013	-0.00014	0.00000
	0.000000	0.000000	-0.448790	0.00013	-0.00014	0.00000
	0.000000	0.000000	-0.456140	0.00013	-0.00015	0.00000
	0.000000	0.000000	-0.455544	0.00013	-0.00015	0.00000

	0.000000	0.000000	-0.506476	0.00039	-0.00006	0.00000
	0.000000	0.000000	-0.505880	0.00039	-0.00006	0.00000
	0.000000	0.000000	-0.513230	0.00039	-0.00007	0.00000
	0.000000	0.000000	-0.512635	0.00039	-0.00007	0.00000
	0.000000	0.000000	-0.513465	0.00042	-0.00004	0.00000
	0.000000	0.000000	-0.512869	0.00042	-0.00005	0.00000
	0.000000	0.000000	-0.520219	0.00042	-0.00005	0.00000
	0.000000	0.000000	-0.519624	0.00042	-0.00005	0.00000
8	0.000000	0.000000	-0.384966	-0.00002	-0.00016	0.00000
	0.000000	0.000000	-0.383987	-0.00003	-0.00016	0.00000
	0.000000	0.000000	-0.386264	-0.00003	-0.00020	0.00000
	0.000000	0.000000	-0.385284	-0.00004	-0.00020	0.00000
	0.000000	0.000000	-0.396504	0.00002	-0.00015	0.00000
	0.000000	0.000000	-0.395525	0.00001	-0.00015	0.00000
	0.000000	0.000000	-0.397802	0.00001	-0.00019	0.00000
	0.000000	0.000000	-0.396822	0.00000	-0.00019	0.00000
	0.000000	0.000000	-0.482070	0.00031	-0.00008	0.00000
	0.000000	0.000000	-0.481090	0.00031	-0.00008	0.00000
	0.000000	0.000000	-0.483367	0.00030	-0.00012	0.00000
	0.000000	0.000000	-0.482388	0.00030	-0.00012	0.00000
	0.000000	0.000000	-0.493608	0.00035	-0.00007	0.00000
	0.000000	0.000000	-0.492628	0.00035	-0.00007	0.00000
	0.000000	0.000000	-0.494905	0.00034	-0.00011	0.00000
	0.000000	0.000000	-0.493926	0.00034	-0.00011	0.00000
9	0.000000	0.000000	-0.323044	-0.00014	-0.00010	0.00000
	0.000000	0.000000	-0.321629	-0.00015	-0.00010	0.00000
	0.000000	0.000000	-0.301547	-0.00015	-0.00018	0.00000
	0.000000	0.000000	-0.300133	-0.00015	-0.00018	0.00000
	0.000000	0.000000	-0.339747	-0.00009	-0.00009	0.00000
	0.000000	0.000000	-0.338333	-0.00009	-0.00009	0.00000
	0.000000	0.000000	-0.318251	-0.00009	-0.00017	0.00000
	0.000000	0.000000	-0.316836	-0.00010	-0.00017	0.00000
	0.000000	0.000000	-0.457052	0.00027	-0.00001	0.00000
	0.000000	0.000000	-0.455638	0.00027	-0.00001	0.00000
	0.000000	0.000000	-0.435556	0.00027	-0.00009	0.00000
	0.000000	0.000000	-0.434141	0.00026	-0.00009	0.00000
	0.000000	0.000000	-0.473756	0.00033	0.00000	0.00000
	0.000000	0.000000	-0.472341	0.00032	0.00000	0.00000
	0.000000	0.000000	-0.452260	0.00032	-0.00008	0.00000
	0.000000	0.000000	-0.450845	0.00032	-0.00008	0.00000
10	0.000000	0.000000	-0.356367	-0.00011	0.00012	0.00000
	0.000000	0.000000	-0.356417	-0.00011	0.00012	0.00000
	0.000000	0.000000	-0.373922	-0.00011	0.00005	0.00000
	0.000000	0.000000	-0.373972	-0.00011	0.00005	0.00000
	0.000000	0.000000	-0.355754	-0.00015	0.00012	0.00000
	0.000000	0.000000	-0.355804	-0.00015	0.00012	0.00000
	0.000000	0.000000	-0.373310	-0.00015	0.00005	0.00000
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	0.000000	0.000000	-0.363901	0.00029	0.00010	0.00000
	0.000000	0.000000	-0.363951	0.00029	0.00010	0.00000
	0.000000	0.000000	-0.381457	0.00028	0.00004	0.00000
	0.000000	0.000000	-0.381507	0.00029	0.00004	0.00000
	0.000000	0.000000	-0.363289	0.00025	0.00010	0.00000
	0.000000	0.000000	-0.363339	0.00025	0.00010	0.00000
	0.000000	0.000000	-0.380844	0.00024	0.00004	0.00000
	0.000000	0.000000	-0.380894	0.00025	0.00004	0.00000
11	0.000000	0.000000	-0.405665	-0.00006	0.00014	0.00000
	0.000000	0.000000	-0.405687	-0.00006	0.00014	0.00000
	0.000000	0.000000	-0.402159	-0.00006	0.00009	0.00000
	0.000000	0.000000	-0.402182	-0.00006	0.00009	0.00000
	0.000000	0.000000	-0.405404	-0.00009	0.00015	0.00000
	0.000000	0.000000	-0.405427	-0.00009	0.00015	0.00000
	0.000000	0.000000	-0.401899	-0.00009	0.00009	0.00000
	0.000000	0.000000	-0.401921	-0.00009	0.00009	0.00000
	0.000000	0.000000	-0.408034	0.00028	0.00013	0.00000
	0.000000	0.000000	-0.408056	0.00028	0.00013	0.00000
	0.000000	0.000000	-0.404528	0.00027	0.00008	0.00000
	0.000000	0.000000	-0.404551	0.00028	0.00008	0.00000
	0.000000	0.000000	-0.407773	0.00024	0.00013	0.00000
	0.000000	0.000000	-0.407796	0.00025	0.00013	0.00000
	0.000000	0.000000	-0.404267	0.00024	0.00008	0.00000
	0.000000	0.000000	-0.404290	0.00024	0.00008	0.00000
12	0.000000	0.000000	-0.395895	-0.00008	-0.00008	0.00000
	0.000000	0.000000	-0.395871	-0.00008	-0.00008	0.00000
	0.000000	0.000000	-0.400391	-0.00007	-0.00014	0.00000
	0.000000	0.000000	-0.400367	-0.00008	-0.00014	0.00000
	0.000000	0.000000	-0.396182	-0.00005	-0.00008	0.00000
	0.000000	0.000000	-0.396158	-0.00005	-0.00008	0.00000
	0.000000	0.000000	-0.400678	-0.00004	-0.00014	0.00000
	0.000000	0.000000	-0.400654	-0.00005	-0.00014	0.00000
	0.000000	0.000000	-0.397777	0.00019	-0.00007	0.00000
	0.000000	0.000000	-0.397753	0.00018	-0.00007	0.00000
	0.000000	0.000000	-0.402273	0.00019	-0.00013	0.00000
	0.000000	0.000000	-0.402248	0.00019	-0.00013	0.00000
	0.000000	0.000000	-0.398064	0.00022	-0.00007	0.00000
	0.000000	0.000000	-0.398039	0.00022	-0.00007	0.00000
	0.000000	0.000000	-0.402560	0.00022	-0.00013	0.00000
	0.000000	0.000000	-0.402535	0.00022	-0.00013	0.00000
13	0.000000	0.000000	-0.374130	-0.00015	-0.00002	0.00000
	0.000000	0.000000	-0.374081	-0.00015	-0.00002	0.00000
	0.000000	0.000000	-0.352963	-0.00015	-0.00010	0.00000
	0.000000	0.000000	-0.352914	-0.00015	-0.00010	0.00000
	0.000000	0.000000	-0.374714	-0.00011	-0.00002	0.00000
	0.000000	0.000000	-0.374665	-0.00011	-0.00002	0.00000
	0.000000	0.000000	-0.353547	-0.00010	-0.00010	0.00000
	0.000000	0.000000	-0.353498	-0.00011	-0.00010	0.00000
	0.000000	0.000000	-0.380875	0.00019	-0.00001	0.00000
	0.000000	0.000000	-0.380826	0.00019	-0.00001	0.00000
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	0.000000	0.000000	-0.359659	0.00019	-0.00008	0.00000
	0.000000	0.000000	-0.381459	0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.381410	0.00023	-0.00001	0.00000
	0.000000	0.000000	-0.360292	0.00024	-0.00008	0.00000
	0.000000	0.000000	-0.360243	0.00024	-0.00008	0.00000
14	0.000000	0.000000	-0.412260	-0.00019	0.00008	0.00000
	0.000000	0.000000	-0.411001	-0.00019	0.00008	0.00000
	0.000000	0.000000	-0.433098	-0.00020	0.00002	0.00000
	0.000000	0.000000	-0.431838	-0.00020	0.00002	0.00000
	0.000000	0.000000	-0.427154	-0.00023	0.00007	0.00000
	0.000000	0.000000	-0.425894	-0.00023	0.00007	0.00000
	0.000000	0.000000	-0.447991	-0.00025	0.00001	0.00000
	0.000000	0.000000	-0.446732	-0.00024	0.00001	0.00000
	0.000000	0.000000	-0.262072	0.00024	0.00015	0.00000
	0.000000	0.000000	-0.260812	0.00024	0.00015	0.00000
	0.000000	0.000000	-0.282909	0.00022	0.00009	0.00000
	0.000000	0.000000	-0.281650	0.00023	0.00009	0.00000
	0.000000	0.000000	-0.276965	0.00019	0.00015	0.00000
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	0.000000	0.000000	-0.296543	0.00018	0.00009	0.00000
15	0.000000	0.000000	-0.444318	-0.00019	0.00006	0.00000
	0.000000	0.000000	-0.443333	-0.00018	0.00007	0.00000
	0.000000	0.000000	-0.447065	-0.00020	0.00003	0.00000
	0.000000	0.000000	-0.446080	-0.00020	0.00003	0.00000
	0.000000	0.000000	-0.455903	-0.00022	0.00006	0.00000
	0.000000	0.000000	-0.454918	-0.00022	0.00006	0.00000
	0.000000	0.000000	-0.458650	-0.00024	0.00002	0.00000
	0.000000	0.000000	-0.457666	-0.00024	0.00002	0.00000
	0.000000	0.000000	-0.325669	0.00019	0.00016	0.00000
	0.000000	0.000000	-0.324684	0.00019	0.00016	0.00000
	0.000000	0.000000	-0.328416	0.00017	0.00012	0.00000
	0.000000	0.000000	-0.327432	0.00017	0.00012	0.00000
	0.000000	0.000000	-0.337255	0.00015	0.00015	0.00000
	0.000000	0.000000	-0.336270	0.00015	0.00015	0.00000
	0.000000	0.000000	-0.340002	0.00013	0.00011	0.00000
	0.000000	0.000000	-0.339017	0.00013	0.00011	0.00000
16	0.000000	0.000000	-0.454952	-0.00024	0.00001	0.00000
	0.000000	0.000000	-0.454451	-0.00024	0.00001	0.00000
	0.000000	0.000000	-0.452533	-0.00025	0.00000	0.00000

	0.000000	0.000000	-0.452032	-0.00025	0.00000	0.00000
	0.000000	0.000000	-0.460832	-0.00027	0.00000	0.00000
	0.000000	0.000000	-0.460331	-0.00026	0.00000	0.00000
	0.000000	0.000000	-0.458414	-0.00027	-0.00001	0.00000
	0.000000	0.000000	-0.457913	-0.00027	-0.00001	0.00000
	0.000000	0.000000	-0.386623	0.00008	0.00010	0.00000
	0.000000	0.000000	-0.386122	0.00008	0.00010	0.00000
	0.000000	0.000000	-0.384205	0.00007	0.00010	0.00000
	0.000000	0.000000	-0.383704	0.00007	0.00010	0.00000
	0.000000	0.000000	-0.392504	0.00005	0.00009	0.00000
	0.000000	0.000000	-0.392003	0.00005	0.00009	0.00000
	0.000000	0.000000	-0.390085	0.00005	0.00009	0.00000
	0.000000	0.000000	-0.389584	0.00005	0.00009	0.00000
17	0.000000	0.000000	-0.451808	-0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.451598	-0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.449768	-0.00024	-0.00001	0.00000
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	0.000000	0.000000	-0.454264	-0.00026	-0.00001	0.00000
	0.000000	0.000000	-0.454054	-0.00025	-0.00001	0.00000
	0.000000	0.000000	-0.452224	-0.00026	-0.00001	0.00000
	0.000000	0.000000	-0.452014	-0.00026	-0.00001	0.00000
	0.000000	0.000000	-0.411644	0.00001	0.00004	0.00000
	0.000000	0.000000	-0.411433	0.00001	0.00004	0.00000
	0.000000	0.000000	-0.409604	0.00001	0.00003	0.00000
	0.000000	0.000000	-0.409393	0.00001	0.00003	0.00000
	0.000000	0.000000	-0.414100	0.00000	0.00003	0.00000
	0.000000	0.000000	-0.413889	0.00000	0.00003	0.00000
	0.000000	0.000000	-0.412060	0.00000	0.00003	0.00000
	0.000000	0.000000	-0.411849	0.00000	0.00003	0.00000
18	0.000000	0.000000	-0.448540	-0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.448506	-0.00024	-0.00001	0.00000
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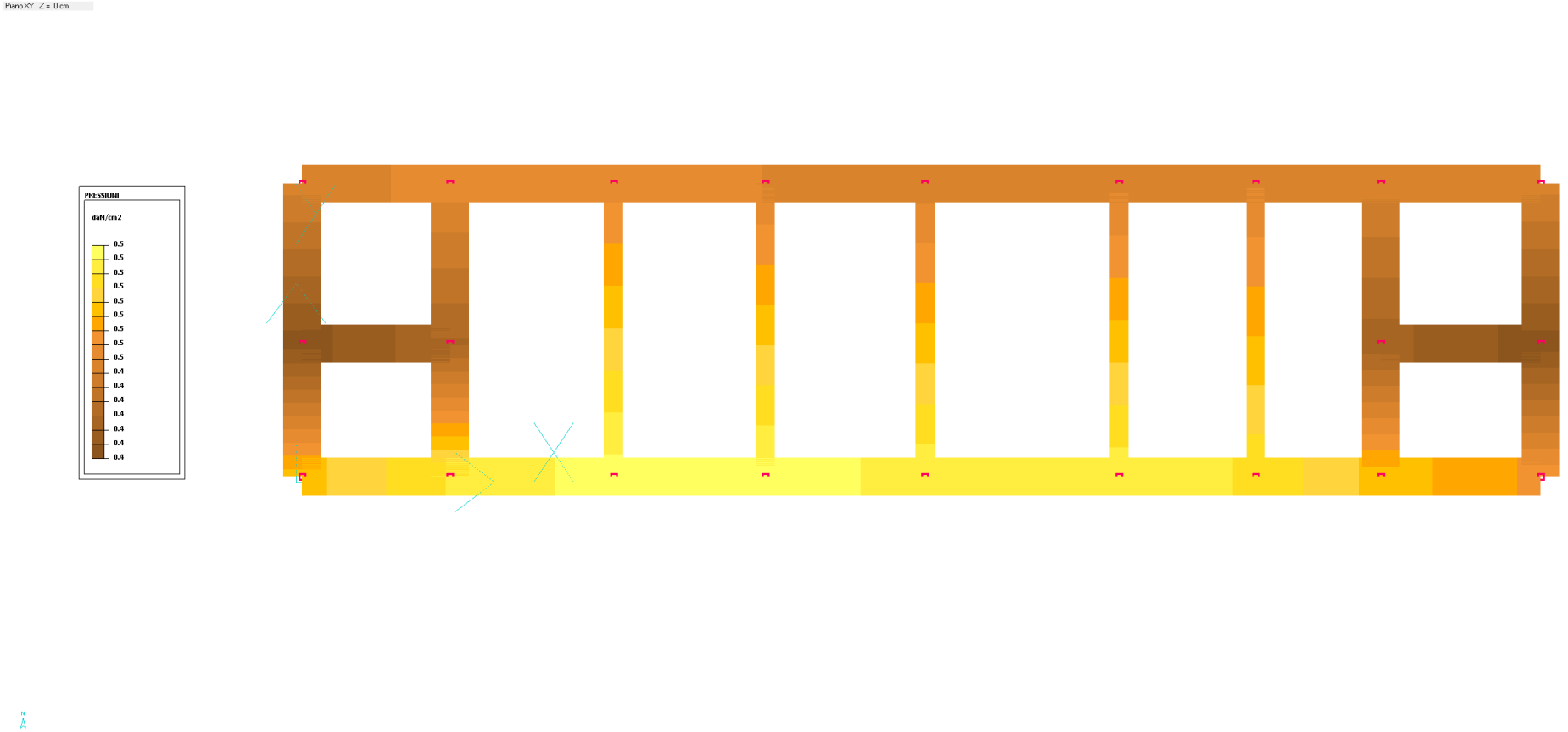
	0.000000	0.000000	-0.448133	-0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.448931	-0.00024	-0.00002	0.00000
	0.000000	0.000000	-0.448897	-0.00024	-0.00002	0.00000
	0.000000	0.000000	-0.448558	-0.00024	-0.00002	0.00000
	0.000000	0.000000	-0.448524	-0.00024	-0.00002	0.00000
	0.000000	0.000000	-0.418739	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.418705	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.418366	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.418332	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.419130	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.419096	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.418757	-0.00002	-0.00001	0.00000
	0.000000	0.000000	-0.418723	-0.00002	-0.00001	0.00000
19	0.000000	0.000000	-0.447099	-0.00024	0.00002	0.00000
	0.000000	0.000000	-0.447363	-0.00024	0.00002	0.00000
	0.000000	0.000000	-0.451637	-0.00024	0.00002	0.00000
	0.000000	0.000000	-0.451900	-0.00024	0.00002	0.00000
	0.000000	0.000000	-0.444051	-0.00023	0.00001	0.00000
	0.000000	0.000000	-0.444315	-0.00023	0.00001	0.00000
	0.000000	0.000000	-0.448588	-0.00023	0.00001	0.00000
	0.000000	0.000000	-0.448852	-0.00023	0.00001	0.00000
	0.000000	0.000000	-0.409461	-0.00001	-0.00003	0.00000
	0.000000	0.000000	-0.409725	-0.00001	-0.00003	0.00000
	0.000000	0.000000	-0.413998	-0.00001	-0.00003	0.00000
	0.000000	0.000000	-0.414262	-0.00001	-0.00003	0.00000
	0.000000	0.000000	-0.406413	0.00000	-0.00004	0.00000
	0.000000	0.000000	-0.406677	0.00000	-0.00003	0.00000
	0.000000	0.000000	-0.410950	0.00000	-0.00003	0.00000
	0.000000	0.000000	-0.411214	0.00000	-0.00003	0.00000
20	0.000000	0.000000	-0.448400	-0.00025	0.00000	0.00000
	0.000000	0.000000	-0.448973	-0.00025	0.00000	0.00000
	0.000000	0.000000	-0.452735	-0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.453308	-0.00024	-0.00001	0.00000
	0.000000	0.000000	-0.441697	-0.00022	-0.00001	0.00000
	0.000000	0.000000	-0.442270	-0.00022	-0.00001	0.00000
	0.000000	0.000000	-0.446032	-0.00021	-0.00002	0.00000
	0.000000	0.000000	-0.446605	-0.00022	-0.00002	0.00000
	0.000000	0.000000	-0.385935	0.00002	-0.00009	0.00000
	0.000000	0.000000	-0.386508	0.00002	-0.00009	0.00000
	0.000000	0.000000	-0.390270	0.00003	-0.00010	0.00000
	0.000000	0.000000	-0.390843	0.00003	-0.00010	0.00000
	0.000000	0.000000	-0.379232	0.00005	-0.00010	0.00000
	0.000000	0.000000	-0.379805	0.00005	-0.00010	0.00000
	0.000000	0.000000	-0.383567	0.00006	-0.00011	0.00000
	0.000000	0.000000	-0.384140	0.00005	-0.00011	0.00000
21	0.000000	0.000000	-0.445822	-0.00021	-0.00002	0.00000
	0.000000	0.000000	-0.446761	-0.00021	-0.00002	0.00000
	0.000000	0.000000	-0.443630	-0.00019	-0.00006	0.00000
	0.000000	0.000000	-0.444570	-0.00020	-0.00006	0.00000
	0.000000	0.000000	-0.434756	-0.00018	-0.00003	0.00000
	0.000000	0.000000	-0.435695	-0.00018	-0.00003	0.00000
	0.000000	0.000000	-0.432565	-0.00016	-0.00007	0.00000
	0.000000	0.000000	-0.433504	-0.00016	-0.00007	0.00000
	0.000000	0.000000	-0.351428	0.00008	-0.00010	0.00000
	0.000000	0.000000	-0.352368	0.00008	-0.00010	0.00000
	0.000000	0.000000	-0.349237	0.00010	-0.00014	0.00000
	0.000000	0.000000	-0.350176	0.00010	-0.00014	0.00000
	0.000000	0.000000	-0.340363	0.00012	-0.00011	0.00000
	0.000000	0.000000	-0.341302	0.00011	-0.00011	0.00000
	0.000000	0.000000	-0.338171	0.00013	-0.00015	0.00000
	0.000000	0.000000	-0.339111	0.00013	-0.00015	0.00000
22	0.000000	0.000000	-0.446357	-0.00024	0.00003	0.00000
	0.000000	0.000000	-0.447715	-0.00024	0.00004	0.00000
	0.000000	0.000000	-0.421404	-0.00022	-0.00004	0.00000
	0.000000	0.000000	-0.422763	-0.00022	-0.00004	0.00000
	0.000000	0.000000	-0.430263	-0.00019	0.00003	0.00000
	0.000000	0.000000	-0.431622	-0.00019	0.00003	0.00000
	0.000000	0.000000	-0.405311	-0.00017	-0.00005	0.00000
	0.000000	0.000000	-0.406669	-0.00018	-0.00005	0.00000
	0.000000	0.000000	-0.316343	0.00013	-0.00005	0.00000
	0.000000	0.000000	-0.317702	0.00013	-0.00005	0.00000
	0.000000	0.000000	-0.291391	0.00015	-0.00013	0.00000
	0.000000	0.000000	-0.292749	0.00015	-0.00013	0.00000
	0.000000	0.000000	-0.300250	0.00018	-0.00006	0.00000
	0.000000	0.000000	-0.301608	0.00018	-0.00006	0.00000
	0.000000	0.000000	-0.275297	0.00020	-0.00014	0.00000
	0.000000	0.000000	-0.276656	0.00019	-0.00014	0.00000

GRAFICO DELLE PRESSIONI SUL TERRENO PER LA CONDIZIONE SISMICA LUNGO Y DI APPROCCIO 1



VERIFICHE ALLO STATO LIMITE DI ESERCIZIO (**SLE**)

SPOSTAMENTI NODI

CASO DI CARICO : 11 Rara
COMBINAZIONE

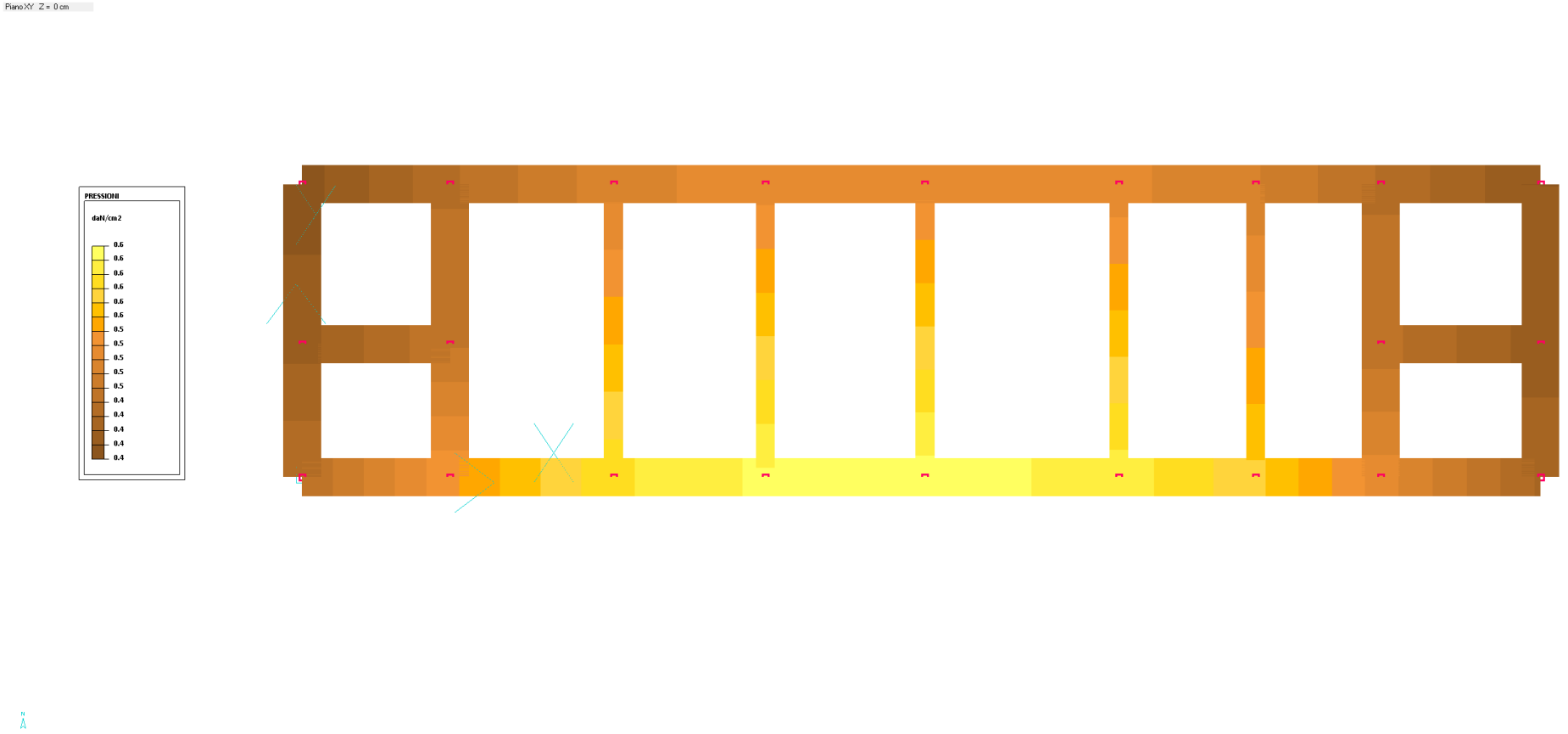
N. 4 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
3 Var_copertura + 1.00
4 Neve_(<1000m_slm)__ + 1.00

1) +1.00*c001 +1.00*c002 +1.00*c003 +1.00*c004
Unità di misura: SX,SY,SZ [cm]; RX,RY,RZ [rad]

Coefficiente moltiplicativo: 2.000000

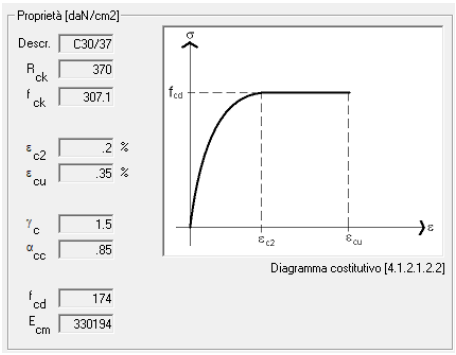
Nodo	SX	SY	SZ	RX	RY	RZ
1	0.000000	0.000000	-0.444031	0.00017	0.00019	0.00000
2	0.000000	0.000000	-0.531275	0.00026	0.00020	0.00000
3	0.000000	0.000000	-0.605016	0.00042	0.00012	0.00000
4	0.000000	0.000000	-0.630967	0.00049	0.00003	0.00000
5	0.000000	0.000000	-0.636075	0.00050	-0.00003	0.00000
6	0.000000	0.000000	-0.619588	0.00046	-0.00004	0.00000
7	0.000000	0.000000	-0.577521	0.00037	-0.00017	0.00000
8	0.000000	0.000000	-0.508414	0.00022	-0.00022	0.00000
9	0.000000	0.000000	-0.422491	0.00012	-0.00015	0.00000
10	0.000000	0.000000	-0.400804	0.00010	0.00013	0.00000
11	0.000000	0.000000	-0.460086	0.00013	0.00018	0.00000
12	0.000000	0.000000	-0.451449	0.00010	-0.00017	0.00000
13	0.000000	0.000000	-0.397105	0.00006	-0.00010	0.00000
14	0.000000	0.000000	-0.379730	0.00000	0.00014	0.00000
15	0.000000	0.000000	-0.440951	-0.00003	0.00014	0.00000
16	0.000000	0.000000	-0.491998	-0.00013	0.00008	0.00000
17	0.000000	0.000000	-0.508429	-0.00017	0.00002	0.00000
18	0.000000	0.000000	-0.511745	-0.00018	-0.00002	0.00000
19	0.000000	0.000000	-0.504222	-0.00017	-0.00002	0.00000
20	0.000000	0.000000	-0.482181	-0.00013	-0.00010	0.00000
21	0.000000	0.000000	-0.442138	-0.00005	-0.00014	0.00000
22	0.000000	0.000000	-0.388894	-0.00003	-0.00010	0.00000

GRAFICO DELLE PRESSIONI SUL TERRENO ALLO STATO LIMITE DI ESERCIZIO (**SLE**)

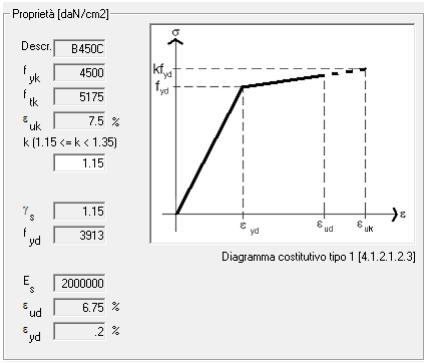


1.8 MODELLAZIONE DEI MATERIALI

I materiali costituenti la struttura sono considerati secondo i legami costitutivi nel seguito indicati.



Calcestruzzo C30/37



Acciaio per c.a. B450C

1.9 TIPO DI ANALISI

Le analisi strutturali condotte sono statiche in regime lineare. Il metodo di calcolo è ad elementi finiti. Il calcolo sismico è stato effettuato tramite analisi dinamica. La verifica delle membrature in cemento armato e in acciaio viene eseguita considerando tutte le caratteristiche di sollecitazione.

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

FASCICOLO CALCOLI STRUTTURE SECONDARIE

(sbalzi)

(PLICO A3)

BARLETTA 23/11/2020

In questo plico vengono analizzati gli sbalzi delle strutture secondarie del corpo di fabbrica. In particolare si individua una tipologia di sbalzi, gettata in opera e per la quale nel seguito si riportano le verifiche.

SBALZO 1 (luce asse 175 cm. - luce netta cm.145)

Si allega nel seguito la verifica eseguita sullo sbalzo presente, considerato con la luce massima complessiva.

```
              VERIFICA TRAVATA IN CEMENTO ARMATO

Nome travata       : sbalzo 1 (travetto)
Metodo di verifica : stati limite (NTC18). ->
Duttilita'         : bassa con gerarchia.
                   : dettagli costruttivi del capito 7 attivi.
Unita' di misura   : cm; daN; daN/cm; daNcm; daN/cm2; deform. %.
Unita' particolari : fessure [Wk]:mm - ferri:mm e cm2 - sezioni:cm e derivate.
Copriferri (assi)  : longitudinali= 3 ; staffe= 2

              MATERIALI

CLS     : Rck =370. ; fck=307.1; fctk= 20.6; fctm= 29.4; Ec= 330194. ;
          gc =1.5 ; fcd=174. ; fbd= 30.9; fctd= 13.7; Ecud=.35%
ACCIAIO : B450C; ftk=5175. ; fyk=4500. ; Es=2100000. ;
          gs =1.15; fyd=3913. ; ftd(k*fyd)=4500. ; fud=4439.8; Eud=6.75%

              TENSIONI E FESSURE MASSIME IN ESERCIZIO

GRUPPO  : ordinario.
CLS     : Scls(rara)=184.3; Scls(quasi permanente)=138.2; fbd(esercizio)= 30.9
ACCIAIO : Sacc(rara)=3600.; Coeff.Omogeneizzazione= 15
FESSURE : Wdmax(fre.)=.4  ; Wdmax(q.p.)=.3  [4.1.2.2.4.5];
          kt=.4 [EN 1992-1 7.3.4].
<-

              CONDIZIONI DI CARICO

                                          |Molt.|Coeff. per combinazioni    |
Nro|   Descrizione      |    Tipo          |Caric|SLU   |Rare  |Freq. |Q.Per.|
 1 |Perman.strutturali  |senza permutazioni|1.   | 1.3  | 1.   | 1.   | 1.   |
 2 |Perman.non strutt.  |senza permutazioni|1.   | 1.5  | 1.   | 1.   | 1.   |
 3 |Variabili           |permutaz. campate |1.   | 1.5  | 1.   |  .5  |  .3  |

              CARICHI APPLICATI

Nro|Con|Camp.| Tipo             | Sistema  |carico 1|carico 2|dist.1|dist.2|
  1|  1|    1|Forza distribuita |Globale   |   -1.85|   -    |  -   |  -   |
  2|  2|    1|Forza distribuita |Globale   |    -.75|   -    |  -   |  -   |
  3|  3|    1|Forza distribuita |Globale   |   -2.  |   -    |  -   |  -   |

              SEZIONI UTILIZZATE

 1) Sezione a T : 50/12X30/5; A=550.; Jg=46828.; E=330194.3
```

DESCRIZIONE CAMPATE

Cam.	Descriz.	S.ini	Sez.	S.fin	Incl.	L.assi	L.net.	lambda	K	r.Ar.	lam.max
1	C1	1	1	1	0	175.	145.	5.833	.4	2.85	21.028

VERIFICHE ALLO STATO LIMITE ULTIMO

FLESSIONE:

	Progressive	SE	Ar	Msd	Epscl	Epsac	Mrd	Epscl	Epsac	Cam	x/d	Mr/Ms	VE
>	0.	0.	1.	1.	-99991.!	-.038!	.087!	-230460.!	-.35	2.227	3.	.136!	2.305!	SI
	163.	163.	1.	1.	-2154.!	-.001	.002	-230460.	-.35	2.227	3.	.136	107. !	SI

TAGLIO:

	Progressive	Se	Vsd	VRd	Ve
>	0.	0.	1.	1143.!	2010.!	SI
	175.	175.	1.	0.!	1595.	SI

VERIFICHE ALLO STATO LIMITE DI ESERCIZIO

TENSIONI DI ESERCIZIO E FESSURAZIONE - RARE:

	Progressive	Se	Ar	Momento	Scls	Sacc	As	hc,ef	Eps%	Sr,max	Wd	Ve
>	0.	0.	1.	1.	-70437.!	-40.4!	1292.6!	2.26	7.13	.0369	27.8	.103!	SI
	12.	12.	1.	1.	-60996.	-35.	1119.4	2.26	7.13	.032	27.8	.089	SI
	163.	163.	1.	1.	-340.!	-.2	6.2	2.26	7.13	.0002	27.8	0.	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - FREQUENTI:

	Progressive	Se	Ar	Momento	Scls	Sacc	As	hc,ef	Eps%	Sr,max	Wd	Ve
>	0.	0.	1.	1.	-55125.!	-31.6!	1011.6!	2.26	7.13	.0289	27.8	.08 !	SI
	12.	12.	1.	1.	-47736.	-27.4	876.	2.26	7.13	.025	27.8	.07	SI
	163.	163.	1.	1.	-266.!	-.2	4.9	2.26	7.13	.0001	27.8	0.	SI

TENSIONI DI ESERCIZIO E FESSURAZIONE - QUASI PERMANENTI:

	Progressive	Se	Ar	Momento	Scls	Sacc	As	hc,ef	Eps%	Sr,max	Wd	Ve
>	0.	0.	1.	1.	-49000.!	-28.1!	899.2!	2.26	7.13	.0257	27.8	.071!	SI
	12.	12.	1.	1.	-42432.	-24.3	778.7	2.26	7.13	.0222	27.8	.062	SI
	163.	163.	1.	1.	-236.!	-.1	4.3	2.26	7.13	.0001	27.8	0.	SI

ARMATURE LONGITUDINALI (%=100*Af/Acls - Acls=area intera sezione)

Nro	Totale	%	Super.	%	Barre	Infer.	%	Barre
1	4.52	.823	2.26	.411	2d12	2.26	.411	2d12

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

FASCICOLO CALCOLI STRUTTURE SECONDARIE (solai)

(PLICO A4)

BARLETTA 23/11/2020

In questo plico vengono analizzate le strutture secondarie del corpo di fabbrica.

SOLAI

I solai saranno realizzati in latero-cemento con travetti precompressi, completati in opera, e avranno altezza di cm. 30 (25+5) e un interasse di cm. 50, così come rappresentato negli schemi di montaggio e nelle tavole di carpenteria.

L'impalcato della struttura in c.a. è unico e costituisce la copertura del corpo di fabbrica.

Detti solai saranno realizzati con travetti e blocchi forniti dalla ILA LATERIZI SRL, pertanto nel presente plico sono allegati i certificati d'origine, gli schemi di montaggio e la relazione di calcolo, acquisiti e fatti propri dal sottoscritto progettista delle strutture.

REAZIONI VINCOLARI:

REAZIONI VINCOLARI

CASO DI CARICO : 1 SLU SENZA SISMA
COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.30
2 Permanente_____ + 1.50
3 Var_copertura_____ + 1.50
4 Neve_(<1000m_slm)__ + 1.50

1) +1.30*c001 +1.50*c002 +1.50*c003 +1.50*c004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	442.4	605.5	0.0	0.0	0.0	0.0
2	2394.1	346.4	0.0	0.0	0.0	0.0
3	-323.4	-112.8	0.0	0.0	0.0	0.0
4	168.5	-243.3	0.0	0.0	0.0	0.0
5	1484.7	-272.0	0.0	0.0	0.0	0.0
6	-2206.3	-219.2	0.0	0.0	0.0	0.0
7	-160.1	-52.4	0.0	0.0	0.0	0.0
8	-1690.3	420.6	0.0	0.0	0.0	0.0
9	-491.4	983.1	0.0	0.0	0.0	0.0
10	341.0	468.6	0.0	0.0	0.0	0.0
11	681.2	586.0	0.0	0.0	0.0	0.0
12	-360.8	610.3	0.0	0.0	0.0	0.0
13	-513.6	718.4	0.0	0.0	0.0	0.0
14	180.3	-871.5	0.0	0.0	0.0	0.0
15	2065.6	-1044.2	0.0	0.0	0.0	0.0
16	-286.4	-13.1	0.0	0.0	0.0	0.0
17	155.5	220.2	0.0	0.0	0.0	0.0
18	1149.1	259.1	0.0	0.0	0.0	0.0
19	-1568.7	181.3	0.0	0.0	0.0	0.0
20	8.6	-106.2	0.0	0.0	0.0	0.0
21	-1101.6	-1114.4	0.0	0.0	0.0	0.0
22	-368.4	-1350.4	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 4 SLU con SISMAX PRINC
COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
2 SISMAX SLU 1.00
3 SISMAY SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.001
2) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.002
3) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.003
4) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.004
5) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.001
6) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.002
7) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.003
8) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.004
9) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.001
10) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.002
11) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.003
12) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.004
13) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.001
14) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.002
15) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.003
16) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo	SX	SY	SZ	RX	RY	RZ
1	-1663.3	-574.3	0.0	0.0	0.0	0.0
	-1585.1	-882.0	0.0	0.0	0.0	0.0
	-1777.4	1726.5	0.0	0.0	0.0	0.0
	-1699.2	1418.8	0.0	0.0	0.0	0.0
	-1746.8	-276.0	0.0	0.0	0.0	0.0
	-1668.6	-583.8	0.0	0.0	0.0	0.0

-1860.9	2024.8	0.0	0.0	0.0	0.0
-1782.7	1717.0	0.0	0.0	0.0	0.0
2307.1	-1090.1	0.0	0.0	0.0	0.0
2385.4	-1397.9	0.0	0.0	0.0	0.0
2193.0	1210.7	0.0	0.0	0.0	0.0
2271.3	902.9	0.0	0.0	0.0	0.0
2223.6	-791.9	0.0	0.0	0.0	0.0
2301.9	-1099.6	0.0	0.0	0.0	0.0
2109.5	1508.9	0.0	0.0	0.0	0.0
2187.7	1201.2	0.0	0.0	0.0	0.0

Nodo 2

SX	SY	SZ	RX	RY	RZ
-2269.3	-1204.2	0.0	0.0	0.0	0.0
-2135.4	-1562.2	0.0	0.0	0.0	0.0
-2484.0	2141.3	0.0	0.0	0.0	0.0
-2350.1	1783.3	0.0	0.0	0.0	0.0
-2411.6	-865.4	0.0	0.0	0.0	0.0
-2277.6	-1223.4	0.0	0.0	0.0	0.0
-2626.3	2480.1	0.0	0.0	0.0	0.0
-2492.4	2122.1	0.0	0.0	0.0	0.0
4633.2	-1842.6	0.0	0.0	0.0	0.0
4767.1	-2200.6	0.0	0.0	0.0	0.0
4418.5	1502.9	0.0	0.0	0.0	0.0
4552.4	1144.9	0.0	0.0	0.0	0.0
4490.9	-1503.7	0.0	0.0	0.0	0.0
4624.9	-1861.7	0.0	0.0	0.0	0.0
4276.2	1841.8	0.0	0.0	0.0	0.0
4410.1	1483.8	0.0	0.0	0.0	0.0

Nodo 3

SX	SY	SZ	RX	RY	RZ
-3638.9	-794.7	0.0	0.0	0.0	0.0
-3510.4	-939.8	0.0	0.0	0.0	0.0
-3861.6	918.9	0.0	0.0	0.0	0.0
-3733.0	773.9	0.0	0.0	0.0	0.0
-3774.0	-660.5	0.0	0.0	0.0	0.0
-3645.4	-805.5	0.0	0.0	0.0	0.0
-3996.6	1053.1	0.0	0.0	0.0	0.0
-3868.1	908.1	0.0	0.0	0.0	0.0
3525.3	-1027.8	0.0	0.0	0.0	0.0
3653.8	-1172.8	0.0	0.0	0.0	0.0
3302.6	685.9	0.0	0.0	0.0	0.0
3431.2	540.8	0.0	0.0	0.0	0.0
3390.2	-893.6	0.0	0.0	0.0	0.0
3518.8	-1038.6	0.0	0.0	0.0	0.0
3167.6	820.1	0.0	0.0	0.0	0.0
3296.2	675.0	0.0	0.0	0.0	0.0

Nodo 4

SX	SY	SZ	RX	RY	RZ
-3426.8	-715.6	0.0	0.0	0.0	0.0
-3300.5	-778.4	0.0	0.0	0.0	0.0
-3633.4	581.9	0.0	0.0	0.0	0.0
-3507.0	519.1	0.0	0.0	0.0	0.0
-3558.2	-658.4	0.0	0.0	0.0	0.0
-3431.9	-721.1	0.0	0.0	0.0	0.0
-3764.8	639.2	0.0	0.0	0.0	0.0
-3638.5	576.4	0.0	0.0	0.0	0.0
3785.1	-808.4	0.0	0.0	0.0	0.0
3911.5	-871.2	0.0	0.0	0.0	0.0
3578.6	489.1	0.0	0.0	0.0	0.0
3704.9	426.3	0.0	0.0	0.0	0.0
3653.7	-751.2	0.0	0.0	0.0	0.0
3780.0	-814.0	0.0	0.0	0.0	0.0
3447.1	546.3	0.0	0.0	0.0	0.0
3573.4	483.6	0.0	0.0	0.0	0.0

Nodo 5

SX	SY	SZ	RX	RY	RZ
-2705.3	-702.0	0.0	0.0	0.0	0.0
-2582.6	-709.8	0.0	0.0	0.0	0.0
-2911.9	456.1	0.0	0.0	0.0	0.0
-2789.3	448.4	0.0	0.0	0.0	0.0
-2832.3	-694.5	0.0	0.0	0.0	0.0
-2709.6	-702.2	0.0	0.0	0.0	0.0
-3038.9	463.6	0.0	0.0	0.0	0.0
-2916.2	455.9	0.0	0.0	0.0	0.0
4365.7	-712.6	0.0	0.0	0.0	0.0
4488.3	-720.3	0.0	0.0	0.0	0.0
4159.0	445.5	0.0	0.0	0.0	0.0
4281.7	437.8	0.0	0.0	0.0	0.0
4238.7	-705.0	0.0	0.0	0.0	0.0
4361.4	-712.8	0.0	0.0	0.0	0.0
4032.1	453.1	0.0	0.0	0.0	0.0
4154.7	445.4	0.0	0.0	0.0	0.0

Nodo 6

SX	SY	SZ	RX	RY	RZ
-4517.9	-712.4	0.0	0.0	0.0	0.0
-4392.9	-661.1	0.0	0.0	0.0	0.0
-4726.0	419.6	0.0	0.0	0.0	0.0
-4601.1	470.9	0.0	0.0	0.0	0.0
-4647.8	-758.0	0.0	0.0	0.0	0.0
-4522.8	-706.7	0.0	0.0	0.0	0.0
-4855.9	374.0	0.0	0.0	0.0	0.0
-4731.0	425.3	0.0	0.0	0.0	0.0
2626.7	-637.4	0.0	0.0	0.0	0.0
2751.7	-586.1	0.0	0.0	0.0	0.0
2418.6	494.6	0.0	0.0	0.0	0.0
2543.5	545.9	0.0	0.0	0.0	0.0
2496.8	-683.0	0.0	0.0	0.0	0.0
2621.8	-631.8	0.0	0.0	0.0	0.0
2288.7	449.0	0.0	0.0	0.0	0.0
2413.6	500.2	0.0	0.0	0.0	0.0

Nodo 7

SX	SY	SZ	RX	RY	RZ
-3584.5	-800.4	0.0	0.0	0.0	0.0
-3454.6	-675.1	0.0	0.0	0.0	0.0
-3782.7	514.6	0.0	0.0	0.0	0.0
-3652.8	639.8	0.0	0.0	0.0	0.0
-3720.4	-915.5	0.0	0.0	0.0	0.0
-3590.6	-790.3	0.0	0.0	0.0	0.0
-3918.6	399.4	0.0	0.0	0.0	0.0
-3788.7	524.6	0.0	0.0	0.0	0.0
3682.5	-593.7	0.0	0.0	0.0	0.0
3812.4	-468.5	0.0	0.0	0.0	0.0
3484.3	721.2	0.0	0.0	0.0	0.0
3614.2	846.4	0.0	0.0	0.0	0.0
3546.6	-708.9	0.0	0.0	0.0	0.0
3676.4	-583.7	0.0	0.0	0.0	0.0
3348.4	606.1	0.0	0.0	0.0	0.0
3478.3	731.3	0.0	0.0	0.0	0.0

Nodo 8

SX	SY	SZ	RX	RY	RZ
-4114.6	-1195.8	0.0	0.0	0.0	0.0
-3979.5	-915.4	0.0	0.0	0.0	0.0
-4338.8	996.6	0.0	0.0	0.0	0.0
-4203.7	1277.0	0.0	0.0	0.0	0.0
-4257.1	-1459.5	0.0	0.0	0.0	0.0
-4122.0	-1179.1	0.0	0.0	0.0	0.0
-4481.3	732.9	0.0	0.0	0.0	0.0
-4346.2	1013.3	0.0	0.0	0.0	0.0
2937.7	-672.3	0.0	0.0	0.0	0.0
3072.8	-391.9	0.0	0.0	0.0	0.0
2713.5	1520.1	0.0	0.0	0.0	0.0
2848.6	1800.5	0.0	0.0	0.0	0.0

	2795.2	-936.0	0.0	0.0	0.0	0.0
	2930.3	-655.6	0.0	0.0	0.0	0.0
	2571.0	1256.4	0.0	0.0	0.0	0.0
	2706.1	1536.8	0.0	0.0	0.0	0.0

Nodo 9	SX	SY	SZ	RX	RY	RZ
	-3062.7	-874.6	0.0	0.0	0.0	0.0
	-2946.4	-469.6	0.0	0.0	0.0	0.0
	-3271.6	1175.0	0.0	0.0	0.0	0.0
	-3155.3	1580.0	0.0	0.0	0.0	0.0
	-3185.9	-1267.4	0.0	0.0	0.0	0.0
	-3069.6	-862.4	0.0	0.0	0.0	0.0
	-3394.9	782.3	0.0	0.0	0.0	0.0
	-3278.6	1187.3	0.0	0.0	0.0	0.0
	2630.6	-184.7	0.0	0.0	0.0	0.0
	2746.9	220.3	0.0	0.0	0.0	0.0
	2421.6	1864.9	0.0	0.0	0.0	0.0
	2537.9	2269.9	0.0	0.0	0.0	0.0
	2507.3	-577.5	0.0	0.0	0.0	0.0
	2623.6	-172.5	0.0	0.0	0.0	0.0
	2298.4	1472.2	0.0	0.0	0.0	0.0
	2414.7	1877.2	0.0	0.0	0.0	0.0

Nodo 10	SX	SY	SZ	RX	RY	RZ
	-1727.0	-841.7	0.0	0.0	0.0	0.0
	-1722.4	-1202.4	0.0	0.0	0.0	0.0
	-1737.7	1930.9	0.0	0.0	0.0	0.0
	-1733.1	1570.3	0.0	0.0	0.0	0.0
	-1732.0	-492.6	0.0	0.0	0.0	0.0
	-1727.3	-853.2	0.0	0.0	0.0	0.0
	-1742.7	2280.1	0.0	0.0	0.0	0.0
	-1738.0	1919.5	0.0	0.0	0.0	0.0
	2179.8	-1415.9	0.0	0.0	0.0	0.0
	2184.5	-1776.5	0.0	0.0	0.0	0.0
	2169.1	1356.7	0.0	0.0	0.0	0.0
	2173.8	996.1	0.0	0.0	0.0	0.0
	2174.9	-1066.8	0.0	0.0	0.0	0.0
	2179.5	-1427.4	0.0	0.0	0.0	0.0
	2164.1	1705.9	0.0	0.0	0.0	0.0
	2168.8	1345.3	0.0	0.0	0.0	0.0

Nodo 11	SX	SY	SZ	RX	RY	RZ
	-2764.9	-1523.5	0.0	0.0	0.0	0.0
	-2757.6	-1974.0	0.0	0.0	0.0	0.0
	-2781.9	2915.3	0.0	0.0	0.0	0.0
	-2774.6	2464.7	0.0	0.0	0.0	0.0
	-2772.7	-1097.2	0.0	0.0	0.0	0.0
	-2765.4	-1547.7	0.0	0.0	0.0	0.0
	-2789.7	3341.6	0.0	0.0	0.0	0.0
	-2782.4	2891.1	0.0	0.0	0.0	0.0
	3215.3	-2225.3	0.0	0.0	0.0	0.0
	3222.6	-2675.8	0.0	0.0	0.0	0.0
	3198.4	2213.5	0.0	0.0	0.0	0.0
	3205.6	1763.0	0.0	0.0	0.0	0.0
	3207.6	-1798.9	0.0	0.0	0.0	0.0
	3214.9	-2249.5	0.0	0.0	0.0	0.0
	3190.6	2639.9	0.0	0.0	0.0	0.0
	3197.9	2189.3	0.0	0.0	0.0	0.0

Nodo 12	SX	SY	SZ	RX	RY	RZ
	-3086.9	-1488.1	0.0	0.0	0.0	0.0
	-3079.6	-1129.1	0.0	0.0	0.0	0.0
	-3094.6	1589.4	0.0	0.0	0.0	0.0
	-3087.3	1948.4	0.0	0.0	0.0	0.0
	-3094.2	-1825.7	0.0	0.0	0.0	0.0
	-3086.9	-1466.7	0.0	0.0	0.0	0.0
	-3101.9	1251.8	0.0	0.0	0.0	0.0
	-3094.6	1610.8	0.0	0.0	0.0	0.0
	3016.5	-930.0	0.0	0.0	0.0	0.0
	3023.8	-570.9	0.0	0.0	0.0	0.0
	3008.8	2147.6	0.0	0.0	0.0	0.0
	3016.1	2506.6	0.0	0.0	0.0	0.0
	3009.2	-1267.5	0.0	0.0	0.0	0.0
	3016.5	-908.5	0.0	0.0	0.0	0.0
	3001.5	1810.0	0.0	0.0	0.0	0.0
	3008.8	2169.0	0.0	0.0	0.0	0.0

Nodo 13	SX	SY	SZ	RX	RY	RZ
	-3142.7	-1326.5	0.0	0.0	0.0	0.0
	-3135.9	-833.7	0.0	0.0	0.0	0.0
	-3149.7	1292.3	0.0	0.0	0.0	0.0
	-3143.0	1785.2	0.0	0.0	0.0	0.0
	-3149.3	-1803.8	0.0	0.0	0.0	0.0
	-3142.6	-1310.9	0.0	0.0	0.0	0.0
	-3156.3	815.1	0.0	0.0	0.0	0.0
	-3149.6	1307.9	0.0	0.0	0.0	0.0
	2469.6	-545.5	0.0	0.0	0.0	0.0
	2476.3	-52.7	0.0	0.0	0.0	0.0
	2462.6	2073.3	0.0	0.0	0.0	0.0
	2469.3	2566.2	0.0	0.0	0.0	0.0
	2463.0	-1022.8	0.0	0.0	0.0	0.0
	2469.7	-529.9	0.0	0.0	0.0	0.0
	2456.0	1596.1	0.0	0.0	0.0	0.0
	2462.7	2088.9	0.0	0.0	0.0	0.0

Nodo 14	SX	SY	SZ	RX	RY	RZ
	-1754.4	-1351.2	0.0	0.0	0.0	0.0
	-1833.9	-1652.5	0.0	0.0	0.0	0.0
	-1641.3	899.3	0.0	0.0	0.0	0.0
	-1720.8	598.0	0.0	0.0	0.0	0.0
	-1669.5	-1059.0	0.0	0.0	0.0	0.0
	-1749.0	-1360.3	0.0	0.0	0.0	0.0
	-1556.3	1191.6	0.0	0.0	0.0	0.0
	-1635.9	890.3	0.0	0.0	0.0	0.0
	1910.9	-1799.1	0.0	0.0	0.0	0.0
	1831.4	-2100.3	0.0	0.0	0.0	0.0
	2024.0	451.5	0.0	0.0	0.0	0.0
	1944.5	150.2	0.0	0.0	0.0	0.0
	1995.9	-1506.8	0.0	0.0	0.0	0.0
	1916.3	-1808.1	0.0	0.0	0.0	0.0
	2109.0	743.8	0.0	0.0	0.0	0.0
	2029.4	442.5	0.0	0.0	0.0	0.0

Nodo 15	SX	SY	SZ	RX	RY	RZ
	-2381.5	-1939.4	0.0	0.0	0.0	0.0
	-2518.2	-2286.4	0.0	0.0	0.0	0.0
	-2168.3	1307.4	0.0	0.0	0.0	0.0
	-2305.1	960.5	0.0	0.0	0.0	0.0
	-2236.6	-1611.0	0.0	0.0	0.0	0.0
	-2373.3	-1958.0	0.0	0.0	0.0	0.0
	-2023.4	1635.8	0.0	0.0	0.0	0.0
	-2160.2	1288.9	0.0	0.0	0.0	0.0
	4007.8	-2388.5	0.0	0.0	0.0	0.0
	3871.0	-2735.5	0.0	0.0	0.0	0.0
	4220.9	858.3	0.0	0.0	0.0	0.0
	4084.2	511.4	0.0	0.0	0.0	0.0
	4152.6	-2060.1	0.0	0.0	0.0	0.0
	4015.9	-2407.1	0.0	0.0	0.0	0.0
	4365.8	1186.8	0.0	0.0	0.0	0.0
	4229.1	839.8	0.0	0.0	0.0	0.0

Nodo 16	SX	SY	SZ	RX	RY	RZ

	-3576.1	-730.5	0.0	0.0	0.0	0.0
	-3707.9	-868.6	0.0	0.0	0.0	0.0
	-3353.9	918.7	0.0	0.0	0.0	0.0
	-3485.7	780.6	0.0	0.0	0.0	0.0
	-3438.3	-602.5	0.0	0.0	0.0	0.0
	-3570.1	-740.5	0.0	0.0	0.0	0.0
	-3216.1	1046.7	0.0	0.0	0.0	0.0
	-3348.0	908.7	0.0	0.0	0.0	0.0
	3059.1	-921.1	0.0	0.0	0.0	0.0
	2927.2	-1059.1	0.0	0.0	0.0	0.0
	3281.3	728.1	0.0	0.0	0.0	0.0
	3149.4	590.1	0.0	0.0	0.0	0.0
	3196.9	-793.0	0.0	0.0	0.0	0.0
	3065.0	-931.0	0.0	0.0	0.0	0.0
	3419.0	856.2	0.0	0.0	0.0	0.0
	3287.2	718.1	0.0	0.0	0.0	0.0

Nodo 17	SX	SY	SZ	RX	RY	RZ
	-3385.2	-471.5	0.0	0.0	0.0	0.0
	-3515.4	-531.7	0.0	0.0	0.0	0.0
	-3175.1	795.7	0.0	0.0	0.0	0.0
	-3305.2	735.5	0.0	0.0	0.0	0.0
	-3250.7	-416.6	0.0	0.0	0.0	0.0
	-3380.8	-476.8	0.0	0.0	0.0	0.0
	-3040.5	850.6	0.0	0.0	0.0	0.0
	-3170.6	790.4	0.0	0.0	0.0	0.0
	3314.5	-557.3	0.0	0.0	0.0	0.0
	3184.4	-617.5	0.0	0.0	0.0	0.0
	3524.6	709.9	0.0	0.0	0.0	0.0
	3394.5	649.8	0.0	0.0	0.0	0.0
	3449.1	-502.4	0.0	0.0	0.0	0.0
	3319.0	-562.5	0.0	0.0	0.0	0.0
	3659.2	764.9	0.0	0.0	0.0	0.0
	3529.1	704.7	0.0	0.0	0.0	0.0

Nodo 18	SX	SY	SZ	RX	RY	RZ
	-2821.8	-427.5	0.0	0.0	0.0	0.0
	-2948.1	-435.1	0.0	0.0	0.0	0.0
	-2609.8	712.3	0.0	0.0	0.0	0.0
	-2736.1	704.7	0.0	0.0	0.0	0.0
	-2691.8	-420.1	0.0	0.0	0.0	0.0
	-2818.0	-427.7	0.0	0.0	0.0	0.0
	-2479.8	719.7	0.0	0.0	0.0	0.0
	-2606.0	712.1	0.0	0.0	0.0	0.0
	3745.5	-437.6	0.0	0.0	0.0	0.0
	3619.3	-445.3	0.0	0.0	0.0	0.0
	3957.5	702.2	0.0	0.0	0.0	0.0
	3831.3	694.5	0.0	0.0	0.0	0.0
	3875.5	-430.2	0.0	0.0	0.0	0.0
	3749.3	-437.8	0.0	0.0	0.0	0.0
	4087.5	709.6	0.0	0.0	0.0	0.0
	3961.3	702.0	0.0	0.0	0.0	0.0

Nodo 19	SX	SY	SZ	RX	RY	RZ
	-4191.0	-494.4	0.0	0.0	0.0	0.0
	-4319.5	-445.9	0.0	0.0	0.0	0.0
	-3974.8	611.7	0.0	0.0	0.0	0.0
	-4103.3	660.3	0.0	0.0	0.0	0.0
	-4057.6	-537.8	0.0	0.0	0.0	0.0
	-4186.2	-489.3	0.0	0.0	0.0	0.0
	-3841.4	568.4	0.0	0.0	0.0	0.0
	-3970.0	616.9	0.0	0.0	0.0	0.0
	2446.5	-422.9	0.0	0.0	0.0	0.0
	2318.0	-374.4	0.0	0.0	0.0	0.0
	2662.8	683.3	0.0	0.0	0.0	0.0
	2534.2	731.8	0.0	0.0	0.0	0.0
	2579.9	-466.2	0.0	0.0	0.0	0.0
	2451.4	-417.7	0.0	0.0	0.0	0.0
	2796.1	640.0	0.0	0.0	0.0	0.0
	2667.6	688.5	0.0	0.0	0.0	0.0

Nodo 20	SX	SY	SZ	RX	RY	RZ
	-3470.1	-770.3	0.0	0.0	0.0	0.0
	-3603.5	-651.4	0.0	0.0	0.0	0.0
	-3260.3	497.0	0.0	0.0	0.0	0.0
	-3393.7	615.9	0.0	0.0	0.0	0.0
	-3330.2	-880.0	0.0	0.0	0.0	0.0
	-3463.6	-761.0	0.0	0.0	0.0	0.0
	-3120.4	387.3	0.0	0.0	0.0	0.0
	-3253.8	506.3	0.0	0.0	0.0	0.0
	3284.6	-611.6	0.0	0.0	0.0	0.0
	3151.2	-492.6	0.0	0.0	0.0	0.0
	3494.4	655.7	0.0	0.0	0.0	0.0
	3361.0	774.7	0.0	0.0	0.0	0.0
	3424.4	-721.2	0.0	0.0	0.0	0.0
	3291.1	-602.3	0.0	0.0	0.0	0.0
	3634.2	546.1	0.0	0.0	0.0	0.0
	3500.9	665.0	0.0	0.0	0.0	0.0

Nodo 21	SX	SY	SZ	RX	RY	RZ
	-3836.6	-1813.1	0.0	0.0	0.0	0.0
	-3974.5	-1541.4	0.0	0.0	0.0	0.0
	-3601.5	317.3	0.0	0.0	0.0	0.0
	-3739.4	588.9	0.0	0.0	0.0	0.0
	-3690.2	-2068.6	0.0	0.0	0.0	0.0
	-3828.1	-1797.0	0.0	0.0	0.0	0.0
	-3455.1	61.7	0.0	0.0	0.0	0.0
	-3593.0	333.3	0.0	0.0	0.0	0.0
	2717.8	-1491.1	0.0	0.0	0.0	0.0
	2579.9	-1219.5	0.0	0.0	0.0	0.0
	2952.9	639.2	0.0	0.0	0.0	0.0
	2815.0	910.9	0.0	0.0	0.0	0.0
	2864.2	-1746.7	0.0	0.0	0.0	0.0
	2726.3	-1475.1	0.0	0.0	0.0	0.0
	3099.3	383.7	0.0	0.0	0.0	0.0
	2961.4	655.3	0.0	0.0	0.0	0.0

Nodo 22	SX	SY	SZ	RX	RY	RZ
	-2984.2	-1978.0	0.0	0.0	0.0	0.0
	-3101.8	-1584.1	0.0	0.0	0.0	0.0
	-2769.2	11.7	0.0	0.0	0.0	0.0
	-2886.8	405.6	0.0	0.0	0.0	0.0
	-2858.4	-2360.0	0.0	0.0	0.0	0.0
	-2976.0	-1966.2	0.0	0.0	0.0	0.0
	-2643.5	-370.3	0.0	0.0	0.0	0.0
	-2761.1	23.5	0.0	0.0	0.0	0.0
	2243.6	-1414.3	0.0	0.0	0.0	0.0
	2126.0	-1020.5	0.0	0.0	0.0	0.0
	2458.6	575.4	0.0	0.0	0.0	0.0
	2341.0	969.2	0.0	0.0	0.0	0.0
	2369.4	-1796.3	0.0	0.0	0.0	0.0
	2251.8	-1402.5	0.0	0.0	0.0	0.0
	2584.4	193.4	0.0	0.0	0.0	0.0
	2466.7	587.2	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 5 SLU con SISMAY PRINC
COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
3 SISMAY SLU 1.00
2 SISMAX SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.001
2) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.002
3) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.003
4) +1.00*c001 +1.00*c002 +1.00*C003.001 +0.30*C002.004
5) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.001
6) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.002
7) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.003
8) +1.00*c001 +1.00*c002 +1.00*C003.002 +0.30*C002.004
9) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.001
10) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.002
11) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.003
12) +1.00*c001 +1.00*c002 +1.00*C003.003 +0.30*C002.004
13) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.001
14) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.002
15) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.003
16) +1.00*c001 +1.00*c002 +1.00*C003.004 +0.30*C002.004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo 1	SX	SY	SZ	RX	RY	RZ
	-261.0	-2975.7	0.0	0.0	0.0	0.0
	-286.1	-2886.2	0.0	0.0	0.0	0.0
	930.1	-3130.4	0.0	0.0	0.0	0.0
	905.1	-3041.0	0.0	0.0	0.0	0.0
	-0.2	-4001.4	0.0	0.0	0.0	0.0
	-25.3	-3912.0	0.0	0.0	0.0	0.0
	1190.9	-4156.2	0.0	0.0	0.0	0.0
	1165.9	-4066.7	0.0	0.0	0.0	0.0
	-641.4	4693.6	0.0	0.0	0.0	0.0
	-666.5	4783.1	0.0	0.0	0.0	0.0
	549.7	4538.9	0.0	0.0	0.0	0.0
	524.7	4628.3	0.0	0.0	0.0	0.0
	-380.6	3667.9	0.0	0.0	0.0	0.0
	-405.7	3757.4	0.0	0.0	0.0	0.0
	810.5	3513.1	0.0	0.0	0.0	0.0
	785.4	3602.6	0.0	0.0	0.0	0.0

Nodo 2	SX	SY	SZ	RX	RY	RZ
	191.0	-4794.4	0.0	0.0	0.0	0.0
	148.4	-4692.8	0.0	0.0	0.0	0.0
	2261.8	-4985.9	0.0	0.0	0.0	0.0
	2219.1	-4884.3	0.0	0.0	0.0	0.0
	637.5	-5987.8	0.0	0.0	0.0	0.0
	594.8	-5886.1	0.0	0.0	0.0	0.0
	2708.3	-6179.3	0.0	0.0	0.0	0.0
	2665.6	-6077.6	0.0	0.0	0.0	0.0
	-524.7	6357.2	0.0	0.0	0.0	0.0
	-567.4	6458.8	0.0	0.0	0.0	0.0
	1546.0	6165.7	0.0	0.0	0.0	0.0
	1503.3	6267.3	0.0	0.0	0.0	0.0
	-78.3	5163.8	0.0	0.0	0.0	0.0
	-121.0	5265.5	0.0	0.0	0.0	0.0
	1992.5	4972.3	0.0	0.0	0.0	0.0
	1949.8	5074.0	0.0	0.0	0.0	0.0

Nodo 3	SX	SY	SZ	RX	RY	RZ
	-1069.0	-2659.3	0.0	0.0	0.0	0.0
	-1109.5	-2619.1	0.0	0.0	0.0	0.0
	1080.3	-2729.2	0.0	0.0	0.0	0.0
	1039.8	-2689.0	0.0	0.0	0.0	0.0
	-640.4	-3142.8	0.0	0.0	0.0	0.0
	-681.0	-3102.5	0.0	0.0	0.0	0.0
	1508.8	-3212.7	0.0	0.0	0.0	0.0
	1468.3	-3172.5	0.0	0.0	0.0	0.0
	-1811.1	3052.8	0.0	0.0	0.0	0.0
	-1851.6	3093.0	0.0	0.0	0.0	0.0
	338.2	2982.8	0.0	0.0	0.0	0.0
	297.7	3023.1	0.0	0.0	0.0	0.0
	-1382.6	2569.3	0.0	0.0	0.0	0.0
	-1423.1	2609.5	0.0	0.0	0.0	0.0
	766.7	2499.4	0.0	0.0	0.0	0.0
	726.2	2539.6	0.0	0.0	0.0	0.0

Nodo 4	SX	SY	SZ	RX	RY	RZ
	-855.0	-2168.6	0.0	0.0	0.0	0.0
	-894.4	-2151.4	0.0	0.0	0.0	0.0
	1308.6	-2196.4	0.0	0.0	0.0	0.0
	1269.1	-2179.3	0.0	0.0	0.0	0.0
	-433.9	-2377.8	0.0	0.0	0.0	0.0
	-473.3	-2360.7	0.0	0.0	0.0	0.0
	1729.7	-2405.7	0.0	0.0	0.0	0.0
	1690.2	-2388.5	0.0	0.0	0.0	0.0
	-1543.6	2156.5	0.0	0.0	0.0	0.0
	-1583.0	2173.6	0.0	0.0	0.0	0.0
	620.0	2128.6	0.0	0.0	0.0	0.0
	580.5	2145.8	0.0	0.0	0.0	0.0
	-1122.5	1947.2	0.0	0.0	0.0	0.0
	-1161.9	1964.4	0.0	0.0	0.0	0.0
	1041.1	1919.4	0.0	0.0	0.0	0.0
	1001.7	1936.5	0.0	0.0	0.0	0.0

Nodo 5	SX	SY	SZ	RX	RY	RZ
	-176.9	-2045.2	0.0	0.0	0.0	0.0
	-215.0	-2043.0	0.0	0.0	0.0	0.0
	1944.4	-2048.4	0.0	0.0	0.0	0.0
	1906.3	-2046.1	0.0	0.0	0.0	0.0
	232.0	-2071.0	0.0	0.0	0.0	0.0
	193.9	-2068.7	0.0	0.0	0.0	0.0
	2353.3	-2074.1	0.0	0.0	0.0	0.0
	2315.2	-2071.9	0.0	0.0	0.0	0.0
	-865.7	1815.2	0.0	0.0	0.0	0.0
	-903.8	1817.5	0.0	0.0	0.0	0.0
	1255.6	1812.0	0.0	0.0	0.0	0.0
	1217.5	1814.3	0.0	0.0	0.0	0.0
	-456.8	1789.4	0.0	0.0	0.0	0.0
	-494.9	1791.7	0.0	0.0	0.0	0.0
	1664.4	1786.3	0.0	0.0	0.0	0.0
	1626.4	1788.5	0.0	0.0	0.0	0.0

Nodo 6	SX	SY	SZ	RX	RY	RZ
	-1965.8	-2082.5	0.0	0.0	0.0	0.0
	-2004.7	-2096.2	0.0	0.0	0.0	0.0
	177.6	-2060.0	0.0	0.0	0.0	0.0
	138.7	-2073.7	0.0	0.0	0.0	0.0
	-1549.2	-1911.7	0.0	0.0	0.0	0.0
	-1588.2	-1925.4	0.0	0.0	0.0	0.0
	594.2	-1889.2	0.0	0.0	0.0	0.0
	555.2	-1902.9	0.0	0.0	0.0	0.0
	-2659.5	1690.8	0.0	0.0	0.0	0.0
	-2698.5	1677.1	0.0	0.0	0.0	0.0

	-516.1	1713.3	0.0	0.0	0.0	0.0
	-555.1	1699.6	0.0	0.0	0.0	0.0
	-2242.9	1861.6	0.0	0.0	0.0	0.0
	-2281.9	1847.9	0.0	0.0	0.0	0.0
	-99.5	1884.1	0.0	0.0	0.0	0.0
	-138.5	1870.4	0.0	0.0	0.0	0.0

Nodo 7	SX	SY	SZ	RX	RY	RZ
	-1008.9	-2448.5	0.0	0.0	0.0	0.0
	-1049.7	-2483.1	0.0	0.0	0.0	0.0
	1171.1	-2386.5	0.0	0.0	0.0	0.0
	1130.4	-2421.1	0.0	0.0	0.0	0.0
	-576.1	-2031.1	0.0	0.0	0.0	0.0
	-616.9	-2065.7	0.0	0.0	0.0	0.0
	1604.0	-1969.1	0.0	0.0	0.0	0.0
	1563.2	-2003.7	0.0	0.0	0.0	0.0
	-1669.5	1934.6	0.0	0.0	0.0	0.0
	-1710.3	1900.0	0.0	0.0	0.0	0.0
	510.6	1996.6	0.0	0.0	0.0	0.0
	469.8	1962.0	0.0	0.0	0.0	0.0
	-1236.6	2352.0	0.0	0.0	0.0	0.0
	-1277.4	2317.4	0.0	0.0	0.0	0.0
	943.5	2414.0	0.0	0.0	0.0	0.0
	902.7	2379.4	0.0	0.0	0.0	0.0

Nodo 8	SX	SY	SZ	RX	RY	RZ
	-1592.2	-3989.9	0.0	0.0	0.0	0.0
	-1634.9	-4069.0	0.0	0.0	0.0	0.0
	523.5	-3832.8	0.0	0.0	0.0	0.0
	480.8	-3911.9	0.0	0.0	0.0	0.0
	-1141.8	-3055.2	0.0	0.0	0.0	0.0
	-1184.6	-3134.3	0.0	0.0	0.0	0.0
	973.9	-2898.2	0.0	0.0	0.0	0.0
	931.1	-2977.3	0.0	0.0	0.0	0.0
	-2339.6	3318.3	0.0	0.0	0.0	0.0
	-2382.4	3239.1	0.0	0.0	0.0	0.0
	-223.9	3475.3	0.0	0.0	0.0	0.0
	-266.7	3396.2	0.0	0.0	0.0	0.0
	-1889.3	4252.9	0.0	0.0	0.0	0.0
	-1932.1	4173.8	0.0	0.0	0.0	0.0
	226.4	4410.0	0.0	0.0	0.0	0.0
	183.6	4330.9	0.0	0.0	0.0	0.0

Nodo 9	SX	SY	SZ	RX	RY	RZ
	-1005.0	-3634.4	0.0	0.0	0.0	0.0
	-1042.0	-3752.3	0.0	0.0	0.0	0.0
	702.9	-3427.5	0.0	0.0	0.0	0.0
	666.0	-3545.3	0.0	0.0	0.0	0.0
	-617.4	-2284.4	0.0	0.0	0.0	0.0
	-654.4	-2402.2	0.0	0.0	0.0	0.0
	1090.6	-2077.4	0.0	0.0	0.0	0.0
	1053.6	-2195.2	0.0	0.0	0.0	0.0
	-1701.6	3197.8	0.0	0.0	0.0	0.0
	-1738.6	3079.9	0.0	0.0	0.0	0.0
	6.4	3404.7	0.0	0.0	0.0	0.0
	-30.6	3286.9	0.0	0.0	0.0	0.0
	-1314.0	4547.8	0.0	0.0	0.0	0.0
	-1350.9	4430.0	0.0	0.0	0.0	0.0
	394.0	4754.8	0.0	0.0	0.0	0.0
	357.0	4637.0	0.0	0.0	0.0	0.0

Nodo 10	SX	SY	SZ	RX	RY	RZ
	-354.3	-3734.6	0.0	0.0	0.0	0.0
	-355.8	-3629.8	0.0	0.0	0.0	0.0
	817.8	-3906.8	0.0	0.0	0.0	0.0
	816.3	-3802.1	0.0	0.0	0.0	0.0
	-338.8	-4936.6	0.0	0.0	0.0	0.0
	-340.2	-4831.9	0.0	0.0	0.0	0.0
	833.3	-5108.9	0.0	0.0	0.0	0.0
	831.8	-5004.1	0.0	0.0	0.0	0.0
	-390.0	5507.7	0.0	0.0	0.0	0.0
	-391.5	5612.4	0.0	0.0	0.0	0.0
	782.0	5335.4	0.0	0.0	0.0	0.0
	780.5	5440.2	0.0	0.0	0.0	0.0
	-374.5	4305.6	0.0	0.0	0.0	0.0
	-376.0	4410.4	0.0	0.0	0.0	0.0
	797.6	4133.4	0.0	0.0	0.0	0.0
	796.1	4238.1	0.0	0.0	0.0	0.0

Nodo 11	SX	SY	SZ	RX	RY	RZ
	-663.2	-6272.8	0.0	0.0	0.0	0.0
	-665.6	-6144.9	0.0	0.0	0.0	0.0
	1130.8	-6483.3	0.0	0.0	0.0	0.0
	1128.5	-6355.4	0.0	0.0	0.0	0.0
	-638.9	-7774.7	0.0	0.0	0.0	0.0
	-641.3	-7646.8	0.0	0.0	0.0	0.0
	1155.1	-7985.3	0.0	0.0	0.0	0.0
	1152.8	-7857.4	0.0	0.0	0.0	0.0
	-719.9	8523.2	0.0	0.0	0.0	0.0
	-722.2	8651.1	0.0	0.0	0.0	0.0
	1074.2	8312.6	0.0	0.0	0.0	0.0
	1071.9	8440.5	0.0	0.0	0.0	0.0
	-695.6	7021.3	0.0	0.0	0.0	0.0
	-697.9	7149.1	0.0	0.0	0.0	0.0
	1098.5	6810.7	0.0	0.0	0.0	0.0
	1096.2	6938.6	0.0	0.0	0.0	0.0

Nodo 12	SX	SY	SZ	RX	RY	RZ
	-952.8	-5420.2	0.0	0.0	0.0	0.0
	-955.0	-5521.5	0.0	0.0	0.0	0.0
	878.2	-5252.7	0.0	0.0	0.0	0.0
	876.0	-5354.0	0.0	0.0	0.0	0.0
	-928.4	-4223.5	0.0	0.0	0.0	0.0
	-930.6	-4324.8	0.0	0.0	0.0	0.0
	902.6	-4056.1	0.0	0.0	0.0	0.0
	900.4	-4157.3	0.0	0.0	0.0	0.0
	-978.5	4838.2	0.0	0.0	0.0	0.0
	-980.7	4736.9	0.0	0.0	0.0	0.0
	852.5	5005.7	0.0	0.0	0.0	0.0
	850.3	4904.4	0.0	0.0	0.0	0.0
	-954.1	6034.9	0.0	0.0	0.0	0.0
	-956.3	5933.6	0.0	0.0	0.0	0.0
	876.9	6202.3	0.0	0.0	0.0	0.0
	874.7	6101.0	0.0	0.0	0.0	0.0

Nodo 13	SX	SY	SZ	RX	RY	RZ
	-1180.3	-4850.5	0.0	0.0	0.0	0.0
	-1182.3	-4993.7	0.0	0.0	0.0	0.0
	503.4	-4616.2	0.0	0.0	0.0	0.0
	501.4	-4759.4	0.0	0.0	0.0	0.0
	-1158.0	-3207.7	0.0	0.0	0.0	0.0
	-1160.0	-3350.9	0.0	0.0	0.0	0.0
	525.7	-2973.4	0.0	0.0	0.0	0.0
	523.7	-3116.6	0.0	0.0	0.0	0.0
	-1203.7	3879.0	0.0	0.0	0.0	0.0
	-1205.7	3735.8	0.0	0.0	0.0	0.0
	480.0	4113.3	0.0	0.0	0.0	0.0
	478.0	3970.2	0.0	0.0	0.0	0.0
	-1181.3	5521.8	0.0	0.0	0.0	0.0
	-1183.3	5378.7	0.0	0.0	0.0	0.0
	502.3	5756.1	0.0	0.0	0.0	0.0
	500.4	5613.0	0.0	0.0	0.0	0.0

Nodo	14	SX	SY	SZ	RX	RY	RZ
		-480.9	-3679.9	0.0	0.0	0.0	0.0
		-455.5	-3592.2	0.0	0.0	0.0	0.0
		618.6	-3814.2	0.0	0.0	0.0	0.0
		644.1	-3726.5	0.0	0.0	0.0	0.0
		-746.1	-4684.2	0.0	0.0	0.0	0.0
		-720.6	-4596.5	0.0	0.0	0.0	0.0
		353.5	-4818.5	0.0	0.0	0.0	0.0
		379.0	-4730.8	0.0	0.0	0.0	0.0
		-103.9	3822.1	0.0	0.0	0.0	0.0
		-78.4	3909.7	0.0	0.0	0.0	0.0
		995.7	3687.7	0.0	0.0	0.0	0.0
		1021.1	3775.4	0.0	0.0	0.0	0.0
		-369.1	2817.8	0.0	0.0	0.0	0.0
		-343.6	2905.4	0.0	0.0	0.0	0.0
		730.5	2683.4	0.0	0.0	0.0	0.0
		756.0	2771.1	0.0	0.0	0.0	0.0

Nodo	15	SX	SY	SZ	RX	RY	RZ
		-183.7	-5364.9	0.0	0.0	0.0	0.0
		-140.2	-5266.4	0.0	0.0	0.0	0.0
		1733.1	-5499.6	0.0	0.0	0.0	0.0
		1776.5	-5401.1	0.0	0.0	0.0	0.0
		-639.5	-6521.4	0.0	0.0	0.0	0.0
		-596.0	-6422.9	0.0	0.0	0.0	0.0
		1277.3	-6656.1	0.0	0.0	0.0	0.0
		1320.7	-6557.6	0.0	0.0	0.0	0.0
		526.8	5458.0	0.0	0.0	0.0	0.0
		570.3	5556.5	0.0	0.0	0.0	0.0
		2443.6	5323.2	0.0	0.0	0.0	0.0
		2487.1	5421.8	0.0	0.0	0.0	0.0
		71.0	4301.5	0.0	0.0	0.0	0.0
		114.5	4400.0	0.0	0.0	0.0	0.0
		1987.8	4166.7	0.0	0.0	0.0	0.0
		2031.3	4265.3	0.0	0.0	0.0	0.0

Nodo	16	SX	SY	SZ	RX	RY	RZ
		-1310.9	-2515.4	0.0	0.0	0.0	0.0
		-1269.6	-2477.0	0.0	0.0	0.0	0.0
		679.6	-2572.6	0.0	0.0	0.0	0.0
		721.0	-2534.2	0.0	0.0	0.0	0.0
		-1750.4	-2975.5	0.0	0.0	0.0	0.0
		-1709.1	-2937.1	0.0	0.0	0.0	0.0
		240.1	-3032.7	0.0	0.0	0.0	0.0
		281.5	-2994.3	0.0	0.0	0.0	0.0
		-570.3	2981.9	0.0	0.0	0.0	0.0
		-529.0	3020.3	0.0	0.0	0.0	0.0
		1420.2	2924.7	0.0	0.0	0.0	0.0
		1461.5	2963.1	0.0	0.0	0.0	0.0
		-1009.8	2521.8	0.0	0.0	0.0	0.0
		-968.5	2560.2	0.0	0.0	0.0	0.0
		980.7	2464.6	0.0	0.0	0.0	0.0
		1022.0	2503.0	0.0	0.0	0.0	0.0

Nodo	17	SX	SY	SZ	RX	RY	RZ
		-1086.6	-1890.6	0.0	0.0	0.0	0.0
		-1046.2	-1874.1	0.0	0.0	0.0	0.0
		923.3	-1916.3	0.0	0.0	0.0	0.0
		963.7	-1899.8	0.0	0.0	0.0	0.0
		-1520.3	-2091.1	0.0	0.0	0.0	0.0
		-1479.9	-2074.6	0.0	0.0	0.0	0.0
		489.6	-2116.8	0.0	0.0	0.0	0.0
		530.0	-2100.4	0.0	0.0	0.0	0.0
		-386.1	2333.5	0.0	0.0	0.0	0.0
		-345.8	2350.0	0.0	0.0	0.0	0.0
		1623.8	2307.8	0.0	0.0	0.0	0.0
		1664.2	2324.3	0.0	0.0	0.0	0.0
		-819.9	2133.0	0.0	0.0	0.0	0.0
		-779.5	2149.4	0.0	0.0	0.0	0.0
		1190.1	2107.2	0.0	0.0	0.0	0.0
		1230.4	2123.7	0.0	0.0	0.0	0.0

Nodo	18	SX	SY	SZ	RX	RY	RZ
		-577.8	-1749.3	0.0	0.0	0.0	0.0
		-538.8	-1747.1	0.0	0.0	0.0	0.0
		1392.4	-1752.4	0.0	0.0	0.0	0.0
		1431.4	-1750.2	0.0	0.0	0.0	0.0
		-998.6	-1774.7	0.0	0.0	0.0	0.0
		-959.6	-1772.5	0.0	0.0	0.0	0.0
		971.6	-1777.8	0.0	0.0	0.0	0.0
		1010.6	-1775.5	0.0	0.0	0.0	0.0
		128.9	2050.0	0.0	0.0	0.0	0.0
		167.9	2052.2	0.0	0.0	0.0	0.0
		2099.1	2047.0	0.0	0.0	0.0	0.0
		2138.1	2049.2	0.0	0.0	0.0	0.0
		-292.0	2024.6	0.0	0.0	0.0	0.0
		-253.0	2026.8	0.0	0.0	0.0	0.0
		1678.2	2021.6	0.0	0.0	0.0	0.0
		1717.2	2023.8	0.0	0.0	0.0	0.0

Nodo	19	SX	SY	SZ	RX	RY	RZ
		-1923.5	-1831.7	0.0	0.0	0.0	0.0
		-1883.5	-1844.7	0.0	0.0	0.0	0.0
		67.8	-1810.3	0.0	0.0	0.0	0.0
		107.8	-1823.3	0.0	0.0	0.0	0.0
		-2352.0	-1670.0	0.0	0.0	0.0	0.0
		-2311.9	-1683.0	0.0	0.0	0.0	0.0
		-360.7	-1648.5	0.0	0.0	0.0	0.0
		-320.7	-1661.5	0.0	0.0	0.0	0.0
		-1202.7	1855.5	0.0	0.0	0.0	0.0
		-1162.7	1842.5	0.0	0.0	0.0	0.0
		788.5	1877.0	0.0	0.0	0.0	0.0
		828.5	1864.0	0.0	0.0	0.0	0.0
		-1631.2	2017.3	0.0	0.0	0.0	0.0
		-1591.2	2004.3	0.0	0.0	0.0	0.0
		360.1	2038.8	0.0	0.0	0.0	0.0
		400.1	2025.8	0.0	0.0	0.0	0.0

Nodo	20	SX	SY	SZ	RX	RY	RZ
		-1146.2	-2370.4	0.0	0.0	0.0	0.0
		-1104.2	-2403.3	0.0	0.0	0.0	0.0
		880.2	-2322.8	0.0	0.0	0.0	0.0
		922.2	-2355.7	0.0	0.0	0.0	0.0
		-1590.7	-1974.0	0.0	0.0	0.0	0.0
		-1548.8	-2006.9	0.0	0.0	0.0	0.0
		435.7	-1926.3	0.0	0.0	0.0	0.0
		477.6	-1959.2	0.0	0.0	0.0	0.0
		-446.8	1853.9	0.0	0.0	0.0	0.0
		-404.9	1821.0	0.0	0.0	0.0	0.0
		1579.6	1901.6	0.0	0.0	0.0	0.0
		1621.5	1868.7	0.0	0.0	0.0	0.0
		-891.4	2250.4	0.0	0.0	0.0	0.0
		-849.4	2217.5	0.0	0.0	0.0	0.0
		1135.0	2298.0	0.0	0.0	0.0	0.0
		1177.0	2265.1	0.0	0.0	0.0	0.0

Nodo	21	SX	SY	SZ	RX	RY	RZ
		-1604.7	-4592.2	0.0	0.0	0.0	0.0
		-1560.8	-4668.8	0.0	0.0	0.0	0.0
		361.6	-4495.6	0.0	0.0	0.0	0.0
		405.6	-4572.2	0.0	0.0	0.0	0.0

	-2064.5	-3686.7	0.0	0.0	0.0	0.0
	-2020.6	-3763.4	0.0	0.0	0.0	0.0
	-98.2	-3590.1	0.0	0.0	0.0	0.0
	-54.3	-3666.8	0.0	0.0	0.0	0.0
	-820.9	2509.0	0.0	0.0	0.0	0.0
	-777.0	2432.3	0.0	0.0	0.0	0.0
	1145.4	2605.6	0.0	0.0	0.0	0.0
	1189.3	2528.9	0.0	0.0	0.0	0.0
	-1280.8	3414.5	0.0	0.0	0.0	0.0
	-1236.8	3337.8	0.0	0.0	0.0	0.0
	685.6	3511.1	0.0	0.0	0.0	0.0
	729.5	3434.4	0.0	0.0	0.0	0.0

Nodo 22	SX	SY	SZ	RX	RY	RZ
	-1224.0	-4695.2	0.0	0.0	0.0	0.0
	-1186.3	-4809.8	0.0	0.0	0.0	0.0
	344.3	-4526.1	0.0	0.0	0.0	0.0
	382.1	-4640.7	0.0	0.0	0.0	0.0
	-1616.1	-3382.4	0.0	0.0	0.0	0.0
	-1578.3	-3497.0	0.0	0.0	0.0	0.0
	-47.7	-3213.3	0.0	0.0	0.0	0.0
	-10.0	-3327.9	0.0	0.0	0.0	0.0
	-507.5	1937.1	0.0	0.0	0.0	0.0
	-469.7	1822.5	0.0	0.0	0.0	0.0
	1060.9	2106.2	0.0	0.0	0.0	0.0
	1098.6	1991.6	0.0	0.0	0.0	0.0
	-899.5	3249.9	0.0	0.0	0.0	0.0
	-861.8	3135.3	0.0	0.0	0.0	0.0
	668.8	3419.0	0.0	0.0	0.0	0.0
	706.6	3304.4	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 10 SLUGeo
COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____ +	1.00
2	Permanente_____ +	1.30
3	Var_copertura_____ +	1.30
4	Neve_(<1000m_slm)__ +	1.30

1) +1.00*c001 +1.30*c002 +1.30*c003 +1.30*c004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

Nodo 1	SX	SY	SZ	RX	RY	RZ
	354.5	493.5	0.0	0.0	0.0	0.0

Nodo 2	SX	SY	SZ	RX	RY	RZ
	1981.6	289.4	0.0	0.0	0.0	0.0

Nodo 3	SX	SY	SZ	RX	RY	RZ
	-262.8	-91.6	0.0	0.0	0.0	0.0

Nodo 4	SX	SY	SZ	RX	RY	RZ
	139.8	-200.1	0.0	0.0	0.0	0.0

Nodo 5	SX	SY	SZ	RX	RY	RZ
	1217.8	-223.9	0.0	0.0	0.0	0.0

Nodo 6	SX	SY	SZ	RX	RY	RZ
	-1814.2	-180.0	0.0	0.0	0.0	0.0

Nodo 7	SX	SY	SZ	RX	RY	RZ
	-135.9	-41.4	0.0	0.0	0.0	0.0

Nodo 8	SX	SY	SZ	RX	RY	RZ
	-1408.4	351.3	0.0	0.0	0.0	0.0

Nodo 9	SX	SY	SZ	RX	RY	RZ
	-387.8	802.5	0.0	0.0	0.0	0.0

Nodo 10	SX	SY	SZ	RX	RY	RZ
	269.8	380.2	0.0	0.0	0.0	0.0

Nodo 11	SX	SY	SZ	RX	RY	RZ
	579.9	472.2	0.0	0.0	0.0	0.0

Nodo 12	SX	SY	SZ	RX	RY	RZ
	-320.8	492.9	0.0	0.0	0.0	0.0

Nodo 13	SX	SY	SZ	RX	RY	RZ
	-405.0	583.8	0.0	0.0	0.0	0.0

Nodo 14	SX	SY	SZ	RX	RY	RZ
	138.9	-709.6	0.0	0.0	0.0	0.0

Nodo 15	SX	SY	SZ	RX	RY	RZ
	1709.7	-849.3	0.0	0.0	0.0	0.0

Nodo 16	SX	SY	SZ	RX	RY	RZ
	-234.1	-10.8	0.0	0.0	0.0	0.0

Nodo 17	SX	SY	SZ	RX	RY	RZ
	128.3	178.9	0.0	0.0	0.0	0.0

Nodo 18	SX	SY	SZ	RX	RY	RZ
	941.0	210.6	0.0	0.0	0.0	0.0

Nodo 19	SX	SY	SZ	RX	RY	RZ
	-1287.5	147.2	0.0	0.0	0.0	0.0

Nodo 20	SX	SY	SZ	RX	RY	RZ
	5.0	-86.9	0.0	0.0	0.0	0.0

Nodo 21	SX	SY	SZ	RX	RY	RZ
	-921.7	-907.7	0.0	0.0	0.0	0.0

Nodo 22	SX	SY	SZ	RX	RY	RZ
	-287.9	-1101.1	0.0	0.0	0.0	0.0

REAZIONI VINCOLARI

CASO DI CARICO : 11 Rara
COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
3 Var_copertura + 1.00
4 Neve_(<1000m_slm)__ + 1.00

1) +1.00*c001 +1.00*c002 +1.00*c003 +1.00*c004
Unità di misura: SX,SY,SZ [daN];RX,RY,RZ [daNcm]

Coefficiente moltiplicativo: 2.000000

		SX	SY	SZ	RX	RY	RZ
Nodo	1	325.4	436.7	0.0	0.0	0.0	0.0
Nodo	2	1694.2	242.2	0.0	0.0	0.0	0.0
Nodo	3	-234.0	-81.6	0.0	0.0	0.0	0.0
Nodo	4	118.8	-173.6	0.0	0.0	0.0	0.0
Nodo	5	1062.3	-193.8	0.0	0.0	0.0	0.0
Nodo	6	-1573.9	-156.7	0.0	0.0	0.0	0.0
Nodo	7	-109.8	-39.2	0.0	0.0	0.0	0.0
Nodo	8	-1186.3	294.3	0.0	0.0	0.0	0.0
Nodo	9	-367.7	707.5	0.0	0.0	0.0	0.0
Nodo	10	254.4	339.7	0.0	0.0	0.0	0.0
Nodo	11	465.3	428.3	0.0	0.0	0.0	0.0
Nodo	12	-232.0	444.8	0.0	0.0	0.0	0.0
Nodo	13	-384.5	519.9	0.0	0.0	0.0	0.0
Nodo	14	138.4	-629.1	0.0	0.0	0.0	0.0
Nodo	15	1461.8	-754.8	0.0	0.0	0.0	0.0
Nodo	16	-205.8	-9.3	0.0	0.0	0.0	0.0
Nodo	17	110.5	159.3	0.0	0.0	0.0	0.0
Nodo	18	823.9	187.4	0.0	0.0	0.0	0.0
Nodo	19	-1121.7	131.3	0.0	0.0	0.0	0.0
Nodo	20	8.3	-76.1	0.0	0.0	0.0	0.0
Nodo	21	-769.0	-804.0	0.0	0.0	0.0	0.0
Nodo	22	-278.7	-973.1	0.0	0.0	0.0	0.0

SOLLECITAZIONI ASTE:

SOLLECITAZIONI ASTE

CASO DI CARICO : 1 SLU SENZA SISMA COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+	1.30
2	Permanente_____	+	1.50
3	Var_copertura	+	1.50
4	Neve_(<1000m_slm)__	+	1.50

1) +1.30*c001 +1.50*c002 +1.50*c003 +1.50*c004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta 1 nodi 1 2

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2777.9	-0.2	-306043.7	-50.9	-247877.7
195.	0.0	2981.8	-0.2	-310395.0	-3.0	-247479.0
390.	0.0	9980.9	-0.2	-315819.0	44.7	996516.6

Asta 2 nodi 2 3

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7921.8	-0.2	-463495.8	-46.8	752043.5
215.	0.0	1093.0	-0.2	-471056.4	5.8	-4779.8
430.	0.0	11256.8	-0.2	-480595.0	58.9	1304935.6

Asta 3 nodi 3 4

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-11334.3	-0.4	-200642.4	-70.9	1297296.4
200.	0.0	-1172.3	-0.3	-210818.7	-0.7	38429.9
400.	0.0	9347.5	-0.4	-221761.4	69.5	851846.3

Asta 4 nodi 4 5

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-10311.3	-0.3	-30479.9	-69.0	835337.3
210.	0.0	943.4	-0.3	-42457.0	1.8	-151285.6
420.	0.0	12290.1	-0.3	-54604.2	72.8	1238417.7

Asta 5 nodi 5 6

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-13392.5	-0.2	118920.6	-63.6	1165740.7
255.	0.0	226.6	-0.2	104375.1	-1.0	-507501.4
510.	0.0	13552.1	-0.2	90445.7	61.4	1256541.4

Asta 6 nodi 6 7

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-10261.4	-0.4	316770.7	-76.9	1385663.5
180.	0.0	-1150.4	-0.4	307608.6	-0.1	364526.4
360.	0.0	7410.2	-0.4	299352.4	76.7	938241.1

Asta 7 nodi 7 8

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9219.5	-0.4	587935.4	-70.3	988396.7
165.	0.0	-2073.6	-0.4	581502.2	-7.6	67274.2
330.	0.0	4247.9	-0.4	576508.4	54.9	258467.7

Asta 8 nodi 8 9

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8486.3	-0.3	337613.7	-51.5	555745.5
210.	0.0	-1680.9	-0.3	332840.7	8.6	-487527.7
420.	0.0	3816.7	-0.3	329401.3	69.2	-242531.9

Asta 9 nodi 1 10

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3045.6	-0.3	214479.5	-50.2	-339510.5
175.	0.0	1287.1	-0.2	210790.4	-6.6	-484624.2
350.	0.0	5105.2	-0.2	207688.1	36.9	81170.0

Asta 10 nodi 2 11

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7013.4	-0.3	100553.1	-47.7	-159621.1
175.	0.0	-725.0	-0.3	96521.8	3.3	-822007.5
350.	0.0	4688.5	-0.3	92759.3	54.4	-464555.8

Asta 11 nodi 8 12

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5965.9	-0.3	-189610.8	-45.5	-255265.7
175.	0.0	-150.5	-0.3	-185324.7	1.8	-778404.4
350.	0.0	4970.3	-0.3	-181554.5	49.2	-348503.7

Asta 12 nodi 9 13

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2104.8	-0.4	-203878.2	-76.9	-384488.9
175.	0.0	1809.4	-0.4	-200951.8	-11.7	-405019.1
350.	0.0	5433.4	-0.4	-198584.8	53.1	232195.1

Asta 13 nodi 10 11

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4893.5	-0.2	-119738.3	-34.4	202735.0
195.	0.0	-501.1	-0.2	-122097.6	5.8	-335672.7
390.	0.0	4706.6	-0.2	-124878.9	46.1	60194.1

Asta 14 nodi 12 13

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4725.7	-0.2	136663.5	-41.6	-49046.2
210.	0.0	628.0	-0.2	134530.4	-2.6	-463210.9
420.	0.0	5176.1	-0.2	132936.3	36.2	158537.9

Asta 15 nodi 3 16

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7685.8	0.0	14092.4	-6.0	306682.1
385.	0.0	120.6	0.0	13471.5	0.0	-1054964.1
770.	0.0	6398.1	0.0	12962.1	7.3	203082.0

Asta 16 nodi 4 17

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8119.4	0.0	4613.4	-5.6	231181.5
385.	0.0	157.0	0.0	4448.2	0.0	-1194127.3
770.	0.0	6776.0	0.0	4319.7	5.8	139316.1

Asta 17 nodi 5 18

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8214.4	0.0	-3591.8	-6.4	216679.0
385.	0.0	151.0	0.0	-3459.6	0.0	-1225272.7
770.	0.0	6832.4	0.0	-3356.0	6.6	116687.2

Asta 18 nodi 6 19

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7974.2	0.0	-9675.0	-5.8	263684.7
385.	0.0	97.0	0.0	-9460.5	0.0	-1150820.9
770.	0.0	6600.7	0.0	-9324.1	5.2	136729.1

Asta 19 nodi 7 20

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7185.1	0.0	-27177.7	-5.8	309947.1
385.	0.0	75.8	0.0	-26304.4	0.0	-975578.8

770.	0.0	6045.0	0.0	-25648.6	4.4	202122.5

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4221.4	-0.2	-20329.6	-34.8	-68644.3
210.	0.0	-145.1	-0.2	-23747.7	6.7	-519220.5
420.	0.0	3618.8	-0.2	-27261.0	48.6	-151542.6

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5332.7	-0.2	101172.3	-49.8	-375835.1
210.	0.0	446.0	-0.2	97012.9	-1.5	-879620.6
420.	0.0	5951.0	-0.2	93242.1	46.6	-207493.2

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5579.6	-0.2	-99717.6	-41.3	-249176.5
210.	0.0	32.8	-0.2	-95694.7	-2.9	-825121.5
420.	0.0	5510.0	-0.2	-92055.1	35.3	-244867.1

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4522.5	-0.3	-5424.8	-44.8	52813.9
210.	0.0	-450.6	-0.3	-2926.0	8.0	-465123.4
420.	0.0	3494.0	-0.3	-438.9	61.4	-145555.5

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2356.1	-0.3	115594.6	-57.7	-44755.3
195.	0.0	1498.5	-0.3	115738.3	-3.1	-142183.4
390.	0.0	6218.9	-0.3	116282.0	51.3	596422.4

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5479.3	-0.3	288624.5	-56.4	567241.0
215.	0.0	638.1	-0.3	290053.4	8.0	30894.5
430.	0.0	7548.1	-0.3	292700.4	73.0	898768.0

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7850.5	-0.4	116777.7	-84.7	918753.7
200.	0.0	-949.9	-0.4	120024.6	-3.7	33405.2
400.	0.0	6173.7	-0.4	123707.8	77.2	553338.8

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6967.4	-0.4	26616.9	-71.7	546635.3
210.	0.0	638.5	-0.3	30774.9	1.7	-119768.3
420.	0.0	8304.3	-0.4	35056.2	75.3	819279.1

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9090.9	-0.2	-37001.3	-62.5	755489.1
255.	0.0	129.8	-0.2	-31821.6	-2.7	-384229.8
510.	0.0	9217.5	-0.2	-26829.7	56.6	810501.0

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6931.8	-0.3	-124772.2	-63.7	883705.0
180.	0.0	-646.1	-0.3	-121493.8	-2.2	204592.7
360.	0.0	5350.6	-0.3	-118573.1	59.3	633618.7

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5735.5	-0.3	-300426.4	-52.5	614351.7
165.	0.0	-626.9	-0.3	-298282.3	-4.8	95369.5

330.	0.0	4006.9	-0.3	-296876.6	42.8	381270.2

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5910.1	-0.2	-91989.6	-43.9	357817.1
210.	0.0	-777.8	-0.2	-90852.4	8.3	-329317.3
420.	0.0	3543.0	-0.3	-90079.2	61.0	-26014.0

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5823.5	-221.4	-302.5	-101.1	-33466.8	33398.2
160.	-5456.0	-221.4	-302.5	-101.1	14936.6	-2032.6
320.	-5088.4	-221.4	-302.5	-101.1	63340.1	-37463.3

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24916.1	-1197.3	-173.2	-139.2	-11944.3	143920.1
160.	-24448.1	-1197.3	-173.2	-139.2	15766.7	-47652.4
320.	-23980.1	-1197.3	-173.2	-139.2	43477.7	-239224.9

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-30277.0	161.7	56.5	-135.7	26729.5	-6453.2
160.	-29809.0	161.7	56.5	-135.7	17691.0	19417.8
320.	-29341.0	161.7	56.5	-135.7	8652.5	45288.8

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-27778.3	-84.3	121.7	-144.1	39900.0	11895.6
160.	-27310.3	-84.3	121.7	-144.1	20435.1	-1585.3
320.	-26842.3	-84.3	121.7	-144.1	970.2	-15066.2

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-33897.1	-742.4	135.9	-142.9	43154.2	76268.8
160.	-33429.1	-742.4	135.9	-142.9	21411.6	-42508.9
320.	-32961.1	-742.4	135.9	-142.9	-330.9	-161286.7

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-31787.6	1103.1	109.8	-144.1	37359.7	-119447.2
160.	-31319.6	1103.1	109.8	-144.1	19794.4	57052.1
320.	-30851.6	1103.1	109.8	-144.1	2229.0	233551.3

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-23814.8	80.0	26.2	-152.8	21364.1	-22978.0
160.	-23346.8	80.0	26.2	-152.8	17179.2	-10172.4
320.	-22878.8	80.0	26.2	-152.8	12994.2	2633.2

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-18700.1	844.9	-210.4	-151.9	-16371.0	-107667.0
160.	-18232.1	844.9	-210.4	-151.9	17290.4	27513.0
320.	-17764.1	844.9	-210.4	-151.9	50951.7	162693.1

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5921.5	245.3	-491.8	-146.1	-55087.6	-38653.7
160.	-5453.5	245.3	-491.8	-146.1	23603.3	597.8
320.	-4985.5	245.3	-491.8	-146.1	102294.2	39849.2

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14220.1	-170.5	-234.1	-106.0	-30076.0	25282.7

160.	-13852.5	-170.5	-234.1	-106.0	7375.6	-1991.0
320.	-13485.0	-170.5	-234.1	-106.0	44827.1	-29264.8

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14727.8	-340.6	-293.2	-150.3	-36158.1	51781.0
160.	-14259.8	-340.6	-293.2	-150.3	10756.3	-2708.9
320.	-13791.8	-340.6	-293.2	-150.3	57670.7	-57198.9

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15275.5	180.5	-305.0	-132.1	-37336.3	-32790.7
160.	-14807.5	180.5	-305.0	-132.1	11459.0	-3913.2
320.	-14339.5	180.5	-305.0	-132.1	60254.2	24964.3

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15131.9	256.9	-359.4	-134.1	-46444.9	-34622.1
160.	-14663.9	256.9	-359.4	-134.1	11060.7	6482.3
320.	-14195.9	256.9	-359.4	-134.1	68566.3	47586.8

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5974.8	-89.9	436.0	-106.2	35948.0	17494.2
160.	-5607.3	-89.9	436.0	-106.2	-33819.3	3105.5
320.	-5239.7	-89.9	436.0	-106.2	-103586.6	-11283.3

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17649.2	-1032.6	522.1	-154.4	35150.6	122423.4
160.	-17181.2	-1032.6	522.1	-154.4	-48390.5	-42790.9
320.	-16713.2	-1032.6	522.1	-154.4	-131931.5	-208005.2

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-21796.7	143.2	6.7	-165.0	-27159.4	-7023.7
160.	-21328.7	143.2	6.7	-165.0	-28223.7	15895.3
320.	-20860.7	143.2	6.7	-165.0	-29287.9	38814.3

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19917.2	-77.7	-110.1	-154.8	-42225.2	11023.2
160.	-19449.2	-77.7	-110.1	-154.8	-24603.2	-1412.3
320.	-18981.2	-77.7	-110.1	-154.8	-6981.3	-13847.8

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24227.6	-574.5	-129.7	-144.4	-44629.8	60434.0
160.	-23759.6	-574.5	-129.7	-144.4	-23884.6	-31491.6
320.	-23291.6	-574.5	-129.7	-144.4	-3139.4	-123417.2

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-22750.0	784.4	-90.5	-125.5	-38786.6	-82528.1
160.	-22282.0	784.4	-90.5	-125.5	-24300.9	42971.6
320.	-21814.0	784.4	-90.5	-125.5	-9815.3	168471.3

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17131.1	-4.3	53.0	-116.2	-20269.2	-6381.5
160.	-16663.1	-4.3	53.0	-116.2	-28753.8	-7068.7
320.	-16195.1	-4.3	53.0	-116.2	-37238.3	-7755.9

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15427.0	551.0	557.1	-122.0	39980.1	-68602.1
160.	-14959.0	551.0	557.1	-122.0	-49161.9	19551.4
320.	-14491.0	551.0	557.1	-122.0	-138303.9	107705.0

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7037.0	184.5	674.9	-122.3	55476.3	-26452.9
160.	-6569.0	184.5	674.9	-122.3	-52514.7	3062.5
320.	-6101.0	184.5	674.9	-122.3	-160505.7	32577.9

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	33.9	0.0	-1.2	0.0	0.0	0.0
88.	33.9	-511.9	-1.2	0.0	105.9	-22394.5
175.	33.9	-1023.7	-1.2	0.0	211.9	-89578.1

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	24.5	0.0	1.0	0.0	0.0	0.0
88.	24.5	-511.9	1.0	0.0	-85.3	-22394.5
175.	24.5	-1023.8	1.0	0.0	-170.5	-89578.1

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-94.0	1243.2	-2.0	-26889.2	-444.7	-43158.8
195.	-94.0	-852.6	-2.0	-26889.2	-52.1	25966.0
390.	-94.0	-4858.6	-2.0	-26889.2	340.4	-499834.1

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-716.2	14218.5	-0.3	-8967.3	-99.5	-839407.4
215.	-716.2	-518.0	-0.3	-8967.3	-28.2	633391.8
430.	-716.2	-15254.6	-0.3	-8967.3	43.1	-1062162.9

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-720.7	14086.4	0.5	-314.8	178.8	-1016874.1
200.	-720.7	378.0	0.5	-314.8	73.1	429563.8
400.	-720.7	-13330.4	0.5	-314.8	-32.6	-865678.2

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-775.3	13511.8	0.6	655.4	111.5	-880744.5
210.	-775.3	-882.0	0.6	655.4	-10.0	445392.6
420.	-775.3	-15275.8	0.6	655.4	-131.5	-1251172.6

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1153.8	17685.3	0.0	324.4	11.3	-1412459.3
255.	-1153.8	207.1	0.0	324.4	8.6	868824.4
510.	-1153.8	-17271.1	0.0	324.4	5.9	-1306835.5

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-611.9	13580.5	0.4	2553.5	150.0	-1073284.2
180.	-611.9	1243.0	0.4	2553.5	83.6	260832.8
360.	-611.9	-11094.6	0.4	2553.5	17.1	-625811.0

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-511.0	11784.2	1.1	15547.7	169.9	-623177.8
165.	-511.0	474.8	1.1	15547.7	-9.0	388190.6
330.	-511.0	-10834.6	1.1	15547.7	-187.9	-466496.9

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-108.6	1700.4	3.0	20194.5	581.0	-230538.4

210.	-108.6	471.9	3.0	20194.5	-48.4	-2439.7
420.	-108.6	-756.6	3.0	20194.5	-677.8	-32326.0

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-170.1	3845.2	2.7	5695.5	545.8	-90229.2
175.	-170.1	-998.9	2.7	5695.5	70.4	158822.4
350.	-170.1	-5842.9	2.7	5695.5	-405.0	-439833.6

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-36.3	3879.2	3.9	100348.4	791.0	-115134.0
175.	-36.3	-964.8	3.9	100348.4	110.3	139879.2
350.	-36.3	-5808.8	3.9	100348.4	-570.4	-452815.3

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-63.8	4205.3	-3.4	-73265.4	-787.5	-135883.0
175.	-63.8	-932.6	-3.4	-73265.4	-197.9	150477.8
350.	-63.8	-6070.5	-3.4	-73265.4	391.6	-462296.0

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-283.8	4228.9	-2.4	7523.3	-531.7	-122488.7
175.	-283.8	-909.0	-2.4	7523.3	-120.1	168003.4
350.	-283.8	-6046.9	-2.4	7523.3	291.6	-440639.1

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-92.9	949.3	-1.7	-6655.9	-345.2	-38636.6
195.	-92.9	-191.4	-1.7	-6655.9	-16.3	35258.5
390.	-92.9	-1332.2	-1.7	-6655.9	312.6	-113292.7

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-121.2	1292.7	3.0	2812.5	654.7	-88341.7
210.	-121.2	64.2	3.0	2812.5	16.5	54127.1
420.	-121.2	-1164.3	3.0	2812.5	-621.7	-61389.0

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-287.0	6692.7	0.2	15067.3	46.3	-491316.7
210.	-287.0	879.9	0.2	15067.3	2.6	303809.3
420.	-287.0	-4933.0	0.2	15067.3	-41.0	-121763.8

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-178.3	6650.8	-0.7	-70143.1	-107.5	-503830.1
210.	-178.3	838.0	-0.7	-70143.1	34.1	282493.8
420.	-178.3	-4974.9	-0.7	-70143.1	175.6	-151881.3

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-208.6	6976.3	-0.2	40040.7	-131.0	-519737.7
210.	-208.6	810.8	-0.2	40040.7	-84.1	297912.8
420.	-208.6	-5354.7	-0.2	40040.7	-37.2	-179190.6

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-453.2	6984.7	-0.5	-6279.0	-196.0	-512018.0
210.	-453.2	819.2	-0.5	-6279.0	-97.5	307390.8
420.	-453.2	-5346.3	-0.5	-6279.0	1.0	-167954.3

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-40.9	306.7	0.3	18177.2	65.2	3784.1
195.	-40.9	-739.0	0.3	18177.2	13.5	-38357.2
390.	-40.9	-1784.6	0.3	18177.2	-38.2	-284407.5

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-644.7	9953.7	1.0	38126.9	291.8	-562555.8
215.	-644.7	-465.9	1.0	38126.9	66.9	457374.9
430.	-644.7	-10885.5	1.0	38126.9	-158.0	-762908.1

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-585.7	9975.2	0.4	8839.0	7.0	-724093.8
200.	-585.7	282.5	0.4	8839.0	-69.1	301680.8
400.	-585.7	-9410.1	0.4	8839.0	-145.2	-611074.7

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-619.0	9571.1	0.4	1857.7	9.6	-624922.5
210.	-619.0	-606.2	0.4	1857.7	-66.3	316386.2
420.	-619.0	-10783.5	0.4	1857.7	-142.1	-879534.5

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-857.6	12508.1	0.4	-1281.7	2.3	-1002951.7
255.	-857.6	150.0	0.4	-1281.7	-99.8	610949.6
510.	-857.6	-12208.2	0.4	-1281.7	-201.8	-926471.9

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-499.6	9605.8	0.0	-11097.0	-76.2	-758000.6
180.	-499.6	882.4	0.0	-11097.0	-70.2	185937.9
360.	-499.6	-7841.0	0.0	-11097.0	-64.2	-440333.0

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-460.7	8354.1	0.0	-48335.3	52.0	-448088.9
165.	-460.7	357.7	0.0	-48335.3	47.7	270636.2
330.	-460.7	-7638.7	0.0	-48335.3	43.3	-330050.7

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-112.0	1497.6	0.6	-7448.6	128.1	-182305.0
210.	-112.0	371.4	0.6	-7448.6	2.4	13941.1
420.	-112.0	-754.7	0.6	-7448.6	-123.3	-26299.0

SOLLECITAZIONI ASTE

CASO DI CARICO : 4 SLU con SISMAX PRINC COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA
1 Peso_proprio_____ + 1.00
2 Permanente_____ + 1.00
N. 2 CASI DI CARICO
2 SISMAX SLU 1.00
3 SISMAY SLU 0.30

1) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.001
2) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.002
3) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.003
4) +1.00*c001 +1.00*c002 +1.00*C002.001 +0.30*C003.004

5) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.001
6) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.002
7) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.003
8) +1.00*c001 +1.00*c002 +1.00*C002.002 +0.30*C003.004
9) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.001
10) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.002
11) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.003
12) +1.00*c001 +1.00*c002 +1.00*C002.003 +0.30*C003.004
13) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.001
14) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.002
15) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.003
16) +1.00*c001 +1.00*c002 +1.00*C002.004 +0.30*C003.004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1120.9	-0.7	-140440.7	-134.5	18951.5
	0.0	-1021.0	1.3	-146063.4	279.7	8065.1
	0.0	-1918.2	-2.9	-100409.8	-596.0	79013.7
	0.0	-1818.3	-0.9	-106032.5	-181.8	68127.3
	0.0	-1217.3	-2.8	-135121.3	-572.1	29786.0
	0.0	-1117.4	-0.8	-140744.0	-157.9	18899.6
	0.0	-2014.6	-5.0	-95090.5	-1033.6	89848.2
	0.0	-1914.7	-3.0	-100713.2	-619.4	78961.8
	0.0	-1332.4	2.8	-182304.6	570.7	-318056.6
	0.0	-1232.5	4.8	-187927.3	984.9	-328943.0
	0.0	-2129.7	0.6	-142273.7	109.2	-257994.4
	0.0	-2029.8	2.6	-147896.4	523.4	-268880.8
	0.0	-1428.8	0.6	-176985.3	133.1	-307222.0
	0.0	-1328.9	2.7	-182608.0	547.3	-318108.4
	0.0	-2226.1	-1.6	-136954.4	-328.4	-247159.9
	0.0	-2126.2	0.5	-142577.1	85.8	-258046.3
195.	0.0	1230.8	-0.7	-141426.1	0.0	14867.8
	0.0	1244.7	1.3	-146815.6	19.5	14930.0
	0.0	1296.1	-2.9	-103684.0	-31.8	5009.7
	0.0	1310.0	-0.9	-109073.6	-12.2	5071.9
	0.0	1215.3	-2.8	-136327.0	-23.4	14928.4
	0.0	1229.2	-0.8	-141716.6	-3.9	14990.6
	0.0	1280.6	-5.0	-98585.0	-55.2	5070.3
	0.0	1294.5	-3.0	-103974.5	-35.6	5132.5
	0.0	1805.3	2.7	-183509.3	32.7	-275746.6
	0.0	1819.2	4.8	-188898.8	52.3	-275684.4
	0.0	1870.6	0.6	-145767.2	1.0	-285604.7
	0.0	1884.5	2.6	-151156.7	20.6	-285542.5
	0.0	1789.8	0.6	-178410.2	9.3	-275686.0
	0.0	1803.7	2.6	-183799.7	28.9	-275623.8
	0.0	1855.1	-1.6	-140668.1	-22.4	-285544.1
	0.0	1869.0	0.5	-146057.7	-2.8	-285481.9
390.	0.0	4474.1	-0.7	-142900.3	134.4	557315.0
	0.0	4412.1	1.3	-148075.3	-239.7	552514.3
	0.0	5307.6	-2.9	-107316.6	531.0	636705.8
	0.0	5245.6	-0.9	-112491.6	156.9	631905.1
	0.0	4530.3	-2.8	-138003.8	524.0	561499.4
	0.0	4468.2	-0.8	-143178.8	149.9	556698.7
	0.0	5363.7	-5.0	-102420.2	920.6	640890.1
	0.0	5301.7	-3.0	-107595.2	546.5	636089.4
	0.0	5244.1	2.8	-185348.0	-503.7	406134.0
	0.0	5182.1	4.8	-190523.0	-877.8	401333.3
	0.0	6077.5	0.6	-149764.4	-107.1	485524.8
	0.0	6015.5	2.6	-154939.4	-481.2	480724.1
	0.0	5300.2	0.6	-180451.6	-114.1	410318.4
	0.0	5238.2	2.7	-185626.6	-488.1	405517.7
	0.0	6133.7	-1.6	-144868.0	282.5	489709.1
	0.0	6071.7	0.5	-150043.0	-91.5	484908.4

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5156.1	-0.8	-286838.1	-153.4	791151.1
	0.0	-5012.0	1.4	-296014.1	253.8	768749.8
	0.0	-6353.1	-2.9	-230521.4	-559.8	952925.4
	0.0	-6209.1	-0.8	-239697.4	-152.6	930524.1
	0.0	-5295.5	-2.9	-278107.2	-557.8	813111.8
	0.0	-5151.4	-0.7	-287283.2	-150.6	790710.5
	0.0	-6492.5	-5.0	-221790.4	-964.2	974886.2
	0.0	-6348.5	-2.9	-230966.4	-557.0	952484.8
	0.0	-2296.5	2.6	-222421.7	511.7	-108374.7
	0.0	-2152.4	4.8	-231597.7	918.9	-130776.1
	0.0	-3493.5	0.5	-166105.0	105.3	53399.6
	0.0	-3349.5	2.7	-175281.0	512.5	30998.2
	0.0	-2435.9	0.5	-213690.7	107.3	-86414.0
	0.0	-2291.8	2.7	-222866.8	514.5	-108815.4
	0.0	-3633.0	-1.6	-157374.0	-299.1	75360.3
	0.0	-3488.9	0.6	-166550.0	108.1	52959.0
215.	0.0	-728.6	-0.8	-289340.4	17.5	145216.1
	0.0	-653.8	1.3	-298309.0	-36.2	146005.7
	0.0	-1213.5	-2.9	-235217.9	68.3	129178.1
	0.0	-1138.7	-0.8	-244186.5	14.7	129967.8
	0.0	-802.5	-2.9	-280805.2	63.8	144555.4
	0.0	-727.7	-0.7	-289773.8	10.1	145345.1
	0.0	-1287.5	-5.0	-226682.7	114.6	128517.4
	0.0	-1212.7	-2.9	-235651.3	61.0	129307.1
	0.0	1903.2	2.6	-225271.7	-55.1	-159521.8
	0.0	1978.1	4.8	-234240.2	-108.8	-158732.1
	0.0	1418.3	0.5	-171149.1	-4.3	-175559.8
	0.0	1493.1	2.7	-180117.7	-57.9	-174770.1
	0.0	1829.3	0.5	-216736.5	-8.8	-160182.4
	0.0	1904.1	2.7	-225705.1	-62.5	-159392.7
	0.0	1344.3	-1.6	-162613.9	42.0	-176220.4
	0.0	1419.1	0.6	-171582.5	-11.6	-175430.7
430.	0.0	4308.9	-0.8	-293057.7	189.6	521275.1
	0.0	4334.9	1.4	-301856.5	-328.8	532544.8
	0.0	4359.4	-3.0	-240902.1	701.3	461604.0
	0.0	4385.4	-0.8	-249700.9	183.0	472873.7
	0.0	4281.1	-2.9	-284682.5	690.0	510016.2
	0.0	4307.1	-0.8	-293481.3	171.6	521285.8
	0.0	4331.7	-5.1	-232526.9	1201.7	450345.1
	0.0	4357.6	-2.9	-241325.7	683.4	461614.7
	0.0	6623.7	2.7	-229067.6	-625.9	748262.8
	0.0	6649.6	4.8	-237866.4	-1144.3	759532.5
	0.0	6674.2	0.5	-176912.0	-114.2	688591.7
	0.0	6700.2	2.7	-185710.8	-632.5	699861.4
	0.0	6595.9	0.5	-220692.4	-125.5	737003.9
	0.0	6621.9	2.7	-229491.2	-643.9	748273.6
	0.0	6646.4	-1.6	-168536.7	386.2	677332.8
	0.0	6672.4	0.6	-177335.5	-132.1	688602.5

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6394.5	-0.8	-124514.7	-190.6	806185.6
	0.0	-6341.5	2.2	-134304.9	425.3	805121.0
	0.0	-6776.9	-4.3	-68910.4	-855.4	779537.0
	0.0	-6724.0	-1.3	-78700.6	-239.4	778472.4
	0.0	-6447.1	-3.7	-115294.6	-771.4	807703.7
	0.0	-6394.1	-0.6	-125084.8	-155.5	806639.1
	0.0	-6829.5	-7.1	-59690.3	-1436.1	781055.1
	0.0	-6776.6	-4.1	-69480.5	-820.2	779990.5
	0.0	-4428.4	3.8	-117382.1	750.8	428232.3
	0.0	-4375.5	6.8	-127172.3	1366.8	427167.7
	0.0	-4810.8	0.3	-61777.8	86.1	401583.7
	0.0	-4757.9	3.3	-71568.0	702.1	400519.1
	0.0	-4481.0	0.9	-108162.0	170.1	429750.4

	0.0	-4428.0	3.9	-117952.2	786.0	428685.8
	0.0	-4863.4	-2.5	-52557.7	-494.6	403101.8
	0.0	-4810.5	0.5	-62347.9	121.3	402037.2
200.	0.0	-1359.5	-0.8	-128771.8	-25.2	27038.2
	0.0	-1336.9	2.2	-138439.1	-11.7	33314.0
	0.0	-1376.1	-4.3	-74793.4	0.8	-37713.0
	0.0	-1353.5	-1.3	-84460.7	14.3	-31437.3
	0.0	-1383.3	-3.6	-119667.3	-41.1	21118.0
	0.0	-1360.7	-0.6	-129334.6	-27.6	27393.8
	0.0	-1399.8	-7.1	-65688.9	-15.1	-43633.2
	0.0	-1377.3	-4.1	-75356.2	-1.6	-37357.5
	0.0	319.0	3.7	-121574.2	0.9	12708.7
	0.0	341.5	6.7	-131241.5	14.4	18984.5
	0.0	302.4	0.3	-67595.7	26.9	-52042.5
	0.0	325.0	3.3	-77263.1	40.4	-45766.8
	0.0	295.2	0.9	-112469.6	-15.0	6788.6
	0.0	317.8	3.9	-122136.9	-1.6	13064.3
	0.0	278.6	-2.5	-58491.2	11.0	-57962.7
	0.0	301.2	0.5	-68158.5	24.4	-51686.9
400.	0.0	3822.4	-0.8	-133497.0	139.6	271694.9
	0.0	3825.7	2.2	-143076.6	-448.7	280404.0
	0.0	4083.7	-4.3	-80948.2	856.5	232619.9
	0.0	4087.0	-1.3	-90527.8	268.2	241329.0
	0.0	3816.9	-3.7	-124474.9	687.6	262994.1
	0.0	3820.2	-0.6	-134054.6	99.3	271703.1
	0.0	4078.2	-7.1	-71926.1	1404.5	223919.1
	0.0	4081.5	-4.1	-81505.8	816.2	232628.1
	0.0	5287.1	3.8	-126208.1	-748.4	570614.1
	0.0	5290.4	6.8	-135787.7	-1336.6	579323.1
	0.0	5548.4	0.3	-73659.3	-31.5	531539.1
	0.0	5551.7	3.3	-83238.9	-619.8	540248.1
	0.0	5281.7	0.9	-117186.1	-200.3	561913.2
	0.0	5285.0	3.9	-126765.7	-788.6	570622.3
	0.0	5543.0	-2.5	-64637.3	516.5	522838.2
	0.0	5546.2	0.5	-74216.9	-71.7	531547.3

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5653.8	-0.3	-19617.7	-70.8	556273.7
	0.0	-5627.8	2.6	-27810.8	507.4	553689.9
	0.0	-5891.0	-4.5	6256.0	-903.2	540661.7
	0.0	-5865.0	-1.7	-1937.0	-325.0	538078.0
	0.0	-5680.7	-2.9	-11942.9	-601.1	559240.5
	0.0	-5654.6	0.0	-20136.0	-22.9	556656.7
	0.0	-5917.9	-7.1	13930.8	-1433.6	543628.5
	0.0	-5891.8	-4.3	5737.8	-855.3	541044.8
	0.0	-4265.0	4.0	-32650.2	788.1	248604.7
	0.0	-4238.9	6.8	-40843.3	1366.4	246020.9
	0.0	-4502.2	-0.3	-6776.5	-44.3	232992.7
	0.0	-4476.1	2.5	-14969.6	533.9	230409.0
	0.0	-4291.8	1.4	-24975.4	257.8	251571.5
	0.0	-4265.8	4.2	-33168.5	836.0	248987.7
	0.0	-4529.0	-2.9	898.3	-574.6	235959.5
	0.0	-4503.0	-0.1	-7294.8	3.6	233375.8
210.	0.0	-124.5	-0.3	-24875.2	-16.7	-51437.2
	0.0	-110.8	2.6	-33010.9	-35.8	-49977.5
	0.0	-129.8	-4.5	-349.5	47.2	-91650.5
	0.0	-116.2	-1.7	-8485.2	28.2	-90190.8
	0.0	-139.4	-2.8	-17254.3	-1.0	-52740.4
	0.0	-125.8	0.0	-25390.1	-20.0	-51280.7
	0.0	-144.8	-7.1	7271.4	63.0	-92953.7
	0.0	-131.1	-4.3	-864.3	43.9	-91494.0
	0.0	1084.8	3.9	-37824.2	-42.2	-87583.6
	0.0	1098.5	6.8	-45959.9	-61.2	-86123.8
	0.0	1079.5	-0.3	-13298.4	21.8	-127796.9
	0.0	1093.1	2.5	-21434.2	2.7	-126337.1
	0.0	1069.8	1.4	-30203.3	-26.5	-88886.7
	0.0	1083.5	4.2	-38339.0	-45.5	-87427.0
	0.0	1064.5	-2.9	-5677.6	37.5	-129100.0
	0.0	1078.2	-0.1	-13813.3	18.5	-127640.3
420.	0.0	5405.0	-0.3	-30232.4	36.3	503886.7
	0.0	5413.2	2.6	-38343.4	-581.2	507532.7
	0.0	5598.3	-4.6	-6956.3	1000.7	483828.5
	0.0	5606.5	-1.7	-15067.3	383.1	487474.5
	0.0	5395.3	-2.9	-22635.0	599.2	500098.5
	0.0	5403.5	0.0	-30746.0	-18.4	503744.6
	0.0	5588.6	-7.2	641.1	1563.5	480040.3
	0.0	5596.8	-4.3	-7469.8	946.0	483686.4
	0.0	6537.7	4.0	-43149.7	-875.2	711835.9
	0.0	6545.9	6.8	-51260.7	-1492.7	715481.9
	0.0	6730.9	-0.3	-19873.5	89.2	691777.7
	0.0	6739.2	2.5	-27984.5	-528.4	695423.7
	0.0	6528.0	1.4	-35552.2	-312.4	708047.7
	0.0	6536.2	4.2	-43663.2	-929.9	711693.7
	0.0	6721.2	-2.9	-12276.1	652.0	687989.5
	0.0	6729.4	-0.1	-20387.1	34.4	691635.6

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7216.7	0.2	66972.4	28.8	758820.0
	0.0	-7200.6	2.3	58187.7	569.7	751572.5
	0.0	-7526.4	-3.7	60926.6	-933.6	756816.9
	0.0	-7510.3	-1.6	52142.0	-392.7	749569.4
	0.0	-7234.3	-1.7	75236.8	-465.0	766259.2
	0.0	-7218.3	0.4	66452.1	75.8	759011.7
	0.0	-7544.1	-5.6	69191.0	-1427.4	764256.1
	0.0	-7528.0	-3.5	60406.4	-886.6	757008.7
	0.0	-5738.0	3.3	48625.2	824.9	367216.5
	0.0	-5721.9	5.4	39840.6	1365.8	359969.0
	0.0	-6047.7	-0.6	42579.5	-137.5	365213.4
	0.0	-6031.7	1.5	33794.8	403.4	357966.0
	0.0	-5755.7	1.4	56889.6	331.1	374655.7
	0.0	-5739.6	3.5	48105.0	871.9	367408.3
	0.0	-6065.4	-2.5	50843.9	-631.4	372652.7
	0.0	-6049.3	-0.4	42059.2	-90.5	365405.2
255.	0.0	-652.0	0.2	60571.2	-21.8	-239235.5
	0.0	-633.7	2.3	51770.8	-11.5	-242346.3
	0.0	-733.2	-3.6	53074.0	3.6	-290813.5
	0.0	-714.9	-1.6	44273.7	14.0	-293924.3
	0.0	-671.8	-1.7	68850.1	-29.4	-236330.4
	0.0	-653.4	0.4	60049.7	-19.1	-239441.2
	0.0	-753.0	-5.5	61353.0	-4.0	-287908.3
	0.0	-734.6	-3.5	52552.6	6.4	-291019.2
	0.0	891.1	3.2	42176.8	-7.4	-251289.2
	0.0	909.5	5.3	33376.4	2.9	-254400.1
	0.0	809.9	-0.6	34679.6	18.1	-302867.2
	0.0	828.3	1.5	25879.3	28.4	-305978.0
	0.0	871.3	1.4	50455.7	-15.0	-248384.1
	0.0	889.7	3.4	41655.3	-4.6	-251495.0
	0.0	790.1	-2.5	42958.6	10.5	-299962.1
	0.0	808.5	-0.4	34158.2	20.8	-303072.9
510.	0.0	5620.3	0.2	54532.4	-75.4	400547.9
	0.0	5655.0	2.3	45664.3	-594.1	403879.6
	0.0	5797.1	-3.7	45529.8	941.1	359901.3
	0.0	5831.8	-1.6	36661.8	422.4	363233.0
	0.0	5584.8	-1.7	62874.7	402.2	396714.1
	0.0	5619.5	0.4	54006.7	-116.5	400045.8
	0.0	5761.5	-5.6	53872.1	1418.7	356067.5
	0.0	5796.3	-3.5	45004.1	900.0	359399.1
	0.0	7538.7	3.3	35982.1	-840.5	824038.3
	0.0	7573.5	5.4	27114.1	-1359.2	827370.0
	0.0	7715.5	-0.6	26979.6	176.0	783391.7

	0.0	7750.3	1.5	18111.5	-342.7	786723.4
	0.0	7503.2	1.4	44324.4	-362.9	820204.5
	0.0	7538.0	3.5	35456.4	-881.6	823536.2
	0.0	7680.0	-2.5	35321.9	653.6	779557.9
	0.0	7714.7	-0.5	26453.9	134.9	782889.6

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5771.6	1.0	157742.5	167.4	757521.9
	0.0	-5764.7	4.4	147356.4	790.5	749283.2
	0.0	-6015.2	-6.7	120682.3	-1209.9	727124.6
	0.0	-6008.3	-3.3	110296.2	-586.9	718885.9
	0.0	-5780.3	-2.2	167533.8	-416.3	765603.2
	0.0	-5773.4	1.2	157147.7	206.8	757364.5
	0.0	-6023.9	-9.9	130473.6	-1793.6	735205.9
	0.0	-6017.0	-6.5	120087.5	-1170.5	726967.2
	0.0	-4206.8	6.1	175560.2	1096.1	576850.3
	0.0	-4199.9	9.5	165174.1	1719.2	568611.6
	0.0	-4450.4	-1.6	138500.0	-281.2	546453.0
	0.0	-4443.5	1.8	128113.9	341.9	538214.3
	0.0	-4215.5	2.9	185351.5	512.5	584931.7
	0.0	-4208.6	6.3	174965.3	1135.5	576693.0
	0.0	-4459.1	-4.8	148291.3	-864.9	554534.4
	0.0	-4452.2	-1.4	137905.2	-241.8	546295.7
180.	0.0	-1537.2	1.0	153839.0	-15.3	103028.8
	0.0	-1508.9	4.4	143371.4	0.2	97813.6
	0.0	-1547.2	-6.7	115631.4	-7.3	49040.5
	0.0	-1518.9	-3.3	105163.7	8.2	43825.3
	0.0	-1566.3	-2.2	163706.8	-25.8	107839.4
	0.0	-1538.0	1.2	153239.2	-10.3	102624.2
	0.0	-1576.3	-9.8	125499.2	-17.7	53851.0
	0.0	-1548.0	-6.5	115031.5	-2.2	48635.8
	0.0	398.8	6.1	171534.4	2.2	236389.8
	0.0	427.1	9.4	161066.8	17.7	231174.6
	0.0	388.9	-1.6	133326.8	10.2	182401.4
	0.0	417.1	1.8	122859.1	25.7	177186.2
	0.0	369.7	2.9	181402.2	-8.3	241200.4
	0.0	398.0	6.3	170934.6	7.2	235985.2
	0.0	359.8	-4.8	143194.6	-0.2	187212.0
	0.0	388.0	-1.4	132726.9	15.3	181996.8
360.	0.0	2409.1	1.0	150388.6	-198.0	186395.9
	0.0	2469.4	4.4	139808.6	-789.5	188975.5
	0.0	2704.4	-6.7	110920.9	1194.5	156958.9
	0.0	2764.6	-3.3	100341.0	603.0	159538.5
	0.0	2349.7	-2.2	160362.0	364.4	183398.2
	0.0	2409.9	1.2	149782.0	-227.1	185977.8
	0.0	2644.9	-9.9	120894.3	1757.0	153961.2
	0.0	2705.2	-6.5	110314.4	1165.5	156540.8
	0.0	4765.2	6.1	168013.9	-1091.1	706022.6
	0.0	4825.4	9.5	157433.9	-1682.7	708602.2
	0.0	5060.4	-1.6	128546.2	301.4	676585.6
	0.0	5120.7	1.8	117966.2	-290.1	679165.2
	0.0	4705.7	2.9	177987.3	-528.7	703024.9
	0.0	4766.0	6.3	167407.3	-1120.2	705604.5
	0.0	5001.0	-4.8	138519.6	863.8	673587.8
	0.0	5061.2	-1.4	127939.6	272.3	676167.4

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5716.2	1.0	258130.8	197.2	508901.3
	0.0	-5677.3	3.9	248787.2	717.8	499014.2
	0.0	-5741.3	-5.9	221926.6	-1089.1	482488.4
	0.0	-5702.4	-3.1	212583.0	-568.4	472601.3
	0.0	-5756.0	-1.7	267009.3	-307.6	518756.9
	0.0	-5717.0	1.1	257665.7	213.1	508869.8
	0.0	-5781.1	-8.7	230805.1	-1593.8	492343.9
	0.0	-5742.1	-5.9	221461.5	-1073.2	482456.8
	0.0	-3067.4	5.5	353023.9	1004.9	420416.9
	0.0	-3028.4	8.3	343680.3	1525.5	410529.8
	0.0	-3092.5	-1.5	316819.7	-281.3	394004.0
	0.0	-3053.5	1.3	307476.1	239.3	384116.9
	0.0	-3107.1	2.7	361902.4	500.2	430272.4
	0.0	-3068.2	5.5	352558.8	1020.8	420385.3
	0.0	-3132.2	-4.2	325698.2	-786.1	403859.5
	0.0	-3093.3	-1.4	316354.6	-265.5	393972.4
165.	0.0	-2405.6	1.0	255491.8	25.3	-156727.9
	0.0	-2326.6	3.8	246019.4	82.5	-157042.3
	0.0	-2071.8	-5.9	218034.6	-115.0	-158735.2
	0.0	-1992.8	-3.1	208562.2	-57.8	-159049.6
	0.0	-2483.3	-1.7	264491.6	-26.9	-156411.1
	0.0	-2404.3	1.1	255019.2	30.3	-156725.5
	0.0	-2149.4	-8.6	227034.4	-167.1	-158418.4
	0.0	-2070.4	-5.8	217562.0	-109.9	-158732.8
	0.0	576.6	5.5	350462.0	102.7	220411.6
	0.0	655.6	8.3	340989.6	159.9	220097.2
	0.0	910.4	-1.5	313004.9	-37.6	218404.4
	0.0	989.5	1.3	303532.4	19.7	218089.9
	0.0	498.9	2.7	359461.8	50.5	220728.5
	0.0	577.9	5.5	349989.4	107.7	220414.1
	0.0	832.8	-4.2	322004.6	-89.7	218721.2
	0.0	911.8	-1.4	312532.2	-32.5	218406.8
330.	0.0	581.2	1.0	253485.3	-146.1	-303126.6
	0.0	712.1	3.8	243860.6	-550.8	-286279.0
	0.0	1356.9	-5.9	214682.3	856.3	-214698.1
	0.0	1487.8	-3.1	205057.6	451.5	-197850.4
	0.0	454.6	-1.7	262628.6	253.1	-319517.7
	0.0	585.4	1.1	253003.9	-151.7	-302670.0
	0.0	1230.3	-8.6	223825.6	1255.4	-231089.1
	0.0	1361.2	-5.8	214200.9	850.7	-214241.5
	0.0	3765.1	5.5	348767.7	-797.0	585682.7
	0.0	3896.0	8.3	339143.0	-1201.8	602530.4
	0.0	4540.9	-1.5	309964.8	205.3	674111.3
	0.0	4671.7	1.3	300340.1	-199.4	690958.9
	0.0	3638.5	2.7	357911.1	-397.9	569291.7
	0.0	3769.4	5.5	348286.3	-802.6	586139.3
	0.0	4414.3	-4.2	319108.1	604.5	657720.2
	0.0	4545.1	-1.4	309483.4	199.7	674567.9

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4867.1	0.7	201228.2	127.9	217866.4
	0.0	-4905.9	2.9	191630.0	513.1	215790.6
	0.0	-5558.3	-4.4	152803.6	-797.8	264665.4
	0.0	-5597.0	-2.3	143205.4	-412.7	262589.6
	0.0	-4834.1	-1.6	210372.2	-271.3	220419.9
	0.0	-4872.9	0.6	200774.0	113.9	218344.1
	0.0	-5525.3	-6.7	161947.6	-1197.1	267218.9
	0.0	-5564.0	-4.5	152349.4	-811.9	265143.0
	0.0	-3622.5	4.2	160732.8	760.9	350645.8
	0.0	-3661.3	6.4	151134.6	1146.1	348570.0
	0.0	-4313.6	-0.9	112308.2	-164.9	397444.8
	0.0	-4352.4	1.3	102710.0	220.3	395369.0
	0.0	-3589.5	2.0	169876.8	361.7	353199.3
	0.0	-3628.3	4.1	160278.6	746.8	351123.5
	0.0	-4280.7	-3.2	121452.2	-564.1	399998.3
	0.0	-4319.4	-1.0	111854.0	-179.0	397922.5
210.	0.0	-1415.4	0.7	199476.6	-21.0	-436000.0
	0.0	-1373.4	2.9	189650.0	-88.8	-438025.0
	0.0	-1438.7	-4.4	149179.3	128.2	-466128.3
	0.0	-1396.7	-2.3	139352.7	60.4	-468153.3
	0.0	-1458.5	-1.6	208836.2	54.9	-434238.2
	0.0	-1416.5	0.6	199009.6	-12.9	-436263.2

	0.0	-1481.9	-6.7	158538.9	204.0	-464366.5
	0.0	-1439.9	-4.5	148712.3	136.3	-466391.5
	0.0	-396.6	4.2	159448.0	-127.6	-54001.0
	0.0	-354.6	6.4	149621.4	-195.4	-56026.0
	0.0	-420.0	-0.9	109150.6	21.6	-84129.3
	0.0	-378.0	1.3	99324.0	-46.2	-86154.3
	0.0	-439.8	2.0	168807.6	-51.7	-52239.2
	0.0	-397.8	4.1	158981.0	-119.5	-54264.3
	0.0	-463.2	-3.2	118510.2	97.4	-82367.5
	0.0	-421.1	-1.0	108683.6	29.7	-84392.6
420.	0.0	1802.6	0.7	198524.3	-171.3	-393713.0
	0.0	1942.4	2.9	188429.9	-696.4	-376933.8
	0.0	2565.3	-4.5	146152.6	1062.7	-348142.2
	0.0	2705.0	-2.3	136058.2	537.5	-331363.0
	0.0	1667.4	-1.6	208137.0	384.6	-410417.4
	0.0	1807.2	0.6	198042.6	-140.6	-393638.3
	0.0	2430.1	-6.8	155765.3	1618.5	-364846.6
	0.0	2569.8	-4.6	145670.9	1093.4	-348067.5
	0.0	1811.9	4.3	158802.0	-1024.4	112476.9
	0.0	1951.6	6.5	148707.7	-1549.6	129256.0
	0.0	2574.5	-0.9	106430.3	209.5	158047.7
	0.0	2714.3	1.3	96336.0	-315.7	174826.8
	0.0	1676.7	2.0	168414.8	-468.5	95772.4
	0.0	1816.4	4.2	158320.4	-993.7	112551.5
	0.0	2439.3	-3.2	116043.0	765.4	141343.2
	0.0	2579.1	-1.0	105948.7	240.2	158122.3

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1278.9	-0.6	125374.2	-122.8	-81092.0
	0.0	-1294.3	1.4	130022.6	276.0	-60707.6
	0.0	-1315.8	-2.9	74594.7	-577.9	-239080.6
	0.0	-1331.1	-0.9	79243.1	-179.0	-218696.2
	0.0	-1261.7	-2.7	121199.3	-547.0	-100942.1
	0.0	-1277.0	-0.7	125847.7	-148.2	-80557.7
	0.0	-1298.6	-5.0	70419.9	-1002.1	-258930.7
	0.0	-1313.9	-3.0	75068.3	-603.2	-238546.3
	0.0	-2357.4	2.7	127635.0	555.2	-79276.4
	0.0	-2372.8	4.7	132283.4	954.0	-58892.0
	0.0	-2394.3	0.5	76855.5	100.2	-237265.1
	0.0	-2409.6	2.5	81503.9	499.0	-216880.6
	0.0	-2340.2	0.6	123460.1	131.0	-99126.5
	0.0	-2355.5	2.6	128108.5	529.8	-78742.1
	0.0	-2377.1	-1.6	72680.7	-324.0	-257115.2
	0.0	-2392.4	0.4	77329.1	74.8	-236730.7
175.	0.0	368.5	-0.6	122172.2	-15.0	-159240.3
	0.0	293.4	1.3	126797.6	39.2	-147372.5
	0.0	936.8	-2.8	71658.6	-79.3	-264792.4
	0.0	861.6	-0.9	76284.1	-25.1	-252924.6
	0.0	441.8	-2.7	118017.8	-73.4	-170600.7
	0.0	366.7	-0.7	122643.3	-19.2	-158733.0
	0.0	1010.1	-4.9	67504.3	-137.6	-276152.8
	0.0	935.0	-3.0	72129.7	-83.4	-264285.0
	0.0	304.9	2.7	127444.1	77.2	-257150.3
	0.0	229.7	4.7	132069.5	131.4	-245282.5
	0.0	873.1	0.5	76930.6	13.0	-362702.4
	0.0	798.0	2.5	81556.0	67.2	-350834.6
	0.0	378.2	0.6	123289.7	18.9	-268510.7
	0.0	303.1	2.6	127915.2	73.1	-256643.0
	0.0	946.5	-1.6	72776.2	-45.4	-374062.8
	0.0	871.3	0.4	77401.6	8.8	-362195.0
350.	0.0	1938.4	-0.6	119310.3	92.3	43421.9
	0.0	1841.8	1.3	123925.7	-196.4	39733.4
	0.0	2728.5	-2.8	68922.0	416.8	62072.0
	0.0	2631.9	-0.9	73537.4	128.1	58383.4
	0.0	2031.7	-2.7	115164.8	398.0	47148.8
	0.0	1935.2	-0.7	119780.2	109.2	43460.3
	0.0	2821.8	-4.9	64776.5	722.5	65798.8
	0.0	2725.3	-3.0	69391.9	433.7	62110.3
	0.0	2888.9	2.7	127608.1	-398.3	22903.8
	0.0	2792.3	4.7	132223.5	-687.1	19215.3
	0.0	3679.0	0.5	77219.8	-73.8	41553.8
	0.0	3582.4	2.5	81835.2	-362.6	37865.3
	0.0	2982.2	0.6	123462.6	-92.6	26630.7
	0.0	2885.7	2.6	128078.0	-381.4	22942.2
	0.0	3772.3	-1.6	73074.3	231.9	45280.7
	0.0	3675.8	0.4	77689.7	-56.9	41592.2

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3132.5	-0.8	-16464.6	-140.2	-26203.3
	0.0	-3207.0	1.6	-9651.4	254.7	1763.5
	0.0	-2409.5	-3.5	-81488.6	-569.2	-308673.3
	0.0	-2484.0	-1.1	-74675.4	-174.2	-280706.5
	0.0	-3062.0	-3.3	-22777.4	-552.5	-52646.0
	0.0	-3136.5	-0.9	-15964.3	-157.5	-24679.3
	0.0	-2339.0	-5.9	-87801.4	-981.4	-335116.0
	0.0	-2413.5	-3.6	-80988.3	-586.5	-307149.2
	0.0	-4749.1	3.3	150676.5	540.6	137290.2
	0.0	-4823.6	5.7	157489.7	935.6	165257.0
	0.0	-4026.0	0.6	85652.5	111.6	-145179.7
	0.0	-4100.5	3.0	92465.7	506.6	-117212.9
	0.0	-4678.6	0.8	144363.7	128.3	110847.5
	0.0	-4753.1	3.2	151176.8	523.3	138814.3
	0.0	-3955.5	-1.9	79339.7	-300.6	-171622.5
	0.0	-4030.0	0.5	86152.8	94.3	-143655.7
175.	0.0	-1.4	-0.8	-19381.3	-2.8	-296338.5
	0.0	-121.9	1.6	-12599.8	-20.5	-285914.8
	0.0	1188.5	-3.5	-84083.2	35.6	-406534.9
	0.0	1068.0	-1.1	-77301.7	17.9	-396111.2
	0.0	112.6	-3.3	-25665.0	19.6	-306183.5
	0.0	-7.9	-0.9	-18883.5	1.9	-295759.8
	0.0	1302.5	-5.9	-90367.0	58.0	-416379.9
	0.0	1182.0	-3.6	-83585.5	40.3	-405956.2
	0.0	-1715.7	3.3	149746.6	-37.2	-422690.1
	0.0	-1836.2	5.7	156528.1	-54.8	-412266.4
	0.0	-525.8	0.6	85044.7	1.2	-532886.5
	0.0	-646.3	3.0	91826.1	-16.5	-522462.9
	0.0	-1601.7	0.8	143462.8	-14.7	-432535.1
	0.0	-1722.2	3.2	150244.3	-32.4	-422111.5
	0.0	-411.8	-1.9	78760.9	23.7	-542731.5
	0.0	-532.3	0.5	85542.4	6.0	-532307.9
350.	0.0	2894.4	-0.8	-22351.9	134.6	-40424.5
	0.0	2757.9	1.6	-15583.2	-296.3	-52907.5
	0.0	4244.5	-3.5	-86912.0	641.3	75885.8
	0.0	4108.0	-1.1	-80143.3	210.5	63402.8
	0.0	3023.5	-3.3	-28624.1	592.4	-28602.7
	0.0	2887.0	-0.9	-21855.4	161.5	-41085.7
	0.0	4373.6	-6.0	-93184.1	1099.2	87707.6
	0.0	4237.1	-3.6	-86415.4	668.3	75224.6
	0.0	990.0	3.3	149233.6	-616.0	-482627.5
	0.0	853.5	5.7	156002.3	-1046.9	-495110.5
	0.0	2340.0	0.6	84673.6	-109.2	-366317.2
	0.0	2203.6	3.0	91442.3	-540.1	-378800.2
	0.0	1119.0	0.8	142961.4	-158.1	-470805.7
	0.0	982.6	3.2	149730.1	-589.0	-483288.7
	0.0	2469.1	-1.9	78401.4	348.6	-354495.4
	0.0	2332.7	0.5	85170.1	-82.3	-366978.4

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4242.1	0.6	-191583.7	105.1	66573.5

	0.0	-4178.3	2.8	-183468.5	459.8	41441.9
	0.0	-3727.6	-4.5	-132188.8	-735.6	-145653.3
	0.0	-3663.8	-2.3	-124073.6	-380.9	-170784.9
	0.0	-4302.2	-1.7	-199124.4	-261.0	90256.4
	0.0	-4238.4	0.5	-191009.2	93.6	65124.8
	0.0	-3787.7	-6.8	-139729.5	-1101.7	-121970.3
	0.0	-3723.8	-4.6	-131614.4	-747.1	-147101.9
	0.0	-2476.6	4.3	-22580.0	702.1	-115659.8
	0.0	-2412.8	6.5	-14464.8	1056.8	-140791.4
	0.0	-1962.1	-0.8	36814.9	-138.5	-327886.5
	0.0	-1898.3	1.4	44930.1	216.1	-353018.1
	0.0	-2536.7	2.0	-30120.7	336.0	-91976.8
	0.0	-2472.8	4.2	-22005.5	690.6	-117108.4
	0.0	-2022.2	-3.1	29274.2	-504.7	-304203.6
	0.0	-1958.3	-0.9	37389.3	-150.0	-329335.2
175.	0.0	-1401.4	0.6	-190652.4	1.3	-422150.1
	0.0	-1293.4	2.8	-182573.8	-27.1	-431790.5
	0.0	-516.6	-4.5	-131550.4	44.2	-508068.1
	0.0	-408.6	-2.3	-123471.8	15.8	-517708.6
	0.0	-1503.1	-1.7	-198159.2	36.6	-413049.4
	0.0	-1395.1	0.5	-190080.6	8.3	-422689.9
	0.0	-618.3	-6.7	-139057.1	79.5	-498967.5
	0.0	-510.3	-4.6	-130978.5	51.2	-508607.9
	0.0	499.5	4.3	-19471.1	-49.2	-285424.8
	0.0	607.5	6.5	-11392.5	-77.5	-295065.3
	0.0	1384.2	-0.8	39630.9	-6.3	-371342.9
	0.0	1492.2	1.4	47709.5	-34.6	-380983.3
	0.0	397.8	2.0	-26977.9	-13.8	-276324.2
	0.0	505.8	4.2	-18899.3	-42.2	-285964.6
	0.0	1282.5	-3.0	32124.2	29.0	-362242.3
	0.0	1390.5	-0.9	40202.8	0.7	-371882.7
350.	0.0	1155.6	0.6	-190252.0	-102.5	-440725.0
	0.0	1279.0	2.8	-182187.5	-514.7	-429716.9
	0.0	2167.2	-4.5	-131278.1	825.3	-357325.9
	0.0	2290.6	-2.3	-123213.6	413.0	-346317.8
	0.0	1039.3	-1.7	-197745.7	335.5	-451071.9
	0.0	1162.7	0.5	-189681.2	-76.8	-440063.8
	0.0	2051.0	-6.8	-138771.9	1263.2	-367672.8
	0.0	2174.4	-4.6	-130707.4	851.0	-356664.7
	0.0	3299.7	4.3	-16416.5	-802.0	48981.3
	0.0	3423.1	6.5	-8352.0	-1214.3	59989.4
	0.0	4311.4	-0.8	42557.3	125.7	132380.4
	0.0	4434.8	1.4	50621.8	-286.5	143388.5
	0.0	3183.5	2.0	-23910.3	-364.1	38634.4
	0.0	3306.9	4.2	-15845.8	-776.3	49642.5
	0.0	4195.1	-3.1	35063.6	563.7	122033.5
	0.0	4318.5	-0.9	43128.1	151.4	133041.6

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2119.3	0.9	-126738.3	192.4	-103778.8
	0.0	-2086.7	3.9	-119650.2	789.5	-129020.3
	0.0	-2150.0	-5.9	-64422.7	-1196.3	-235493.2
	0.0	-2117.5	-3.0	-57334.7	-599.2	-260734.6
	0.0	-2153.3	-2.2	-133175.4	-443.9	-79170.0
	0.0	-2120.8	0.8	-126087.4	153.2	-104411.4
	0.0	-2184.1	-9.1	-70859.9	-1832.6	-210884.3
	0.0	-2151.6	-6.1	-63771.8	-1235.5	-236125.7
	0.0	-701.6	5.7	-127825.7	1158.9	-124441.9
	0.0	-669.1	8.7	-120737.7	1756.0	-149683.4
	0.0	-732.4	-1.1	-65510.2	-229.9	-256156.3
	0.0	-699.9	1.8	-58422.1	367.2	-281397.7
	0.0	-735.7	2.6	-134262.9	522.6	-99833.1
	0.0	-703.2	5.5	-127174.9	1119.7	-125074.5
	0.0	-766.5	-4.3	-71947.4	-866.2	-231547.4
	0.0	-733.9	-1.3	-64859.3	-269.0	-256788.9

175.	0.0	519.1	0.9	-127288.7	27.1	-243169.4
	0.0	616.1	3.9	-120233.2	109.8	-256419.9
	0.0	1012.8	-5.9	-65284.9	-164.3	-329233.4
	0.0	1109.8	-2.9	-58229.5	-81.6	-342483.9
	0.0	424.4	-2.2	-133696.2	-62.5	-230443.4
	0.0	521.5	0.8	-126640.8	20.2	-243693.9
	0.0	918.1	-9.0	-71692.4	-253.9	-316507.4
	0.0	1015.1	-6.1	-64637.0	-171.3	-329757.9
	0.0	698.7	5.7	-124660.7	159.4	-124475.1
	0.0	795.8	8.6	-117605.2	242.1	-137725.6
	0.0	1192.4	-1.1	-62656.9	-32.0	-210539.1
	0.0	1289.5	1.8	-55601.5	50.7	-223789.6
	0.0	604.1	2.6	-131068.2	69.8	-111749.1
	0.0	701.1	5.5	-124012.7	152.5	-124999.6
	0.0	1097.7	-4.2	-69064.4	-121.6	-197813.1
	0.0	1194.8	-1.3	-62009.0	-38.9	-211063.6
350.	0.0	3152.3	0.9	-128192.7	-137.3	77686.8
	0.0	3272.2	3.9	-121150.3	-566.5	83994.0
	0.0	3839.4	-5.9	-66328.1	862.5	99566.6
	0.0	3959.3	-2.9	-59285.6	433.3	105873.8
	0.0	3036.2	-2.2	-134588.4	316.9	71420.6
	0.0	3156.1	0.8	-127545.9	-112.3	77727.8
	0.0	3723.2	-9.0	-72723.8	1316.8	93300.4
	0.0	3843.1	-6.1	-65681.3	887.6	99607.6
	0.0	2105.0	5.7	-121843.5	-835.0	120567.4
	0.0	2224.9	8.6	-114801.0	-1264.2	126874.6
	0.0	2792.0	-1.1	-59978.8	164.9	142447.2
	0.0	2911.9	1.8	-52936.4	-264.3	148754.4
	0.0	1988.8	2.6	-128239.1	-380.7	114301.2
	0.0	2108.7	5.5	-121196.7	-809.9	120608.4
	0.0	2675.9	-4.2	-66374.5	619.1	136181.0
	0.0	2795.8	-1.3	-59332.0	189.9	142488.2

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2959.0	-0.5	-77684.9	-82.5	241384.3
	0.0	-2953.5	1.1	-82493.1	182.2	240773.2
	0.0	-3020.0	-2.4	-33106.0	-390.5	247858.9
	0.0	-3014.5	-0.8	-37914.2	-125.8	247247.8
	0.0	-2964.1	-2.2	-73241.2	-363.7	241966.2
	0.0	-2958.6	-0.6	-78049.4	-99.0	241355.1
	0.0	-3025.2	-4.1	-28662.2	-671.7	248440.9
	0.0	-3019.7	-2.5	-33470.4	-407.0	247829.8
	0.0	-2307.5	2.3	-78902.7	373.9	-61735.2
	0.0	-2302.0	3.9	-83710.9	638.5	-62346.2
	0.0	-2368.6	0.4	-34323.7	65.9	-55260.5
	0.0	-2363.0	2.0	-39131.9	330.5	-55871.6
	0.0	-2312.7	0.6	-74458.9	92.7	-61153.2
	0.0	-2307.2	2.2	-79267.1	357.3	-61764.3
	0.0	-2373.7	-1.3	-29880.0	-215.3	-54678.5
	0.0	-2368.2	0.3	-34688.2	49.4	-55289.6
195.	0.0	-894.6	-0.5	-78049.0	10.9	-145431.8
	0.0	-892.2	1.1	-82671.4	-33.8	-145285.6
	0.0	-919.2	-2.4	-35324.3	71.0	-147050.1
	0.0	-916.7	-0.8	-39946.7	26.3	-146903.9
	0.0	-897.0	-2.2	-73780.3	59.8	-145568.4
	0.0	-894.6	-0.6	-78402.7	15.1	-145422.1
	0.0	-921.5	-4.1	-31055.6	119.8	-147186.7
	0.0	-919.1	-2.5	-35678.0	75.1	-147040.4
	0.0	533.2	2.3	-79103.8	-69.6	-234387.7
	0.0	535.6	3.9	-83726.2	-114.3	-234241.4
	0.0	508.6	0.4	-36379.1	-9.5	-236006.0
	0.0	511.1	2.0	-41001.5	-54.2	-235859.7
	0.0	530.8	0.6	-74835.0	-20.7	-234524.2
	0.0	533.2	2.2	-79457.4	-65.4	-234378.0
	0.0	506.3	-1.3	-32110.3	39.3	-236142.5

	0.0	508.7	0.3	-36732.7	-5.4	-235996.3
390.	0.0	1864.4	-0.5	-78682.8	104.8	-62615.1
	0.0	1864.8	1.1	-83135.4	-251.4	-62206.5
	0.0	1861.0	-2.4	-37664.7	535.9	-66710.7
	0.0	1861.4	-0.8	-42117.3	179.6	-66302.1
	0.0	1863.9	-2.2	-74574.3	486.1	-63014.3
	0.0	1864.3	-0.6	-79026.9	129.9	-62605.8
	0.0	1860.5	-4.1	-33556.2	917.2	-67109.9
	0.0	1861.0	-2.5	-38008.8	560.9	-66701.4
	0.0	3399.6	2.3	-79578.3	-516.5	148030.5
	0.0	3400.0	3.9	-84030.8	-872.7	148439.0
	0.0	3396.2	0.4	-38560.2	-85.4	143934.9
	0.0	3396.6	2.0	-43012.7	-441.7	144343.4
	0.0	3399.1	0.6	-75469.7	-135.1	147631.2
	0.0	3399.5	2.2	-79922.3	-491.4	148039.8
	0.0	3395.7	-1.3	-34451.6	295.9	143535.6
	0.0	3396.1	0.3	-38904.2	-60.3	143944.2

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3608.2	0.4	91277.6	88.2	93486.4
	0.0	-3610.0	2.0	83595.2	450.2	93492.6
	0.0	-3622.5	-3.2	40596.2	-714.8	92393.4
	0.0	-3624.3	-1.6	32913.8	-352.8	92399.7
	0.0	-3606.4	-1.3	98477.2	-299.8	93465.0
	0.0	-3608.2	0.3	90794.9	62.2	93471.3
	0.0	-3620.6	-4.9	47795.8	-1102.8	92372.1
	0.0	-3622.5	-3.3	40113.4	-740.8	92378.3
	0.0	-1710.9	3.1	87844.6	699.4	-120046.6
	0.0	-1712.7	4.7	80162.2	1061.4	-120040.4
	0.0	-1725.2	-0.5	37163.1	-103.6	-121139.5
	0.0	-1727.0	1.1	29480.8	258.4	-121133.3
	0.0	-1709.1	1.4	95044.2	311.4	-120067.9
	0.0	-1710.9	3.0	87361.8	673.4	-120061.7
	0.0	-1723.3	-2.2	44362.7	-491.6	-121160.8
	0.0	-1725.2	-0.6	36680.4	-129.6	-121154.6
210.	0.0	-642.0	0.4	90994.1	0.4	-352982.6
	0.0	-641.6	2.0	83130.3	24.6	-353139.1
	0.0	-637.2	-3.2	38822.0	-44.4	-355321.9
	0.0	-636.7	-1.6	30958.2	-20.3	-355478.4
	0.0	-642.3	-1.3	98364.7	-27.2	-352829.4
	0.0	-641.9	0.3	90500.9	-3.1	-352985.9
	0.0	-637.5	-4.9	46192.6	-72.1	-355168.7
	0.0	-637.0	-3.3	38328.8	-48.0	-355325.2
	0.0	1150.1	3.1	87402.8	45.2	-164605.5
	0.0	1150.5	4.7	79539.0	69.4	-164762.0
	0.0	1154.9	-0.5	35230.7	0.3	-166944.8
	0.0	1155.3	1.1	27366.9	24.5	-167101.3
	0.0	1149.8	1.4	94773.4	17.5	-164452.3
	0.0	1150.2	3.0	86909.6	41.7	-164608.8
	0.0	1154.6	-2.2	42601.3	-27.3	-166791.6
	0.0	1155.0	-0.6	34737.5	-3.2	-166948.1
420.	0.0	2419.8	0.4	91075.1	-87.4	-169733.1
	0.0	2423.4	2.0	82998.4	-399.5	-169480.0
	0.0	2459.2	-3.2	37203.3	623.0	-167703.4
	0.0	2462.8	-1.6	29126.6	310.9	-167450.4
	0.0	2416.5	-1.3	98646.2	243.5	-169940.1
	0.0	2420.1	0.3	90569.5	-68.5	-169687.0
	0.0	2455.9	-4.9	44774.4	953.9	-167910.4
	0.0	2459.5	-3.3	36697.7	641.8	-167657.3
	0.0	3234.0	3.1	87311.2	-606.1	309036.3
	0.0	3237.6	4.7	79234.4	-918.2	309289.4
	0.0	3273.4	-0.5	33439.4	104.3	311066.0
	0.0	3277.0	1.1	25362.7	-207.8	311319.0
	0.0	3230.7	1.4	94882.2	-275.1	308829.3
	0.0	3234.4	3.0	86805.5	-587.2	309082.4
	0.0	3270.1	-2.2	41010.5	435.2	310859.0
	0.0	3273.8	-0.6	32933.7	123.1	311112.1

Asta	15	nodi	3	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4193.4	-0.1	11328.2	-18.9	274947.5
	0.0	-4222.5	0.1	12881.7	33.3	290532.2
	0.0	-3770.9	-0.2	-3188.2	-70.1	63933.1
	0.0	-3799.9	-0.1	-1634.6	-17.9	79517.7
	0.0	-4166.5	-0.2	9880.5	-68.5	260409.7
	0.0	-4195.6	-0.1	11434.1	-16.3	275994.4
	0.0	-3744.0	-0.4	-4635.9	-119.7	49395.2
	0.0	-3773.0	-0.2	-3082.3	-67.5	64979.9
	0.0	-3973.5	0.2	13998.6	61.7	244339.9
	0.0	-4002.5	0.4	15552.2	113.9	259924.5
	0.0	-3551.0	0.0	-517.8	10.4	33325.4
	0.0	-3580.0	0.2	1035.8	62.6	48910.1
	0.0	-3946.6	0.0	12550.9	12.0	229802.0
	0.0	-3975.6	0.2	14104.5	64.2	245386.7
	0.0	-3524.1	-0.1	-1965.4	-39.2	18787.5
	0.0	-3553.1	0.0	-411.9	13.0	34372.2
385.	0.0	-198.8	0.0	11014.8	0.0	-529984.5
	0.0	-241.8	0.1	12561.6	0.0	-529385.6
	0.0	377.6	-0.1	-3439.3	0.0	-535928.6
	0.0	334.6	0.0	-1892.5	0.0	-535329.7
	0.0	-158.6	-0.1	9573.4	0.0	-530544.1
	0.0	-201.6	0.0	11120.2	0.0	-529945.2
	0.0	417.8	-0.2	-4880.7	0.0	-536488.3
	0.0	374.8	-0.1	-3333.8	0.0	-535889.4
	0.0	-253.9	0.1	13742.8	0.0	-529755.3
	0.0	-296.9	0.2	15289.6	0.0	-529156.4
	0.0	322.5	0.0	-711.3	0.0	-535699.4
	0.0	279.5	0.1	835.5	0.0	-535100.5
	0.0	-213.7	0.0	12301.4	0.0	-530314.9
	0.0	-256.7	0.1	13848.2	0.0	-529716.0
	0.0	362.7	-0.1	-2152.7	0.0	-536259.0
	0.0	319.7	0.0	-605.8	0.0	-535660.2
770.	0.0	3191.6	-0.1	10792.5	19.9	42264.5
	0.0	3163.1	0.1	12345.3	-31.9	28064.2
	0.0	3605.9	-0.2	-3718.8	70.3	238865.7
	0.0	3577.4	-0.1	-2165.9	18.5	224665.4
	0.0	3218.1	-0.2	9345.5	68.9	55514.9
	0.0	3189.6	-0.1	10898.3	17.1	41314.6
	0.0	3632.4	-0.4	-5165.8	119.3	252116.1
	0.0	3603.9	-0.2	-3612.9	67.4	237915.8
	0.0	2919.9	0.2	13600.6	-60.2	-23661.4
	0.0	2891.4	0.4	15153.5	-112.1	-37861.7
	0.0	3334.3	0.0	-910.7	-9.9	172939.9
	0.0	3305.7	0.2	642.2	-61.7	158739.5
	0.0	2946.4	0.0	12153.6	-11.3	-10410.9
	0.0	2917.9	0.2	13706.5	-63.1	-24611.2
	0.0	3360.7	-0.1	-2357.7	39.1	186190.3
	0.0	3332.2	0.0	-804.8	-12.7	171990.0

Asta	16	nodi	4	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4336.5	0.0	4043.5	-8.3	220693.9
	0.0	-4357.7	0.1	4763.9	38.2	230545.7
	0.0	-3837.6	-0.2	-2186.9	-70.3	4804.3
	0.0	-3858.8	-0.1	-1466.5	-23.8	14656.0
	0.0	-4316.9	-0.2	3380.0	-51.2	211560.0
	0.0	-4338.1	0.0	4100.4	-4.7	221411.7
	0.0	-3818.0	-0.4	-2850.4	-113.3	-4329.6
	0.0	-3839.3	-0.2	-2130.0	-66.8	5522.1
	0.0	-4204.1	0.2	5467.0	61.3	212884.1
	0.0	-4225.4	0.4	6187.4	107.8	222735.9

	0.0	-3705.3	0.0	-763.4	-0.8	-3005.5
	0.0	-3726.5	0.2	-43.1	45.7	6846.2
	0.0	-4184.6	0.1	4803.5	18.3	203750.2
	0.0	-4205.8	0.2	5523.9	64.9	213601.9
	0.0	-3685.7	-0.1	-1426.9	-43.7	-12139.4
	0.0	-3706.9	0.0	-706.6	2.8	-2287.7
385.	0.0	-182.9	0.0	3954.8	0.0	-600285.8
	0.0	-209.3	0.1	4672.0	0.0	-600057.3
	0.0	387.0	-0.1	-2248.7	0.0	-603239.5
	0.0	360.6	0.0	-1531.5	0.0	-603011.0
	0.0	-158.4	-0.1	3294.2	0.0	-600498.8
	0.0	-184.8	0.0	4011.5	0.0	-600270.3
	0.0	411.5	-0.2	-2909.3	0.0	-603452.4
	0.0	385.1	-0.1	-2192.1	0.0	-603224.0
	0.0	-221.0	0.1	5401.4	0.0	-590736.5
	0.0	-247.3	0.2	6118.6	0.0	-590508.1
	0.0	349.0	0.0	-802.2	0.0	-593690.2
	0.0	322.6	0.1	-84.9	0.0	-593461.7
	0.0	-196.5	0.0	4740.8	0.0	-590949.5
	0.0	-222.8	0.1	5458.0	0.0	-590721.1
	0.0	373.5	-0.1	-1462.7	0.0	-593903.2
	0.0	347.1	0.0	-745.5	0.0	-593674.7
770.	0.0	3254.8	0.0	3898.8	8.5	-14044.3
	0.0	3233.9	0.1	4618.8	-37.9	-23343.0
	0.0	3747.7	-0.2	-2329.1	70.9	194308.0
	0.0	3726.8	-0.1	-1609.1	24.5	185009.3
	0.0	3274.1	-0.2	3235.7	51.6	-5422.7
	0.0	3253.2	0.0	3955.7	5.2	-14721.4
	0.0	3767.0	-0.4	-2992.2	114.0	202929.6
	0.0	3746.1	-0.2	-2272.3	67.6	193631.0
	0.0	3068.3	0.2	5380.4	-61.9	-48607.9
	0.0	3047.4	0.4	6100.4	-108.3	-57906.6
	0.0	3561.2	0.0	-847.5	0.5	159744.4
	0.0	3540.3	0.2	-127.5	-45.9	150445.8
	0.0	3087.6	0.1	4717.3	-18.8	-39986.3
	0.0	3066.7	0.2	5437.3	-65.2	-49284.9
	0.0	3580.5	-0.1	-1510.6	43.6	168366.1
	0.0	3559.6	0.0	-790.6	-2.8	159067.4

Asta	17	nodi	5	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4311.4	0.0	-1728.6	-0.8	204381.4
	0.0	-4312.8	0.2	-1183.9	54.2	205166.9
	0.0	-3818.3	-0.3	-2736.9	-91.3	-925.0
	0.0	-3819.7	-0.1	-2192.2	-36.3	-139.6
	0.0	-4310.2	-0.2	-2240.2	-50.7	203645.6
	0.0	-4311.5	0.0	-1695.4	4.3	204431.1
	0.0	-3817.0	-0.5	-3248.4	-141.2	-1660.9
	0.0	-3818.4	-0.3	-2703.7	-86.2	-875.4
	0.0	-4284.4	0.3	-609.0	80.0	201052.4
	0.0	-4285.8	0.5	-64.3	135.0	201837.8
	0.0	-3791.3	0.0	-1617.3	-10.5	-4254.1
	0.0	-3792.6	0.1	-1072.5	44.5	-3468.6
	0.0	-4283.1	0.1	-1120.5	30.1	200316.6
	0.0	-4284.5	0.3	-575.8	85.1	201102.0
	0.0	-3790.0	-0.2	-2128.8	-60.4	-4989.9
	0.0	-3791.4	0.0	-1584.1	-5.4	-4204.4
385.	0.0	-186.8	0.0	-1648.5	0.0	-610663.8
	0.0	-189.1	0.1	-1106.1	0.0	-610663.3
	0.0	349.3	-0.2	-2652.5	0.0	-612657.9
	0.0	347.0	-0.1	-2110.1	0.0	-612657.5
	0.0	-184.6	-0.1	-2157.8	0.0	-610667.3
	0.0	-186.9	0.0	-1615.4	0.0	-610666.8
	0.0	351.5	-0.3	-3161.8	0.0	-612661.4
	0.0	349.2	-0.2	-2619.4	0.0	-612661.0
	0.0	-189.3	0.2	-562.2	0.0	-609345.9
	0.0	-191.6	0.3	-19.8	0.0	-609345.4
	0.0	346.8	0.0	-1566.1	0.0	-611340.0
	0.0	344.5	0.1	-1023.8	0.0	-611339.6
	0.0	-187.1	0.1	-1071.5	0.0	-609349.4
	0.0	-189.4	0.2	-529.1	0.0	-609348.9
	0.0	349.0	-0.1	-2075.5	0.0	-611343.6
	0.0	346.7	0.0	-1533.1	0.0	-611343.1
770.	0.0	3194.6	0.0	-1581.9	0.9	-36885.2
	0.0	3193.3	0.2	-1037.4	-53.8	-37665.8
	0.0	3682.4	-0.3	-2590.0	91.0	163064.2
	0.0	3681.0	-0.1	-2045.4	36.3	162283.6
	0.0	3195.9	-0.2	-2093.3	50.5	-36154.1
	0.0	3194.5	0.0	-1548.8	-4.2	-36934.7
	0.0	3683.6	-0.5	-3101.3	140.6	163795.2
	0.0	3682.3	-0.3	-2556.8	85.9	163014.7
	0.0	3165.6	0.3	-520.0	-79.5	-41786.7
	0.0	3164.2	0.4	24.6	-134.2	-42567.3
	0.0	3653.3	0.0	-1528.0	10.6	158162.6
	0.0	3651.9	0.1	-983.5	-44.1	157382.1
	0.0	3166.8	0.1	-1031.3	-29.9	-41055.6
	0.0	3165.5	0.3	-486.8	-84.6	-41836.2
	0.0	3654.6	-0.2	-2039.4	60.2	158893.7
	0.0	3653.2	0.0	-1494.8	5.5	158113.2

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4029.1	0.0	-8458.0	11.1	208356.9
	0.0	-4013.1	0.2	-7387.9	60.4	199972.7
	0.0	-3589.0	-0.3	-1355.7	-93.3	16088.5
	0.0	-3573.0	-0.1	-285.6	-43.9	7704.3
	0.0	-4043.4	-0.1	-9457.5	-34.7	215991.4
	0.0	-4027.4	0.0	-8387.4	14.6	207607.2
	0.0	-3603.3	-0.5	-2355.2	-139.0	23723.0
	0.0	-3587.3	-0.3	-1285.1	-89.7	15338.8
	0.0	-4334.1	0.3	-6284.8	84.1	234804.4
	0.0	-4318.1	0.4	-5214.7	133.4	226420.3
	0.0	-3894.0	-0.1	817.5	-20.3	42536.1
	0.0	-3878.0	0.1	1887.7	29.0	34151.9
	0.0	-4348.5	0.1	-7284.3	38.3	242439.0
	0.0	-4332.4	0.3	-6214.2	87.6	234054.8
	0.0	-3908.3	-0.2	-182.0	-66.1	50170.6
	0.0	-3892.3	-0.1	888.2	-16.7	41786.4
385.	0.0	-217.7	0.0	-8350.3	0.0	-563573.4
	0.0	-194.6	0.1	-7284.8	0.0	-563850.2
	0.0	291.2	-0.2	-1278.3	0.0	-566376.9
	0.0	314.3	-0.1	-212.8	0.0	-566653.6
	0.0	-238.9	-0.1	-9345.5	0.0	-563322.1
	0.0	-215.8	0.0	-8280.0	0.0	-563598.9
	0.0	270.0	-0.3	-2273.5	0.0	-566125.6
	0.0	293.2	-0.2	-1208.0	0.0	-566402.3
	0.0	-185.0	0.2	-6210.5	0.0	-588106.6
	0.0	-161.9	0.3	-5145.0	0.0	-588383.3
	0.0	323.9	0.0	861.5	0.0	-590910.0
	0.0	347.0	0.1	1927.0	0.0	-591186.8
	0.0	-206.2	0.1	-7205.7	0.0	-587855.3
	0.0	-183.1	0.2	-6140.2	0.0	-588132.0
	0.0	302.7	-0.1	-133.6	0.0	-590658.7
	0.0	325.8	0.0	931.9	0.0	-590935.5
770.	0.0	2941.3	0.0	-8311.6	-10.7	-45242.8
	0.0	2957.0	0.2	-7242.0	-59.9	-37520.4
	0.0	3376.1	-0.3	-1211.4	92.9	139940.9
	0.0	3391.8	-0.1	-141.8	43.8	147663.3
	0.0	2927.4	-0.1	-9310.7	35.2	-52262.1
	0.0	2943.1	0.0	-8241.0	-14.0	-44539.7
	0.0	3362.2	-0.5	-2210.5	138.8	132921.7
	0.0	3377.9	-0.3	-1140.9	89.7	140644.1

	0.0	3279.6	0.3	-6187.5	-84.7	2490.4
	0.0	3295.3	0.4	-5117.9	-133.8	10212.8
	0.0	3714.4	-0.1	912.7	18.9	187674.1
	0.0	3730.1	0.1	1982.3	-30.2	195396.5
	0.0	3265.7	0.1	-7186.6	-38.8	-4528.9
	0.0	3281.4	0.3	-6116.9	-87.9	3193.5
	0.0	3700.5	-0.2	-86.4	64.8	180654.9
	0.0	3716.2	-0.1	983.2	15.7	188377.3

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3623.2	0.1	-19576.1	16.9	212720.9
	0.0	-3603.7	0.2	-17903.7	60.3	200001.9
	0.0	-3319.8	-0.3	-6110.5	-90.3	50863.7
	0.0	-3300.3	-0.2	-4438.0	-46.9	38144.8
	0.0	-3641.0	-0.1	-21125.1	-24.9	224492.2
	0.0	-3621.5	0.1	-19452.6	18.5	211773.3
	0.0	-3337.6	-0.4	-7659.4	-132.1	62635.1
	0.0	-3318.1	-0.3	-5986.9	-88.7	49916.1
	0.0	-3998.4	0.3	-16876.2	83.1	267489.6
	0.0	-3978.9	0.4	-15203.7	126.5	254770.7
	0.0	-3695.0	-0.1	-3410.5	-24.1	105632.5
	0.0	-3675.5	0.1	-1738.1	19.3	92913.5
	0.0	-4016.2	0.1	-18425.1	41.3	279261.0
	0.0	-3996.7	0.3	-16752.6	84.8	266542.0
	0.0	-3712.8	-0.2	-4959.4	-65.9	117403.8
	0.0	-3693.2	-0.1	-3287.0	-22.5	104684.9
385.	0.0	-209.4	0.0	-19252.3	0.0	-490313.7
	0.0	-172.9	0.1	-17587.1	0.0	-490959.3
	0.0	240.4	-0.2	-5843.9	0.0	-495464.0
	0.0	276.9	-0.1	-4178.7	0.0	-496109.6
	0.0	-243.3	0.0	-20794.5	0.0	-489713.7
	0.0	-206.8	0.0	-19129.3	0.0	-490359.3
	0.0	206.5	-0.3	-7386.0	0.0	-494864.0
	0.0	243.0	-0.2	-5720.8	0.0	-495509.6
	0.0	-166.8	0.2	-16414.9	0.0	-498362.7
	0.0	-130.3	0.2	-14749.7	0.0	-499008.4
	0.0	283.0	0.0	-3006.4	0.0	-503513.1
	0.0	319.5	0.0	-1341.3	0.0	-504158.7
	0.0	-200.7	0.1	-17957.0	0.0	-497762.7
	0.0	-164.2	0.2	-16291.9	0.0	-498408.3
	0.0	249.1	-0.1	-4548.6	0.0	-502913.1
	0.0	285.6	0.0	-2883.4	0.0	-503558.7
770.	0.0	2764.6	0.1	-19087.7	-17.6	-6967.0
	0.0	2783.7	0.2	-17416.0	-60.9	4278.4
	0.0	3060.3	-0.3	-5625.6	89.3	142291.2
	0.0	3079.4	-0.2	-3953.9	46.1	153536.7
	0.0	2747.3	-0.1	-20635.8	23.6	-17357.1
	0.0	2766.4	0.1	-18964.2	-19.6	-6111.6
	0.0	3043.0	-0.4	-7173.8	130.6	131901.2
	0.0	3062.1	-0.3	-5502.1	87.3	143146.6
	0.0	3152.8	0.3	-16089.3	-83.1	71612.2
	0.0	3171.9	0.4	-14417.6	-126.3	82857.6
	0.0	3448.5	-0.1	-2627.2	23.9	220870.4
	0.0	3467.6	0.1	-955.6	-19.4	232115.9
	0.0	3135.5	0.1	-17637.5	-41.8	61222.1
	0.0	3154.6	0.3	-15965.8	-85.1	72467.6
	0.0	3431.2	-0.2	-4175.4	65.1	210480.4
	0.0	3450.3	-0.1	-2503.7	21.8	221725.8

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2206.0	-0.5	26800.5	-88.8	38033.6
	0.0	-2331.9	1.0	31563.8	177.8	58501.1
	0.0	-1175.3	-2.2	-29084.7	-390.2	-122752.7
	0.0	-1301.1	-0.7	-24321.4	-123.6	-102285.1
	0.0	-2084.4	-2.1	22565.5	-371.0	18183.5
	0.0	-2210.2	-0.6	27328.8	-104.4	38651.1
	0.0	-1053.6	-3.8	-33319.7	-672.4	-142602.7
	0.0	-1179.5	-2.3	-28556.4	-405.8	-122135.1
	0.0	-3701.1	2.1	10044.9	372.3	62429.7
	0.0	-3827.0	3.6	14808.2	639.0	82897.3
	0.0	-2670.4	0.4	-45840.3	70.9	-98356.5
	0.0	-2796.2	1.9	-41077.0	337.5	-77888.9
	0.0	-3579.5	0.5	5809.9	90.2	42579.7
	0.0	-3705.3	2.0	10573.2	356.8	63047.3
	0.0	-2548.7	-1.2	-50075.3	-211.2	-118206.5
	0.0	-2674.6	0.3	-45312.0	55.4	-97738.9
210.	0.0	-371.4	-0.5	23617.6	16.6	-232194.6
	0.0	-476.7	1.0	28386.1	-34.1	-236825.4
	0.0	459.4	-2.2	-32313.7	77.3	-189042.4
	0.0	354.1	-0.7	-27545.2	26.7	-193673.2
	0.0	-269.2	-2.1	19377.9	71.0	-227764.3
	0.0	-374.5	-0.6	24146.4	20.3	-232395.0
	0.0	561.6	-3.8	-36553.4	131.7	-184612.1
	0.0	456.3	-2.3	-31785.0	81.1	-189242.9
	0.0	-606.4	2.1	10475.6	-74.7	-390720.4
	0.0	-711.7	3.6	15244.0	-125.4	-395351.2
	0.0	224.4	0.4	-45455.8	-14.0	-347568.2
	0.0	119.1	1.9	-40687.3	-64.7	-352199.0
	0.0	-504.2	0.5	6235.8	-20.4	-386290.1
	0.0	-609.5	2.0	11004.3	-71.0	-390920.9
	0.0	326.6	-1.2	-49695.5	40.4	-343137.9
	0.0	221.3	0.3	-44927.1	-10.3	-347768.7
420.	0.0	1497.7	-0.5	20529.4	123.1	-115709.2
	0.0	1460.3	1.0	25322.2	-248.2	-136192.2
	0.0	1643.5	-2.3	-35672.1	550.0	38815.1
	0.0	1606.1	-0.7	-30879.4	178.7	18332.1
	0.0	1536.1	-2.1	16267.9	517.6	-95696.6
	0.0	1498.7	-0.6	21060.6	146.3	-116179.6
	0.0	1681.9	-3.9	-39933.7	944.5	58827.7
	0.0	1644.5	-2.4	-35140.9	573.2	38344.7
	0.0	2634.4	2.2	10948.2	-526.7	-182282.3
	0.0	2597.0	3.7	15741.0	-898.0	-202765.3
	0.0	2780.2	0.4	-45253.3	-99.8	-27758.0
	0.0	2742.8	1.9	-40460.6	-471.1	-48241.0
	0.0	2672.8	0.5	6686.7	-132.2	-162269.6
	0.0	2635.4	2.1	11479.4	-503.5	-182752.6
	0.0	2818.6	-1.2	-49514.9	294.7	-7745.3
	0.0	2781.2	0.3	-44722.1	-76.6	-28228.3

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4379.1	-0.6	157027.8	-115.4	169035.7
	0.0	-4541.7	1.2	163473.3	269.4	198192.6
	0.0	-2740.3	-2.6	89928.3	-572.6	-118428.5
	0.0	-2902.9	-0.8	96373.8	-187.8	-89271.6
	0.0	-4225.7	-2.4	151133.9	-525.1	141529.1
	0.0	-4388.3	-0.7	157579.5	-140.3	170686.0
	0.0	-2586.9	-4.5	84034.4	-982.4	-145935.1
	0.0	-2749.5	-2.7	90480.0	-597.6	-116778.3
	0.0	-3157.5	2.5	16399.4	549.7	-214327.1
	0.0	-3320.0	4.3	22844.9	934.5	-185170.2
	0.0	-1518.6	0.4	-50700.1	92.5	-501791.4
	0.0	-1681.2	2.2	-44254.6	477.3	-472634.5
	0.0	-3004.0	0.6	10505.5	140.0	-241833.8
	0.0	-3166.6	2.4	16951.1	524.8	-212676.9
	0.0	-1365.2	-1.5	-56594.0	-317.3	-529298.0
	0.0	-1527.8	0.3	-50148.4	67.5	-500141.1
210.	0.0	-1102.7	-0.5	153738.6	0.1	-403571.7
	0.0	-1247.9	1.2	160193.1	11.7	-407353.6
	0.0	357.6	-2.6	86566.8	-24.8	-359229.1

	0.0	212.5	-0.8	93021.2	-13.1	-363011.0
	0.0	-965.7	-2.4	147836.4	-14.7	-399992.9
	0.0	-1110.9	-0.7	154290.8	-3.1	-403774.8
	0.0	494.6	-4.5	80664.5	-39.5	-355650.3
	0.0	349.5	-2.7	87118.9	-27.9	-359432.2
	0.0	-62.4	2.5	16066.1	26.4	-552324.9
	0.0	-207.5	4.2	22520.6	38.0	-556106.8
	0.0	1398.0	0.4	-51105.7	1.6	-507982.3
	0.0	1252.8	2.2	-44651.3	13.2	-511764.2
	0.0	74.6	0.6	10163.9	11.7	-548746.1
	0.0	-70.5	2.4	16618.3	23.3	-552528.0
	0.0	1535.0	-1.4	-57008.0	-13.2	-504403.5
	0.0	1389.8	0.3	-50553.6	-1.6	-508185.4
420.	0.0	2097.4	-0.6	151065.5	115.5	-299913.2
	0.0	2004.9	1.2	157554.7	-245.4	-329308.6
	0.0	3019.5	-2.6	83552.1	521.6	1384.6
	0.0	2927.0	-0.8	90041.3	160.7	-28010.8
	0.0	2184.7	-2.4	145131.1	494.8	-272163.0
	0.0	2092.2	-0.7	151620.3	134.0	-301558.4
	0.0	3106.7	-4.5	77617.7	900.9	29134.8
	0.0	3014.2	-2.7	84106.9	540.1	-260.6
	0.0	3191.2	2.5	15797.2	-495.3	-229447.8
	0.0	3098.7	4.3	22286.4	-856.1	-258843.2
	0.0	4113.3	0.4	-51716.1	-89.2	71850.0
	0.0	4020.8	2.2	-45226.9	-450.0	42454.6
	0.0	3278.5	0.6	9862.9	-115.9	-201697.6
	0.0	3186.0	2.4	16352.1	-476.8	-231093.0
	0.0	4200.6	-1.4	-57650.5	290.2	99600.1
	0.0	4108.1	0.3	-51161.3	-70.7	70204.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2947.0	0.5	-12395.9	94.4	-221394.9
	0.0	-2800.0	2.1	-5060.0	460.4	-247756.9
	0.0	-1697.8	-3.3	48571.5	-723.8	-438731.1
	0.0	-1550.8	-1.6	55907.4	-357.8	-465093.1
	0.0	-3085.4	-1.3	-19143.3	-295.8	-196587.5
	0.0	-2938.3	0.4	-11807.4	70.2	-222949.5
	0.0	-1836.2	-5.0	41824.1	-1114.0	-413923.7
	0.0	-1689.2	-3.4	49159.9	-748.0	-440285.7
	0.0	-4431.3	3.2	-152538.6	706.9	218725.4
	0.0	-4284.3	4.8	-145202.7	1072.9	192363.4
	0.0	-3182.1	-0.6	-91571.3	-111.3	1389.2
	0.0	-3035.1	1.1	-84235.4	254.7	-24972.8
	0.0	-4569.7	1.4	-159286.0	316.7	243532.8
	0.0	-4422.6	3.1	-151950.1	682.7	217170.9
	0.0	-3320.5	-2.3	-98318.7	-501.5	26196.6
	0.0	-3173.5	-0.6	-90982.8	-135.5	-165.3
210.	0.0	17.7	0.5	-12258.3	-3.4	-529705.1
	0.0	148.2	2.1	-4911.2	18.2	-526319.8
	0.0	1125.2	-3.2	48776.1	-38.8	-494496.9
	0.0	1255.8	-1.6	56123.3	-17.2	-491111.7
	0.0	-105.2	-1.3	-19016.2	-29.7	-532896.1
	0.0	25.4	0.4	-11669.0	-8.1	-529510.8
	0.0	1002.4	-5.0	42018.3	-65.1	-497688.0
	0.0	1132.9	-3.3	49365.5	-43.5	-494302.7
	0.0	-1219.4	3.2	-149204.5	40.5	-372219.9
	0.0	-1088.9	4.8	-141857.3	62.2	-368834.6
	0.0	-111.8	-0.6	-88170.0	5.2	-337011.7
	0.0	18.7	1.1	-80822.8	26.8	-333626.5
	0.0	-1342.2	1.4	-155962.3	14.2	-375410.9
	0.0	-1211.7	3.1	-148615.1	35.8	-372025.6
	0.0	-234.7	-2.3	-94927.9	-21.1	-340202.7
	0.0	-104.2	-0.6	-87580.7	0.5	-336817.5
420.	0.0	3181.7	0.5	-12170.0	-101.4	-199993.7
	0.0	3261.9	2.1	-4782.0	-422.8	-173847.3
	0.0	3860.6	-3.3	49176.2	643.7	28202.1
	0.0	3940.8	-1.6	56564.1	322.4	54348.5
	0.0	3106.4	-1.3	-18965.3	234.4	-224595.0
	0.0	3186.6	0.4	-11577.4	-87.0	-198448.6
	0.0	3785.2	-5.0	42380.8	979.5	3600.8
	0.0	3865.4	-3.4	49768.8	658.2	29747.2
	0.0	1938.8	3.2	-146468.2	-623.2	-297692.1
	0.0	2019.1	4.8	-139080.2	-944.5	-271545.7
	0.0	2617.7	-0.6	-85122.0	122.0	-69496.3
	0.0	2697.9	1.1	-77734.1	-199.3	-43349.9
	0.0	1863.5	1.4	-153263.5	-287.4	-322293.4
	0.0	1943.7	3.1	-145875.6	-608.7	-296147.0
	0.0	2542.3	-2.3	-91917.4	457.8	-94097.6
	0.0	2622.5	-0.7	-84529.5	136.4	-67951.2

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3908.7	0.6	-28999.9	116.8	102188.6
	0.0	-3754.3	2.9	-22406.0	514.9	76326.9
	0.0	-3024.4	-4.6	35756.6	-807.4	-37357.2
	0.0	-2870.1	-2.3	42350.5	-409.2	-63218.9
	0.0	-4057.9	-1.8	-34900.2	-304.2	127299.7
	0.0	-3903.6	0.5	-28306.3	94.0	101438.0
	0.0	-3173.7	-7.0	29856.4	-1228.3	-12246.1
	0.0	-3019.3	-4.7	36450.3	-830.2	-38107.8
	0.0	-2174.5	4.5	-41830.2	785.8	84985.4
	0.0	-2020.2	6.8	-35236.3	1183.9	59123.7
	0.0	-1290.2	-0.8	22926.3	-138.4	-54560.4
	0.0	-1135.9	1.5	29520.2	259.8	-80422.1
	0.0	-2323.7	2.1	-47730.5	364.8	110096.5
	0.0	-2169.4	4.4	-41136.5	762.9	84234.8
	0.0	-1439.5	-3.2	17026.1	-559.3	-29449.3
	0.0	-1285.2	-0.9	23620.0	-161.2	-55311.0
210.	0.0	-677.1	0.6	-30358.3	-18.9	-381474.8
	0.0	-545.5	2.9	-23755.0	-97.0	-376420.9
	0.0	34.7	-4.6	34464.7	160.1	-346079.5
	0.0	166.3	-2.3	41068.0	82.0	-341025.6
	0.0	-805.0	-1.8	-36267.0	65.3	-386297.0
	0.0	-673.4	0.5	-29663.6	-12.9	-381243.1
	0.0	-93.2	-7.0	28556.1	244.3	-350901.7
	0.0	38.4	-4.8	35159.4	166.2	-345847.8
	0.0	-459.2	4.5	-38735.2	-158.0	-192275.1
	0.0	-327.6	6.8	-32131.9	-236.1	-187221.2
	0.0	252.5	-0.8	26087.8	21.1	-156879.8
	0.0	384.2	1.5	32691.1	-57.1	-151825.9
	0.0	-587.1	2.1	-44643.9	-73.8	-197097.3
	0.0	-455.5	4.4	-38040.5	-151.9	-192043.4
	0.0	124.6	-3.2	20179.1	105.2	-161702.0
	0.0	256.3	-0.9	26782.5	27.1	-156648.1
420.	0.0	2768.2	0.7	-31838.3	-155.8	-167501.5
	0.0	2826.5	3.0	-25199.1	-715.4	-141572.0
	0.0	2886.9	-4.7	33310.8	1138.1	-37274.8
	0.0	2945.2	-2.4	39950.1	578.6	-11345.4
	0.0	2709.0	-1.8	-37779.0	439.0	-192840.6
	0.0	2767.3	0.5	-31139.7	-120.6	-166911.1
	0.0	2827.8	-7.1	27370.2	1732.9	-62613.9
	0.0	2886.0	-4.8	34009.5	1173.4	-36684.5
	0.0	1340.3	4.6	-35795.5	-1112.0	-102174.7
	0.0	1398.6	6.9	-29156.3	-1671.6	-76245.2
	0.0	1459.0	-0.8	29353.6	181.9	28052.0
	0.0	1517.3	1.5	35992.9	-377.7	53981.4
	0.0	1281.2	2.1	-41736.2	-517.3	-127513.7
	0.0	1339.5	4.4	-35096.9	-1076.8	-101584.3
	0.0	1399.9	-3.2	23413.0	776.7	2712.9
	0.0	1458.2	-0.9	30052.3	217.1	28642.4

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1653.4	-0.7	18579.9	-146.8	170493.7
	0.0	-1753.2	1.4	13337.5	294.8	181733.3
	0.0	-848.7	-3.1	60040.6	-649.0	104991.9
	0.0	-948.5	-1.0	54798.2	-207.4	116231.5
	0.0	-1557.1	-3.0	23477.4	-614.2	159348.4
	0.0	-1657.0	-0.8	18235.0	-172.6	170588.0
	0.0	-752.4	-5.4	64938.1	-1116.4	93846.6
	0.0	-852.2	-3.3	59695.6	-674.8	105086.2
	0.0	-2002.4	3.0	47219.1	619.7	-150535.5
	0.0	-2102.2	5.1	41976.6	1061.3	-139295.9
	0.0	-1197.6	0.6	88679.8	117.5	-216037.3
	0.0	-1297.5	2.7	83437.3	559.1	-204797.7
	0.0	-1906.1	0.7	52116.6	152.3	-161680.8
	0.0	-2005.9	2.9	46874.1	593.9	-150441.2
	0.0	-1101.3	-1.7	93577.2	-349.9	-227182.6
	0.0	-1201.2	0.5	88334.8	91.7	-215943.0
195.	0.0	469.2	-0.7	19300.7	-7.0	44467.9
	0.0	452.2	1.4	14260.2	15.6	44466.9
	0.0	438.0	-3.1	58750.0	-39.3	52994.6
	0.0	421.1	-1.0	53709.5	-16.7	52993.5
	0.0	487.5	-3.0	24007.7	-32.7	44359.6
	0.0	470.5	-0.8	18967.2	-10.2	44358.5
	0.0	456.3	-5.4	63456.9	-65.1	52886.2
	0.0	439.4	-3.2	58416.4	-42.5	52885.1
	0.0	1126.4	3.0	48771.5	39.6	-235736.0
	0.0	1109.4	5.1	43731.1	62.2	-235737.0
	0.0	1095.2	0.6	88220.8	7.3	-227209.3
	0.0	1078.3	2.7	83180.3	29.8	-227210.4
	0.0	1144.6	0.7	53478.5	13.8	-235844.4
	0.0	1127.7	2.8	48438.0	36.4	-235845.4
	0.0	1113.5	-1.7	92927.8	-18.5	-227317.7
	0.0	1096.5	0.4	87887.3	4.1	-227318.8
390.	0.0	3209.2	-0.7	20088.1	132.5	393744.9
	0.0	3265.3	1.4	15232.2	-263.0	397728.3
	0.0	2434.5	-3.1	57662.3	568.5	322126.2
	0.0	2490.5	-1.0	52806.4	173.1	326109.7
	0.0	3158.6	-3.0	24620.9	547.1	390330.1
	0.0	3214.7	-0.8	19764.9	151.7	394313.5
	0.0	2383.9	-5.4	62195.0	983.2	318711.5
	0.0	2440.0	-3.2	57339.1	587.7	322694.9
	0.0	4291.4	3.0	50492.5	-538.6	291422.5
	0.0	4347.5	5.1	45636.6	-934.0	295405.9
	0.0	3516.7	0.6	88066.7	-102.5	219803.9
	0.0	3572.7	2.7	83210.8	-498.0	223787.3
	0.0	4240.9	0.7	55025.2	-123.9	288007.7
	0.0	4296.9	2.9	50169.3	-519.4	291991.2
	0.0	3466.1	-1.7	92599.4	312.1	216389.1
	0.0	3522.2	0.4	87743.5	-83.3	220372.5

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4728.6	-0.8	173483.1	-149.4	769850.2
	0.0	-4868.3	1.4	166520.3	267.2	791478.1
	0.0	-3567.9	-3.0	208835.1	-577.3	613316.0
	0.0	-3707.6	-0.8	201872.3	-160.8	634943.9
	0.0	-4593.5	-2.9	180110.1	-565.1	748681.0
	0.0	-4733.2	-0.8	173147.3	-148.6	770308.8
	0.0	-3432.8	-5.1	215462.1	-993.1	592146.8
	0.0	-3572.5	-2.9	208499.2	-576.5	613774.6
	0.0	-2456.0	2.7	92278.4	521.9	-9055.2
	0.0	-2595.7	4.8	85315.5	938.5	12572.7
	0.0	-1295.4	0.5	127630.3	94.0	-165589.4
	0.0	-1435.1	2.6	120667.5	510.5	-143961.5
	0.0	-2320.9	0.5	98905.3	106.2	-30224.4
	0.0	-2460.6	2.7	91942.5	522.7	-8596.5
	0.0	-1160.3	-1.7	134257.3	-321.8	-186758.6
	0.0	-1299.9	0.5	127294.5	94.8	-165130.7
215.	0.0	-1150.8	-0.8	174754.9	22.3	129890.2
	0.0	-1224.1	1.4	167971.7	-27.5	128950.8
	0.0	-679.8	-3.0	208185.0	64.2	145870.2
	0.0	-753.0	-0.8	201401.8	14.5	144930.8
	0.0	-1078.5	-2.9	181212.3	63.2	130709.8
	0.0	-1151.8	-0.8	174429.1	13.5	129770.4
	0.0	-607.5	-5.1	214642.4	105.1	146689.9
	0.0	-680.7	-2.9	207859.2	55.4	145750.4
	0.0	1131.3	2.6	94467.0	-47.4	-154160.5
	0.0	1058.1	4.8	87683.8	-97.1	-155099.9
	0.0	1602.4	0.5	127897.1	-5.4	-138180.5
	0.0	1529.1	2.6	121113.9	-55.2	-139119.9
	0.0	1203.6	0.5	100924.4	-6.5	-153340.9
	0.0	1130.4	2.7	94141.2	-56.2	-154280.3
	0.0	1674.7	-1.7	134354.5	35.5	-137360.8
	0.0	1601.4	0.5	127571.3	-14.2	-138300.2
430.	0.0	2749.6	-0.8	176760.5	195.6	297592.8
	0.0	2723.2	1.4	170128.4	-324.0	286274.4
	0.0	2701.0	-3.0	208409.2	710.4	356038.6
	0.0	2674.6	-0.8	201777.2	190.8	344720.2
	0.0	2777.7	-3.0	183075.4	696.1	308877.4
	0.0	2751.2	-0.8	176443.4	176.5	297559.0
	0.0	2729.1	-5.2	214724.1	1210.9	367323.2
	0.0	2702.6	-3.0	208092.1	691.3	356004.9
	0.0	4893.4	2.7	97052.3	-620.1	490464.8
	0.0	4867.0	4.9	90420.2	-1139.7	479146.4
	0.0	4844.8	0.5	128701.0	-105.2	548910.6
	0.0	4818.4	2.7	122069.0	-624.8	537592.3
	0.0	4921.5	0.5	103367.2	-119.6	501749.4
	0.0	4895.0	2.7	96735.2	-639.2	490431.0
	0.0	4872.9	-1.7	135015.9	395.3	560195.3
	0.0	4846.4	0.5	128383.9	-124.3	548876.9

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4996.9	-0.9	55164.9	-201.7	602180.1
	0.0	-5049.3	2.1	46485.4	409.9	603524.8
	0.0	-4624.3	-4.3	101698.1	-859.3	627535.7
	0.0	-4676.7	-1.3	93018.6	-247.7	628880.5
	0.0	-4945.0	-3.7	63347.0	-777.0	600403.2
	0.0	-4997.3	-0.7	54667.5	-165.3	601748.0
	0.0	-4572.4	-7.1	109880.2	-1434.6	625758.9
	0.0	-4624.7	-4.1	101200.7	-822.9	627103.6
	0.0	-3256.4	3.7	18574.5	740.0	237529.5
	0.0	-3308.7	6.7	9895.0	1351.6	238874.2
	0.0	-2883.8	0.3	65107.7	82.4	262885.1
	0.0	-2936.1	3.3	56428.2	694.0	264229.9
	0.0	-3204.4	0.9	26756.6	164.7	235752.6
	0.0	-3256.8	3.9	18077.1	776.4	237097.4
	0.0	-2831.8	-2.5	73289.8	-492.9	261108.3
	0.0	-2884.2	0.5	64610.3	118.8	262453.1
200.	0.0	-1213.0	-0.9	57476.4	-27.4	-20100.3
	0.0	-1236.2	2.1	48908.7	-14.5	-26112.0
	0.0	-1196.8	-4.3	102499.5	1.7	42406.0
	0.0	-1220.0	-1.3	93931.8	14.6	36394.3
	0.0	-1188.7	-3.7	65553.3	-41.1	-14443.2
	0.0	-1211.9	-0.7	56985.6	-28.2	-20455.0
	0.0	-1172.5	-7.1	110576.4	-12.0	48063.1
	0.0	-1195.7	-4.1	102008.7	0.9	42051.3
	0.0	354.4	3.7	21202.5	-4.5	-54023.2
	0.0	331.2	6.7	12634.8	8.3	-60035.0
	0.0	370.6	0.3	66225.6	24.6	8483.1
	0.0	347.4	3.3	57657.9	37.4	2471.3

	0.0	378.7	0.9	29279.3	-18.2	-48366.2
	0.0	355.5	3.9	20711.6	-5.4	-54377.9
	0.0	394.9	-2.5	74302.4	10.8	14140.1
	0.0	371.7	0.5	65734.7	23.7	8128.4
400.	0.0	2603.4	-0.9	59996.8	146.2	118784.6
	0.0	2598.9	2.1	51509.7	-439.1	110139.3
	0.0	2347.3	-4.3	103673.5	862.2	156142.9
	0.0	2342.7	-1.3	95186.4	277.0	147497.7
	0.0	2610.0	-3.7	67997.8	693.2	127393.4
	0.0	2605.5	-0.7	59510.7	108.0	118748.2
	0.0	2353.9	-7.1	111674.5	1409.3	164751.8
	0.0	2349.3	-4.1	103187.4	824.1	156106.6
	0.0	4030.0	3.7	23907.6	-748.6	383771.3
	0.0	4025.4	6.7	15420.5	-1333.9	375126.1
	0.0	3773.9	0.3	67584.2	-32.6	421129.7
	0.0	3769.3	3.3	59097.2	-617.8	412484.5
	0.0	4036.6	0.9	31908.5	-201.6	392380.2
	0.0	4032.0	3.9	23421.5	-786.8	383735.0
	0.0	3780.5	-2.5	75585.2	514.5	429738.6
	0.0	3775.9	0.5	67098.1	-70.7	421093.3

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4276.2	-0.3	8875.6	-73.3	408848.1
	0.0	-4303.4	2.6	1347.8	502.4	411857.0
	0.0	-4039.5	-4.5	31958.1	-906.7	422388.7
	0.0	-4066.6	-1.7	24430.3	-330.9	425397.6
	0.0	-4248.4	-2.9	15937.4	-604.1	405482.5
	0.0	-4275.6	0.0	8409.5	-28.3	408491.5
	0.0	-4011.7	-7.2	39019.9	-1437.5	419023.1
	0.0	-4038.8	-4.3	31492.1	-861.7	422032.1
	0.0	-2984.7	4.0	-4722.1	791.8	110739.9
	0.0	-3011.8	6.8	-12249.9	1367.6	113748.9
	0.0	-2747.9	-0.3	18360.5	-41.5	124280.5
	0.0	-2775.0	2.5	10832.6	534.2	127289.5
	0.0	-2956.9	1.4	2339.7	261.1	107374.4
	0.0	-2984.0	4.2	-5188.1	836.8	110383.4
	0.0	-2720.1	-2.9	25422.2	-572.3	120915.0
	0.0	-2747.3	-0.1	17894.4	3.5	123924.0
210.	0.0	-253.5	-0.3	11654.6	-17.0	-66751.8
	0.0	-268.5	2.6	4180.1	-35.8	-68048.5
	0.0	-245.5	-4.5	33453.9	45.1	-28338.9
	0.0	-260.6	-1.7	25979.4	26.3	-29635.6
	0.0	-237.3	-2.9	18666.1	-2.6	-65612.5
	0.0	-252.3	0.0	11191.6	-21.3	-66909.2
	0.0	-229.3	-7.1	40465.4	59.6	-27199.6
	0.0	-244.4	-4.3	32991.0	40.8	-28496.3
	0.0	904.5	3.9	-1845.5	-39.2	-108442.5
	0.0	889.5	6.8	-9319.9	-58.0	-109739.1
	0.0	912.5	-0.3	19953.9	22.9	-70029.6
	0.0	897.4	2.5	12479.4	4.2	-71326.2
	0.0	920.7	1.4	5166.1	-24.7	-107303.1
	0.0	905.7	4.2	-2308.4	-43.5	-108599.8
	0.0	928.7	-2.9	26965.4	37.4	-68890.2
	0.0	913.7	-0.1	19490.9	18.6	-70186.9
420.	0.0	3739.3	-0.3	14480.1	38.2	300226.7
	0.0	3729.6	2.6	7029.0	-576.3	296443.2
	0.0	3550.6	-4.6	35083.8	999.7	319261.1
	0.0	3540.9	-1.7	27632.7	385.2	315477.6
	0.0	3750.4	-2.9	21469.6	598.9	304127.2
	0.0	3740.7	0.0	14018.5	-15.6	300343.7
	0.0	3561.7	-7.2	42073.2	1560.4	323161.6
	0.0	3552.0	-4.3	34622.1	945.9	319378.2
	0.0	4839.7	4.0	1023.7	-872.7	494289.7
	0.0	4830.0	6.8	-6427.4	-1487.3	490506.3
	0.0	4650.9	-0.3	21627.3	88.8	513324.1
	0.0	4641.3	2.5	14176.2	-525.7	509540.7
	0.0	4850.7	1.4	8013.1	-312.1	498190.2
	0.0	4841.1	4.2	562.0	-926.6	494406.8
	0.0	4662.0	-2.9	28616.7	649.4	517224.6
	0.0	4652.3	-0.1	21165.6	34.9	513441.2

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5474.3	0.2	-11510.7	26.8	556497.8
	0.0	-5492.0	2.3	-19634.5	564.9	563962.5
	0.0	-5165.6	-3.7	-15801.5	-929.7	557655.6
	0.0	-5183.3	-1.6	-23925.3	-391.7	565120.3
	0.0	-5455.1	-1.7	-3856.5	-465.0	548861.1
	0.0	-5472.9	0.4	-11980.3	73.0	556325.8
	0.0	-5146.4	-5.6	-8147.3	-1421.6	550019.0
	0.0	-5164.2	-3.5	-16271.1	-883.5	557483.6
	0.0	-4056.2	3.3	-22057.6	822.9	193082.1
	0.0	-4073.9	5.4	-30181.5	1360.9	200546.7
	0.0	-3747.5	-0.6	-26348.4	-133.7	194239.9
	0.0	-3765.2	1.5	-34472.2	404.4	201704.5
	0.0	-4037.0	1.4	-14403.5	331.1	185445.4
	0.0	-4054.7	3.5	-22527.3	869.1	192910.1
	0.0	-3728.3	-2.5	-18694.2	-625.5	186603.2
	0.0	-3746.0	-0.4	-26818.0	-87.5	194067.9
255.	0.0	-738.2	0.2	-8097.6	-21.4	-231388.6
	0.0	-758.1	2.2	-16235.2	-11.1	-228466.3
	0.0	-656.0	-3.6	-13759.2	3.6	-181386.8
	0.0	-675.8	-1.6	-21896.8	13.8	-178464.6
	0.0	-717.0	-1.7	-430.6	-28.0	-234111.2
	0.0	-736.9	0.4	-8568.2	-17.8	-231188.9
	0.0	-634.8	-5.5	-6092.2	-3.1	-184109.4
	0.0	-654.6	-3.5	-14229.8	7.1	-181187.1
	0.0	732.7	3.2	-18655.6	-9.8	-231189.8
	0.0	712.8	5.3	-26793.2	0.4	-228267.6
	0.0	814.9	-0.6	-24317.2	15.1	-181188.1
	0.0	795.1	1.5	-32454.8	25.4	-178265.8
	0.0	753.9	1.4	-10988.6	-16.5	-233912.4
	0.0	734.1	3.4	-19126.2	-6.3	-230990.2
	0.0	836.2	-2.5	-16650.2	8.4	-183910.6
	0.0	816.3	-0.4	-24787.8	18.7	-180988.4
510.	0.0	3828.2	0.2	-4723.1	-72.4	165301.4
	0.0	3792.4	2.3	-12922.5	-588.4	161449.6
	0.0	3656.3	-3.7	-11807.3	937.1	205074.3
	0.0	3620.5	-1.6	-20006.7	421.0	201222.5
	0.0	3864.8	-1.7	3002.0	405.2	169650.0
	0.0	3829.0	0.4	-5197.4	-110.9	165798.2
	0.0	3692.9	-5.6	-4082.2	1414.6	209422.9
	0.0	3657.1	-3.5	-12281.6	898.6	205571.1
	0.0	5607.3	3.3	-15354.5	-843.7	575361.8
	0.0	5571.5	5.4	-23554.0	-1359.8	571510.0
	0.0	5435.4	-0.6	-22438.7	165.8	615134.8
	0.0	5399.7	1.5	-30638.1	-350.3	611282.9
	0.0	5643.9	1.4	-7629.5	-366.2	579710.4
	0.0	5608.2	3.5	-15828.9	-882.2	575858.6
	0.0	5472.1	-2.5	-14713.6	643.3	619483.3
	0.0	5436.3	-0.4	-22913.1	127.2	615631.5

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4426.0	1.0	-25753.4	167.1	486867.2
	0.0	-4433.9	4.4	-34939.2	787.2	494932.6
	0.0	-4183.4	-6.6	-55015.0	-1201.9	515619.0
	0.0	-4191.2	-3.3	-64200.7	-581.7	523684.4
	0.0	-4416.3	-2.1	-17096.5	-415.6	478960.5
	0.0	-4424.1	1.2	-26282.2	204.6	487025.9
	0.0	-4173.7	-9.8	-46358.0	-1784.5	507712.2

	0.0	-4181.5	-6.4	-55543.7	-1164.4	515777.6
	0.0	-2921.1	6.1	-73973.4	1102.7	337254.9
	0.0	-2929.0	9.5	-83159.1	1722.8	345320.3
	0.0	-2678.5	-1.6	-103234.9	-266.3	366006.6
	0.0	-2686.3	1.8	-112420.6	353.9	374072.1
	0.0	-2911.4	2.9	-65316.4	520.0	329348.2
	0.0	-2919.2	6.3	-74502.1	1140.1	337413.6
	0.0	-2668.7	-4.7	-94577.9	-849.0	358099.9
	0.0	-2676.6	-1.4	-103763.7	-228.8	366165.3
180.	0.0	-1259.0	1.0	-23413.7	-18.5	-23769.1
	0.0	-1287.5	4.4	-32673.6	-3.1	-18841.3
	0.0	-1245.5	-6.6	-53754.0	-9.3	28799.6
	0.0	-1274.0	-3.3	-63014.0	6.1	33727.4
	0.0	-1229.6	-2.1	-14687.0	-30.8	-28273.5
	0.0	-1258.0	1.2	-23946.9	-15.5	-23345.7
	0.0	-1216.0	-9.8	-45027.3	-21.6	24295.2
	0.0	-1244.5	-6.4	-54287.2	-6.3	29223.0
	0.0	531.6	6.1	-71778.7	4.2	122722.3
	0.0	503.1	9.4	-81038.6	19.5	127650.1
	0.0	545.2	-1.6	-102119.0	13.4	175290.9
	0.0	516.7	1.8	-111378.9	28.7	180218.8
	0.0	561.1	2.9	-63051.9	-8.2	118217.9
	0.0	532.6	6.3	-72311.9	7.2	123145.7
	0.0	574.7	-4.7	-93392.2	1.0	170786.6
	0.0	546.2	-1.4	-102652.2	16.4	175714.4
360.	0.0	1818.8	1.0	-21142.9	-204.2	28104.3
	0.0	1759.6	4.4	-30504.3	-793.1	25301.1
	0.0	1534.7	-6.6	-52651.4	1182.5	57429.8
	0.0	1475.5	-3.3	-62012.8	593.6	54626.6
	0.0	1877.6	-2.1	-12320.6	353.3	31387.1
	0.0	1818.4	1.2	-21682.1	-235.6	28583.8
	0.0	1593.5	-9.8	-43829.2	1740.0	60712.6
	0.0	1534.2	-6.4	-53190.6	1151.1	57909.4
	0.0	3904.4	6.1	-69795.4	-1093.7	524050.0
	0.0	3845.2	9.5	-79156.8	-1682.6	521246.8
	0.0	3620.3	-1.6	-101303.9	293.0	553375.5
	0.0	3561.1	1.8	-110665.3	-295.9	550572.3
	0.0	3963.2	2.9	-60973.1	-536.2	527332.8
	0.0	3904.0	6.3	-70334.5	-1125.1	524529.6
	0.0	3679.1	-4.7	-92481.6	850.5	556658.3
	0.0	3619.8	-1.4	-101843.0	261.6	553855.1

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4063.8	1.1	-94559.5	209.5	302278.0
	0.0	-4102.6	4.0	-101496.5	731.7	312277.1
	0.0	-4038.6	-5.8	-112355.8	-1073.9	327572.5
	0.0	-4077.4	-3.0	-119292.7	-551.8	337571.5
	0.0	-4024.0	-1.7	-87984.1	-294.7	292334.1
	0.0	-4062.8	1.2	-94921.1	227.5	302333.1
	0.0	-3998.8	-8.6	-105780.3	-1578.2	317628.5
	0.0	-4037.6	-5.8	-112717.3	-1056.0	327627.6
	0.0	-1659.1	5.5	-203019.9	1005.0	236360.6
	0.0	-1697.9	8.3	-209956.8	1527.1	246359.6
	0.0	-1633.9	-1.5	-220816.1	-278.5	261655.1
	0.0	-1672.7	1.4	-227753.1	243.6	271654.1
	0.0	-1619.3	2.7	-196444.4	500.8	226416.6
	0.0	-1658.1	5.5	-203381.4	1022.9	236415.7
	0.0	-1594.1	-4.2	-214240.7	-782.7	251711.1
	0.0	-1632.9	-1.4	-221177.6	-260.6	261710.1
165.	0.0	-1320.9	1.1	-92624.5	24.6	-140811.9
	0.0	-1398.1	3.9	-99675.7	78.9	-140230.7
	0.0	-1645.4	-5.8	-111555.4	-114.5	-139182.6
	0.0	-1722.6	-3.0	-118606.7	-60.2	-138601.4
	0.0	-1244.7	-1.6	-85941.4	-22.1	-141327.1
	0.0	-1321.9	1.2	-92992.7	32.3	-140745.9
	0.0	-1569.2	-8.6	-104872.4	-161.2	-139697.8
	0.0	-1646.4	-5.7	-111923.6	-106.9	-139116.6
	0.0	1266.5	5.5	-201548.4	102.4	206676.5
	0.0	1189.3	8.3	-208599.6	156.7	207257.7
	0.0	942.0	-1.5	-220479.4	-36.8	208305.8
	0.0	864.8	1.4	-227530.6	17.5	208887.0
	0.0	1342.7	2.7	-194865.4	55.7	206161.3
	0.0	1265.5	5.5	-201916.6	110.0	206742.5
	0.0	1018.2	-4.2	-213796.4	-83.5	207790.6
	0.0	941.0	-1.4	-220847.6	-29.2	208371.8
330.	0.0	1346.5	1.1	-90918.6	-159.7	-137922.4
	0.0	1219.6	3.9	-98101.6	-571.8	-154030.9
	0.0	592.2	-5.8	-111031.3	842.1	-224223.9
	0.0	465.3	-3.0	-118214.2	429.9	-240332.4
	0.0	1469.6	-1.7	-84111.5	250.0	-122133.0
	0.0	1342.7	1.2	-91294.4	-162.1	-138241.5
	0.0	715.3	-8.6	-104224.1	1251.7	-208434.4
	0.0	588.4	-5.7	-111407.1	839.6	-224542.9
	0.0	3953.1	5.5	-200575.8	-797.7	641362.1
	0.0	3826.2	8.3	-207758.8	-1209.9	625253.6
	0.0	3198.8	-1.5	-220688.5	204.0	555060.6
	0.0	3071.9	1.4	-227871.4	-208.1	538952.1
	0.0	4076.2	2.7	-193768.7	-388.0	657151.5
	0.0	3949.3	5.5	-200951.6	-800.2	641043.0
	0.0	3321.9	-4.2	-213881.3	613.7	570850.1
	0.0	3195.0	-1.4	-221064.3	201.6	554741.6

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4319.6	0.7	-27142.5	130.9	161323.1
	0.0	-4284.6	3.0	-35661.7	538.3	163772.0
	0.0	-3659.6	-4.7	-75302.5	-828.1	117463.5
	0.0	-3624.6	-2.4	-83821.8	-420.7	119912.5
	0.0	-4348.9	-1.7	-19105.1	-295.0	158460.6
	0.0	-4313.9	0.6	-27624.4	112.4	160909.5
	0.0	-3688.9	-7.1	-67265.2	-1253.9	114601.1
	0.0	-3653.9	-4.8	-75784.4	-846.5	117050.0
	0.0	-2815.0	4.6	-9167.0	802.9	257809.3
	0.0	-2780.0	6.9	-17686.2	1210.3	260258.2
	0.0	-2155.0	-0.8	-57327.0	-156.1	213949.8
	0.0	-2120.0	1.5	-65846.3	251.3	216398.7
	0.0	-2844.3	2.1	-1129.6	377.0	254946.9
	0.0	-2809.3	4.4	-9648.9	784.4	257395.8
	0.0	-2184.3	-3.2	-49289.7	-582.0	211087.4
	0.0	-2149.3	-0.9	-57808.9	-174.6	213536.3
210.	0.0	-948.2	0.7	-25167.2	-15.0	-392146.9
	0.0	-990.8	3.0	-33882.7	-90.7	-390214.9
	0.0	-936.0	-4.7	-74961.9	154.5	-363690.9
	0.0	-978.6	-2.4	-83677.3	78.9	-361758.9
	0.0	-904.4	-1.7	-16944.8	67.8	-393754.8
	0.0	-947.0	0.6	-25660.3	-7.8	-391822.7
	0.0	-892.2	-7.1	-66739.5	237.3	-365298.7
	0.0	-934.9	-4.8	-75455.0	161.7	-363366.7
	0.0	82.8	4.6	-8262.6	-153.3	-17773.3
	0.0	40.2	6.9	-16978.1	-228.9	-15841.3
	0.0	94.9	-0.8	-58057.3	16.2	10682.7
	0.0	52.3	1.5	-66772.8	-59.4	12614.7
	0.0	126.5	2.1	-40.3	-70.5	-19381.1
	0.0	83.9	4.4	-8755.7	-146.1	-17449.1
	0.0	138.7	-3.2	-49834.9	99.0	9074.9
	0.0	96.1	-0.9	-58550.4	23.4	11006.9
420.	0.0	2541.1	0.7	-23292.8	-161.9	-228761.1
	0.0	2404.4	3.0	-32239.3	-725.5	-245381.5
	0.0	1789.2	-4.8	-74921.6	1147.2	-276239.1
	0.0	1652.5	-2.4	-83868.1	583.6	-292859.4
	0.0	2673.3	-1.8	-14852.5	435.0	-212144.9

	0.0	2536.6	0.6	-23799.0	-128.6	-228765.3
	0.0	1921.3	-7.2	-66481.3	1744.1	-259622.8
	0.0	1784.7	-4.9	-75427.8	1180.5	-276243.2
	0.0	2316.1	4.6	-7391.4	-1119.5	246366.6
	0.0	2179.4	7.0	-16338.0	-1683.1	229746.2
	0.0	1564.1	-0.8	-59020.2	189.6	198888.6
	0.0	1427.5	1.5	-67966.8	-374.0	182268.3
	0.0	2448.3	2.2	1048.9	-522.6	262982.8
	0.0	2311.6	4.5	-7897.7	-1086.2	246362.4
	0.0	1696.3	-3.3	-50579.9	786.5	215504.9
	0.0	1559.6	-1.0	-59526.5	222.9	198884.5

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2399.9	831.0	287.8	-257.3	59351.1	-144309.9
	-2315.3	793.9	439.7	555.7	85358.2	-138071.9
	-3233.9	885.9	-860.4	-1173.8	-138668.4	-153624.3
	-3149.4	848.7	-708.5	-360.8	-112661.2	-147386.3
	-2479.0	870.7	140.8	-1119.1	34181.6	-150969.6
	-2394.5	833.5	292.7	-306.1	60188.8	-144731.6
	-3313.1	925.5	-1007.4	-2035.6	-163837.8	-160284.0
	-3228.6	888.4	-855.5	-1222.6	-137830.7	-154046.0
	-3689.9	-1150.8	542.3	1125.9	103025.7	190437.5
	-3605.3	-1188.0	694.1	1938.9	129032.8	196675.5
	-4523.9	-1096.0	-605.9	209.4	-94993.8	181123.2
	-4439.4	-1133.2	-454.1	1022.4	-68986.6	187361.1
	-3769.1	-1111.2	395.3	264.1	77856.3	183777.8
	-3684.5	-1148.3	547.1	1077.2	103863.4	190015.8
	-4603.1	-1056.4	-752.9	-652.4	-120163.2	174463.5
	-4518.6	-1093.5	-601.1	160.6	-94156.0	180701.4
160.	-2117.1	831.0	287.8	-257.3	13296.2	-11345.0
	-2032.6	793.9	439.7	555.7	15010.4	-11049.6
	-2951.2	885.9	-860.4	-1173.8	-1011.4	-11887.6
	-2866.6	848.7	-708.5	-360.8	702.8	-11592.1
	-2196.3	870.7	140.8	-1119.1	11646.3	-11659.1
	-2111.7	833.5	292.7	-306.1	13360.5	-11363.7
	-3030.4	925.5	-1007.4	-2035.6	-2661.3	-12201.7
	-2945.8	888.4	-855.5	-1222.6	-947.1	-11906.3
	-3407.1	-1150.8	542.3	1125.9	16257.3	6304.1
	-3322.6	-1188.0	694.1	1938.9	17971.5	6599.5
	-4241.2	-1096.0	-605.9	209.4	1949.7	5761.5
	-4156.6	-1133.2	-454.1	1022.4	3663.9	6057.0
	-3486.3	-1111.2	395.3	264.1	14607.4	5990.0
	-3401.8	-1148.3	547.1	1077.2	16321.6	6285.4
	-4320.4	-1056.4	-752.9	-652.4	299.8	5447.4
	-4235.8	-1093.5	-601.1	160.6	2014.0	5742.8
320.	-1834.4	831.0	287.8	-257.3	-32758.7	121619.8
	-1749.8	793.9	439.7	555.7	-55337.4	115972.7
	-2668.4	885.9	-860.4	-1173.8	136645.6	129849.3
	-2583.9	848.7	-708.5	-360.8	114066.8	124202.1
	-1913.5	870.7	140.8	-1119.1	-10889.0	127651.2
	-1829.0	833.5	292.7	-306.1	-33467.8	122004.1
	-2747.6	925.5	-1007.4	-2035.6	158515.2	135880.7
	-2663.1	888.4	-855.5	-1222.6	135936.5	130233.5
	-3124.4	-1150.8	542.3	1125.9	-70511.2	-177829.4
	-3039.8	-1188.0	694.1	1938.9	-93089.9	-183476.5
	-3958.5	-1096.0	-605.9	209.4	98893.1	-169599.9
	-3873.9	-1133.2	-454.1	1022.4	76314.4	-175247.1
	-3203.6	-1111.2	395.3	264.1	-48641.5	-171798.0
	-3119.0	-1148.3	547.1	1077.2	-71220.3	-177445.1
	-4037.6	-1056.4	-752.9	-652.4	120762.8	-163568.5
	-3953.1	-1093.5	-601.1	160.6	98184.0	-169215.7

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12762.7	1133.9	602.2	-428.0	117733.5	-217344.0
	-12631.1	1069.3	781.1	748.2	149701.3	-206556.4
	-14070.2	1238.6	-1070.6	-1659.9	-185467.8	-234758.6
	-13938.6	1173.9	-891.7	-483.7	-153500.0	-223971.1
	-12887.7	1202.5	432.8	-1634.3	87456.3	-228807.5
	-12756.2	1137.9	611.6	-458.1	119424.1	-218020.0
	-14195.2	1307.2	-1240.1	-2866.2	-215745.1	-246222.2
	-14063.6	1242.6	-1061.2	-1690.0	-183777.3	-235434.7
	-12289.6	-2313.3	921.4	1556.0	174363.2	363859.8
	-12158.1	-2377.9	1100.3	2732.2	206331.0	374647.3
	-13597.1	-2208.6	-751.4	324.0	-128838.1	346445.1
	-13465.5	-2273.2	-572.5	1500.3	-96870.3	357232.6
	-12414.7	-2244.6	751.9	349.7	144086.0	352396.2
	-12283.1	-2309.3	930.8	1525.9	176053.8	363183.8
	-13722.1	-2139.9	-920.9	-882.3	-159115.4	334981.6
	-13590.6	-2204.6	-742.0	294.0	-127147.6	345769.1
160.	-12402.7	1133.9	602.2	-428.0	21380.1	-35926.5
	-12271.1	1069.3	781.1	748.2	24727.3	-35476.4
	-13710.2	1238.6	-1070.6	-1659.9	-14171.3	-36589.7
	-13578.6	1173.9	-891.7	-483.7	-10824.0	-36139.6
	-12527.7	1202.5	432.8	-1634.3	18214.6	-36406.6
	-12396.2	1137.9	611.6	-458.1	21561.9	-35956.4
	-13835.2	1307.2	-1240.1	-2866.2	-17336.7	-37069.7
	-13703.6	1242.6	-1061.2	-1690.0	-13989.4	-36619.6
	-11929.6	-2313.3	921.4	1556.0	26939.5	-6267.0
	-11798.1	-2377.9	1100.3	2732.2	30286.8	-5816.8
	-13237.1	-2208.6	-751.4	324.0	-8611.8	-6930.1
	-13105.5	-2273.2	-572.5	1500.3	-5264.5	-6480.0
	-12054.7	-2244.6	751.9	349.7	23774.0	-6747.0
	-11923.1	-2309.3	930.8	1525.9	27121.3	-6296.9
	-13362.1	-2139.9	-920.9	-882.3	-11777.3	-7410.2
	-13230.6	-2204.6	-742.0	294.0	-8430.0	-6960.0
320.	-12042.7	1133.9	602.2	-428.0	-74973.5	145490.9
	-11911.1	1069.3	781.1	748.2	-100246.7	135603.6
	-13350.2	1238.6	-1070.6	-1659.9	157125.4	161579.2
	-13218.6	1173.9	-891.7	-483.7	131852.2	151692.0
	-12167.7	1202.5	432.8	-1634.3	-51027.2	155994.4
	-12036.2	1137.9	611.6	-458.1	-76300.4	146107.1
	-13475.2	1307.2	-1240.1	-2866.2	181071.7	172082.7
	-13343.6	1242.6	-1061.2	-1690.0	155798.5	162195.5
	-11569.6	-2313.3	921.4	1556.0	-120484.3	-376393.8
	-11438.1	-2377.9	1100.3	2732.2	-145757.6	-386281.0
	-12877.1	-2208.6	-751.4	324.0	111614.5	-360305.4
	-12745.5	-2273.2	-572.5	1500.3	86341.3	-370192.6
	-11694.7	-2244.6	751.9	349.7	-96538.0	-365890.2
	-11563.1	-2309.3	930.8	1525.9	-121811.2	-375777.5
	-13002.1	-2139.9	-920.9	-882.3	135560.9	-349801.9
	-12870.6	-2204.6	-742.0	294.0	110287.7	-359689.1

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14896.9	1819.4	397.4	-399.1	106403.5	-296212.6
	-14899.0	1755.3	469.1	787.4	122979.5	-285431.9
	-14907.1	1930.6	-458.1	-1626.8	-108058.3	-314770.9
	-14909.2	1866.5	-386.5	-440.3	-91482.3	-303990.2
	-14894.8	1886.8	331.0	-1529.9	91020.8	-307542.0
	-14896.9	1822.7	402.7	-343.4	107596.8	-296761.3
	-14905.1	1997.9	-524.5	-2757.6	-123441.0	-326100.2
	-14907.1	1933.8	-452.8	-1571.1	-106865.0	-315319.5
	-15025.7	-1762.4	512.8	1438.4	132654.0	306058.0
	-15027.7	-1826.5	584.5	2624.9	149230.1	316838.7
	-15035.9	-1651.3	-342.7	210.7	-81807.7	287499.7
	-15038.0	-1715.4	-271.0	1397.2	-65231.7	298280.4
	-15023.6	-1695.1	446.4	307.6	117271.3	294728.7
	-15025.6	-1759.2	518.1	1494.2	133847.4	305509.4
	-15033.8	-1583.9	-409.1	-920.1	-97190.4	276170.4
	-15035.9	-1648.0	-337.4	266.5	-80614.4	286951.1

160.	-14536.9	1819.4	397.4	-399.1	42822.0	-5107.0
	-14539.0	1755.3	469.1	787.4	47930.4	-4583.0
	-14547.1	1930.6	-458.1	-1626.8	-34757.7	-5881.6
	-14549.2	1866.5	-386.5	-440.3	-29649.3	-5357.6
	-14534.8	1886.8	331.0	-1529.9	38062.0	-5659.5
	-14536.9	1822.7	402.7	-343.4	43170.4	-5135.5
	-14545.1	1997.9	-524.5	-2757.6	-39517.7	-6434.1
	-14547.1	1933.8	-452.8	-1571.1	-34409.3	-5910.2
	-14665.7	-1762.4	512.8	1438.4	50606.1	24068.6
	-14667.7	-1826.5	584.5	2624.9	55714.5	24592.6
	-14675.9	-1651.3	-342.7	210.7	-26973.6	23293.9
	-14678.0	-1715.4	-271.0	1397.2	-21865.2	23817.9
	-14663.6	-1695.1	446.4	307.6	45846.1	23516.1
	-14665.6	-1759.2	518.1	1494.2	50954.5	24040.1
	-14673.8	-1583.9	-409.1	-920.1	-31733.6	22741.4
	-14675.9	-1648.0	-337.4	266.5	-26625.2	23265.4
320.	-14176.9	1819.4	397.4	-399.1	-20760.0	285998.6
	-14179.0	1755.3	469.1	787.4	-27119.2	276265.9
	-14187.1	1930.6	-458.1	-1626.8	38543.3	303007.8
	-14189.2	1866.5	-386.5	-440.3	32184.1	293275.0
	-14174.8	1886.8	331.0	-1529.9	-14897.3	296222.9
	-14176.9	1822.7	402.7	-343.4	-21256.5	286490.2
	-14185.1	1997.9	-524.5	-2757.6	44406.0	313232.1
	-14187.1	1933.8	-452.8	-1571.1	38046.7	303499.3
	-14305.7	-1762.4	512.8	1438.4	-31442.3	-257920.9
	-14307.7	-1826.5	584.5	2624.9	-37801.5	-267653.7
	-14315.9	-1651.3	-342.7	210.7	27861.0	-240911.8
	-14318.0	-1715.4	-271.0	1397.2	21501.8	-250644.5
	-14303.6	-1695.1	446.4	307.6	-25579.7	-247696.6
	-14305.6	-1759.2	518.1	1494.2	-31938.9	-257429.4
	-14313.8	-1583.9	-409.1	-920.1	33723.6	-230687.5
	-14315.9	-1648.0	-337.4	266.5	27364.4	-240420.2

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13812.7	1713.4	357.2	-218.7	106809.1	-288592.1
	-13811.2	1650.4	388.8	994.4	115274.3	-278019.7
	-13812.2	1816.4	-290.7	-1830.0	-82394.5	-305885.1
	-13810.7	1753.4	-259.2	-616.9	-73929.3	-295312.6
	-13814.5	1779.0	328.4	-1340.0	99022.4	-299596.3
	-13813.0	1715.9	359.9	-126.9	107487.6	-289023.8
	-13814.0	1882.0	-319.5	-2951.3	-90181.2	-316889.2
	-13812.5	1819.0	-288.0	-1738.2	-81716.0	-306316.8
	-13756.3	-1892.4	404.0	1597.7	119320.8	316572.6
	-13754.8	-1955.4	435.6	2810.7	127786.0	327145.0
	-13755.8	-1789.3	-243.9	-13.6	-69882.8	299279.6
	-13754.3	-1852.3	-212.4	1199.4	-61417.6	309852.1
	-13758.1	-1826.8	375.2	476.4	111534.1	305568.4
	-13756.6	-1889.8	406.7	1689.5	119999.3	316140.9
	-13757.6	-1723.7	-272.8	-1134.9	-77669.5	288275.5
	-13756.1	-1786.7	-241.2	78.1	-69204.3	298847.9
160.	-13452.7	1713.4	357.2	-218.7	49652.1	-14453.6
	-13451.2	1650.4	388.8	994.4	53069.0	-13962.7
	-13452.2	1816.4	-290.7	-1830.0	-35881.2	-15253.6
	-13450.7	1753.4	-259.2	-616.9	-32464.4	-14762.7
	-13454.5	1779.0	328.4	-1340.0	46479.6	-14963.9
	-13453.0	1715.9	359.9	-126.9	49896.4	-14473.0
	-13454.0	1882.0	-319.5	-2951.3	-39053.8	-15763.9
	-13452.5	1819.0	-288.0	-1738.2	-35636.9	-15273.0
	-13396.3	-1892.4	404.0	1597.7	54680.6	13793.7
	-13394.8	-1955.4	435.6	2810.7	58097.5	14284.6
	-13395.8	-1789.3	-243.9	-13.6	-30852.7	12993.8
	-13394.3	-1852.3	-212.4	1199.4	-27435.9	13484.7
	-13398.1	-1826.8	375.2	476.4	51508.1	13283.4
	-13396.6	-1889.8	406.7	1689.5	54924.9	13774.3
	-13397.6	-1723.7	-272.8	-1134.9	-34025.3	12483.5
	-13396.1	-1786.7	-241.2	78.1	-30608.4	12974.4
320.	-13092.7	1713.4	357.2	-218.7	-7505.2	259684.9
	-13091.2	1650.4	388.8	994.4	-9136.6	250094.2
	-13092.2	1816.4	-290.7	-1830.0	10632.2	275377.9
	-13090.7	1753.4	-259.2	-616.9	9000.8	265787.2
	-13094.5	1779.0	328.4	-1340.0	-6063.5	269668.4
	-13093.0	1715.9	359.9	-126.9	-7695.0	260077.8
	-13094.0	1882.0	-319.5	-2951.3	12073.8	285361.4
	-13092.5	1819.0	-288.0	-1738.2	10442.4	275770.8
	-13036.3	-1892.4	404.0	1597.7	-9959.8	-288985.1
	-13034.8	-1955.4	435.6	2810.7	-11591.3	-298575.7
	-13035.8	-1789.3	-243.9	-13.6	8177.6	-273292.1
	-13034.3	-1852.3	-212.4	1199.4	6546.1	-282882.7
	-13038.1	-1826.8	375.2	476.4	-8518.2	-279001.6
	-13036.6	-1889.8	406.7	1689.5	-10149.7	-288592.2
	-13037.6	-1723.7	-272.8	-1134.9	9619.2	-263308.6
	-13036.1	-1786.7	-241.2	78.1	7987.7	-272899.2

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16933.1	1352.6	350.6	-8.4	107270.7	-252999.0
	-16926.6	1291.5	355.2	1205.0	108729.9	-242650.2
	-16943.0	1455.7	-228.9	-2025.6	-68902.2	-270457.2
	-16936.5	1394.5	-224.3	-812.2	-67443.0	-260108.4
	-16939.8	1416.0	346.1	-1114.9	105868.0	-263714.9
	-16933.3	1354.8	350.7	98.5	107327.1	-253366.1
	-16949.7	1519.0	-233.4	-3132.2	-70304.9	-281173.0
	-16943.2	1457.8	-228.7	-1918.8	-68845.8	-270824.2
	-16560.0	-2182.6	357.0	1780.1	109371.7	345434.0
	-16553.6	-2243.7	361.6	2993.5	110830.8	355782.8
	-16569.9	-2079.6	-222.5	-237.2	-66801.2	327975.9
	-16563.5	-2140.7	-217.9	976.2	-65342.1	338324.6
	-16566.7	-2119.2	352.5	673.5	107968.9	334718.2
	-16560.3	-2180.4	357.2	1886.9	109428.0	345066.9
	-16576.6	-2016.2	-226.9	-1343.8	-68204.0	317260.0
	-16570.2	-2077.4	-222.3	-130.4	-66744.9	327608.8
160.	-16573.1	1352.6	350.6	-8.4	51180.7	-36576.9
	-16566.6	1291.5	355.2	1205.0	51899.6	-36011.9
	-16583.0	1455.7	-228.9	-2025.6	-32278.1	-37552.1
	-16576.5	1394.5	-224.3	-812.2	-31559.1	-36987.0
	-16579.8	1416.0	346.1	-1114.9	50491.5	-37161.3
	-16573.3	1354.8	350.7	98.5	51210.4	-36596.3
	-16589.7	1519.0	-233.4	-3132.2	-32967.3	-38136.5
	-16583.2	1457.8	-228.7	-1918.8	-32248.4	-37571.4
	-16200.0	-2182.6	357.0	1780.1	52254.3	-3777.2
	-16193.6	-2243.7	361.6	2993.5	52973.2	-3212.2
	-16209.9	-2079.6	-222.5	-237.2	-31204.5	-4752.4
	-16203.5	-2140.7	-217.9	976.2	-30485.6	-4187.3
	-16206.7	-2119.2	352.5	673.5	51565.0	-4361.6
	-16200.3	-2180.4	357.2	1886.9	52283.9	-3796.6
	-16216.6	-2016.2	-226.9	-1343.8	-31893.8	-5336.8
	-16210.2	-2077.4	-222.3	-130.4	-31174.8	-4771.7
320.	-16213.1	1352.6	350.6	-8.4	-4909.3	179845.2
	-16206.6	1291.5	355.2	1205.0	-4930.6	170626.5
	-16223.0	1455.7	-228.9	-2025.6	4346.0	195353.0
	-16216.5	1394.5	-224.3	-812.2	4324.8	186134.4
	-16219.8	1416.0	346.1	-1114.9	-4885.1	189392.2
	-16213.3	1354.8	350.7	98.5	-4906.3	180173.5
	-16229.7	1519.0	-233.4	-3132.2	4370.3	204900.1
	-16223.2	1457.8	-228.7	-1918.8	4349.0	195681.4
	-15840.0	-2182.6	357.0	1780.1	-4863.1	-352988.4
	-15833.6	-2243.7	361.6	2993.5	-4884.4	-362207.1
	-15849.9	-2079.6	-222.5	-237.2	4392.2	-337480.6
	-15843.5	-2140.7	-217.9	976.2	4371.0	-346699.3
	-15846.7	-2119.2	352.5	673.5	-4838.9	-343441.4
	-15840.3	-2180.4	357.2	1886.9	-4860.1	-352660.1

	-15856.6	-2016.2	-226.9	-1343.8	4416.5	-327933.6
	-15850.2	-2077.4	-222.3	-130.4	4395.2	-337152.2

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15421.1	2259.0	355.4	253.9	105111.1	-348467.4
	-15432.9	2196.7	328.5	1444.9	98245.0	-337967.2
	-15401.1	2362.7	-206.8	-2244.2	-59028.6	-365916.1
	-15413.0	2300.4	-233.8	-1053.2	-65894.7	-355415.8
	-15408.6	2323.8	379.5	-853.2	111296.7	-359383.1
	-15420.4	2261.5	352.6	337.9	104430.6	-348882.9
	-15388.6	2427.5	-182.7	-3351.3	-52843.0	-376831.8
	-15400.5	2365.2	-209.7	-2160.2	-59709.1	-366331.5
	-16079.8	-1313.1	315.9	2020.7	95190.9	253521.3
	-16091.6	-1375.4	289.0	3211.7	88324.8	264021.6
	-16059.8	-1209.4	-246.3	-477.4	-68948.8	236072.6
	-16071.7	-1271.7	-273.2	713.6	-75814.9	246572.9
	-16067.3	-1248.3	340.0	913.6	101376.5	242605.6
	-16079.1	-1310.6	313.1	2104.7	94510.4	253105.9
	-16047.3	-1144.6	-222.2	-1584.5	-62763.2	225157.0
	-16059.2	-1206.9	-249.1	-393.4	-69629.3	235657.2
160.	-15061.1	2259.0	355.4	253.9	48250.4	12971.8
	-15072.9	2196.7	328.5	1444.9	45690.6	13501.0
	-15041.1	2362.7	-206.8	-2244.2	-25934.6	12116.8
	-15053.0	2300.4	-233.8	-1053.2	-28494.4	12645.9
	-15048.6	2323.8	379.5	-853.2	50581.4	12422.4
	-15060.4	2261.5	352.6	337.9	48021.6	12951.5
	-15028.6	2427.5	-182.7	-3351.3	-23603.7	11567.3
	-15040.5	2365.2	-209.7	-2160.2	-26163.5	12096.5
	-15719.8	-1313.1	315.9	2020.7	44647.9	43431.6
	-15731.6	-1375.4	289.0	3211.7	42088.1	43960.7
	-15699.8	-1209.4	-246.3	-477.4	-29537.1	42576.5
	-15711.7	-1271.7	-273.2	713.6	-32096.9	43105.7
	-15707.3	-1248.3	340.0	913.6	46978.9	42882.1
	-15719.1	-1310.6	313.1	2104.7	44419.1	43411.3
	-15687.3	-1144.6	-222.2	-1584.5	-27206.2	42027.0
	-15699.2	-1206.9	-249.1	-393.4	-29766.0	42556.2
320.	-14701.1	2259.0	355.4	253.9	-8610.7	374411.1
	-14712.9	2196.7	328.5	1444.9	-6864.2	364969.1
	-14681.1	2362.7	-206.8	-2244.2	7159.8	390149.6
	-14693.0	2300.4	-233.8	-1053.2	8906.3	380707.7
	-14688.6	2323.8	379.5	-853.2	-10134.3	384227.8
	-14700.4	2261.5	352.6	337.9	-8387.9	374785.9
	-14668.6	2427.5	-182.7	-3351.3	5636.2	399966.4
	-14680.5	2365.2	-209.7	-2160.2	7382.7	390524.5
	-15359.8	-1313.1	315.9	2020.7	-5895.5	-166658.2
	-15371.6	-1375.4	289.0	3211.7	-4149.0	-176100.1
	-15339.8	-1209.4	-246.3	-477.4	9875.0	-150919.6
	-15351.7	-1271.7	-273.2	713.6	11621.5	-160361.6
	-15347.3	-1248.3	340.0	913.6	-7419.2	-156841.4
	-15359.1	-1310.6	313.1	2104.7	-5672.7	-166283.3
	-15327.3	-1144.6	-222.2	-1584.5	8351.4	-141102.9
	-15339.2	-1206.9	-249.1	-393.4	10097.9	-150544.8

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11749.0	1792.3	400.2	412.1	104977.4	-302867.8
	-11750.8	1727.5	338.1	1567.7	91022.1	-292073.6
	-11765.0	1891.0	-258.1	-2373.9	-60140.3	-319480.4
	-11766.8	1826.2	-320.1	-1218.4	-74095.6	-308686.2
	-11747.0	1860.1	457.3	-696.8	117843.6	-314172.2
	-11748.8	1795.4	395.3	458.7	103888.3	-303378.0
	-11763.1	1958.9	-200.9	-3482.9	-47274.1	-330784.8
	-11764.9	1894.1	-263.0	-2327.3	-61229.4	-319990.5
	-11831.4	-1841.0	297.5	2179.2	82478.0	302543.3
	-11833.2	-1905.8	235.4	3334.7	68522.7	313337.5
	-11847.4	-1742.3	-360.7	-606.9	-82639.8	285930.7
	-11849.2	-1807.0	-422.8	548.6	-96595.1	296724.9
	-11829.4	-1773.1	354.6	1070.2	95344.2	291238.9
	-11831.2	-1837.9	292.6	2225.8	81388.9	302033.2
	-11845.5	-1674.4	-303.6	-1715.9	-69773.6	274626.4
	-11847.3	-1739.2	-365.6	-560.3	-83728.8	285420.6
160.	-11389.0	1792.3	400.2	412.1	40953.2	-16099.4
	-11390.8	1727.5	338.1	1567.7	36925.3	-15671.1
	-11405.0	1891.0	-258.1	-2373.9	-18852.0	-16916.9
	-11406.8	1826.2	-320.1	-1218.4	-22879.9	-16488.6
	-11387.0	1860.1	457.3	-696.8	44676.0	-16550.2
	-11388.8	1795.4	395.3	458.7	40648.2	-16121.9
	-11403.1	1958.9	-200.9	-3482.9	-15129.1	-17367.7
	-11404.9	1894.1	-263.0	-2327.3	-19157.0	-16939.4
	-11471.4	-1841.0	297.5	2179.2	34885.1	7987.5
	-11473.2	-1905.8	235.4	3334.7	30857.2	8415.8
	-11487.4	-1742.3	-360.7	-606.9	-24920.1	7169.9
	-11489.2	-1807.0	-422.8	548.6	-28947.9	7598.3
	-11469.4	-1773.1	354.6	1070.2	38608.0	7536.6
	-11471.2	-1837.9	292.6	2225.8	34580.1	7965.0
	-11485.5	-1674.4	-303.6	-1715.9	-21197.2	6719.1
	-11487.3	-1739.2	-365.6	-560.3	-25225.1	7147.4
320.	-11029.0	1792.3	400.2	412.1	-23071.8	270668.9
	-11030.8	1727.5	338.1	1567.7	-17172.3	260731.3
	-11045.0	1891.0	-258.1	-2373.9	22437.1	285646.7
	-11046.8	1826.2	-320.1	-1218.4	28336.6	275709.2
	-11027.0	1860.1	457.3	-696.8	-28492.3	281071.6
	-11028.8	1795.4	395.3	458.7	-22592.8	271134.0
	-11043.1	1958.9	-200.9	-3482.9	17016.6	296049.5
	-11044.9	1894.1	-263.0	-2327.3	22916.2	286111.9
	-11111.4	-1841.0	297.5	2179.2	-12708.5	-286568.6
	-11113.2	-1905.8	235.4	3334.7	-6809.0	-296506.1
	-11127.4	-1742.3	-360.7	-606.9	32800.4	-271590.7
	-11129.2	-1807.0	-422.8	548.6	38699.9	-281528.2
	-11109.4	-1773.1	354.6	1070.2	-18129.0	-276165.8
	-11111.2	-1837.9	292.6	2225.8	-12229.4	-286103.4
	-11125.5	-1674.4	-303.6	-1715.9	27380.0	-261188.0
	-11127.3	-1739.2	-365.6	-560.3	33279.5	-271125.5

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9690.5	2057.9	598.2	379.1	118828.7	-329358.4
	-9796.2	1992.5	458.7	1523.7	93670.6	-318550.1
	-10642.8	2165.0	-499.8	-2389.7	-83772.4	-347225.7
	-10748.6	2099.6	-639.3	-1245.1	-108930.6	-336417.4
	-9590.9	2126.8	729.6	-785.4	142511.0	-340762.2
	-9696.7	2061.5	590.1	359.2	117352.8	-329953.9
	-10543.3	2233.9	-368.4	-3554.2	-60090.2	-358629.5
	-10649.0	2168.6	-508.0	-2409.6	-85248.3	-347821.2
	-9864.3	-1464.6	337.4	2260.0	72373.0	257667.9
	-9970.1	-1529.9	197.8	3404.6	47214.9	268476.2
	-10816.6	-1357.5	-760.6	-508.8	-130228.1	239800.6
	-10922.4	-1422.9	-900.2	635.8	-155386.2	250608.9
	-9764.7	-1395.6	468.8	1095.5	96055.3	246264.1
	-9870.5	-1461.0	329.2	2240.1	70897.2	257072.4
	-10717.1	-1288.5	-629.3	-1673.3	-106545.9	228396.7
	-10822.8	-1353.9	-768.8	-528.7	-131704.0	239205.0
160.	-9330.5	2057.9	598.2	379.1	23111.1	-95.8
	-9436.2	1992.5	458.7	1523.7	20282.0	254.9
	-10282.8	2165.0	-499.8	-2389.7	-3807.0	-832.2
	-10388.6	2099.6	-639.3	-1245.1	-6636.1	-481.5
	-9230.9	2126.8	729.6	-785.4	25771.4	-467.5
	-9336.7	2061.5	590.1	359.2	22942.3	-116.8
	-10183.3	2233.9	-368.4	-3554.2	-1146.7	-1203.9
	-10289.0	2168.6	-508.0	-2409.6	-3975.7	-853.2
	-9504.3	-1464.6	337.4	2260.0	18392.3	23337.5

	-9610.1	-1529.9	197.8	3404.6	15563.3	23688.3
	-10456.6	-1357.5	-760.6	-508.8	-8525.7	22601.1
	-10562.4	-1422.9	-900.2	635.8	-11354.8	22951.8
	-9404.7	-1395.6	468.8	1095.5	21052.6	22965.9
	-9510.5	-1461.0	329.2	2240.1	18223.6	23316.6
	-10357.1	-1288.5	-629.3	-1673.3	-5865.4	22229.4
	-10462.8	-1353.9	-768.8	-528.7	-8694.5	22580.2
320.	-8970.5	2057.9	598.2	379.1	-72606.8	329166.6
	-9076.2	1992.5	458.7	1523.7	-53106.7	319059.7
	-9922.8	2165.0	-499.8	-2389.7	76158.6	345561.4
	-10028.6	2099.6	-639.3	-1245.1	95658.6	335454.5
	-8870.9	2126.8	729.6	-785.4	-90968.4	339827.1
	-8976.7	2061.5	590.1	359.2	-71468.3	329720.2
	-9823.3	2233.9	-368.4	-3554.2	57796.9	356221.9
	-9929.0	2168.6	-508.0	-2409.6	77297.0	346115.0
	-9144.3	-1464.6	337.4	2260.0	-35588.5	-210992.9
	-9250.1	-1529.9	197.8	3404.6	-16088.5	-221099.8
	-10096.6	-1357.5	-760.6	-508.8	113176.8	-194598.2
	-10202.4	-1422.9	-900.2	635.8	132676.8	-204705.1
	-9044.7	-1395.6	468.8	1095.5	-53950.2	-200332.5
	-9150.5	-1461.0	329.2	2240.1	-34450.1	-210439.3
	-9997.1	-1288.5	-629.3	-1673.3	94815.2	-183937.7
	-10102.8	-1353.9	-768.8	-528.7	114315.2	-194044.6

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-3922.2	1532.3	438.0	363.7	94745.3	-266909.0
	-4029.4	1477.1	237.7	1486.0	59409.5	-257217.9
	-4715.1	1629.9	-592.0	-2259.0	-89340.8	-283784.2
	-4822.2	1574.7	-792.3	-1136.7	-124676.6	-274093.2
	-3821.1	1590.8	632.1	-828.5	128966.9	-277176.2
	-3928.3	1535.6	431.8	293.8	93631.1	-267485.2
	-4613.9	1688.4	-397.9	-3451.1	-55119.2	-294051.5
	-4721.1	1633.2	-598.2	-2328.8	-90455.0	-284360.4
	-2513.8	-1309.6	96.7	2183.2	34360.3	240367.4
	-2621.0	-1364.8	-103.7	3305.5	-975.5	250058.5
	-3306.7	-1212.0	-933.4	-439.4	-149725.8	223492.2
	-3413.8	-1267.2	-1133.7	682.9	-185061.6	233183.2
	-2412.7	-1251.1	290.7	991.1	68581.8	230100.1
	-2519.8	-1306.3	90.4	2113.4	33246.0	239791.2
	-3205.5	-1153.5	-739.3	-1631.6	-115504.2	213224.9
	-3312.7	-1208.7	-939.6	-509.3	-150840.0	222915.9
160.	-3562.2	1532.3	438.0	363.7	24661.2	-21743.7
	-3669.4	1477.1	237.7	1486.0	21375.8	-20884.5
	-4355.1	1629.9	-592.0	-2259.0	5376.4	-22999.4
	-4462.2	1574.7	-792.3	-1136.7	2091.0	-22140.2
	-3461.1	1590.8	632.1	-828.5	27829.2	-22650.8
	-3568.3	1535.6	431.8	293.8	24543.7	-21791.6
	-4253.9	1688.4	-397.9	-3451.1	8544.4	-23906.5
	-4361.1	1633.2	-598.2	-2328.8	5258.9	-23047.3
	-2153.8	-1309.6	96.7	2183.2	18895.3	30835.0
	-2261.0	-1364.8	-103.7	3305.5	15609.8	31694.2
	-2946.7	-1212.0	-933.4	-439.4	-389.5	29579.3
	-3053.8	-1267.2	-1133.7	682.9	-3675.0	30438.5
	-2052.7	-1251.1	290.7	991.1	22063.2	29927.9
	-2159.8	-1306.3	90.4	2113.4	18777.8	30787.1
	-2845.5	-1153.5	-739.3	-1631.6	2778.4	28672.2
	-2952.7	-1208.7	-939.6	-509.3	-507.1	29531.4
320.	-3202.2	1532.3	438.0	363.7	-45423.0	223421.3
	-3309.4	1477.1	237.7	1486.0	-16658.1	215448.7
	-3995.1	1629.9	-592.0	-2259.0	100093.7	237785.6
	-4102.2	1574.7	-792.3	-1136.7	128858.6	229812.9
	-3101.1	1590.8	632.1	-828.5	-73308.6	231874.4
	-3208.3	1535.6	431.8	293.8	-44543.7	223901.8
	-3893.9	1688.4	-397.9	-3451.1	72208.1	246238.7
	-4001.1	1633.2	-598.2	-2328.8	100972.9	238266.1

	-1793.8	-1309.6	96.7	2183.2	3430.2	-178697.7
	-1901.0	-1364.8	-103.7	3305.5	32195.0	-186670.3
	-2586.7	-1212.0	-933.4	-439.4	148946.9	-164333.4
	-2693.8	-1267.2	-1133.7	682.9	177711.7	-172306.0
	-1692.7	-1251.1	290.7	991.1	-24455.5	-170244.5
	-1799.8	-1306.3	90.4	2113.4	4309.4	-178217.2
	-2485.5	-1153.5	-739.3	-1631.6	121061.2	-155880.3
	-2592.7	-1208.7	-939.6	-509.3	149826.1	-163852.9

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7103.4	863.6	421.4	-263.7	72296.1	-148873.6
	-7127.2	860.8	600.1	556.4	101260.4	-148410.4
	-6923.8	869.5	-963.1	-1197.6	-151717.8	-149853.1
	-6947.5	866.7	-784.4	-377.5	-122753.5	-149389.9
	-7080.3	866.6	248.5	-1132.7	44275.5	-149366.0
	-7104.1	863.8	427.2	-312.6	73239.8	-148902.9
	-6900.7	872.4	-1136.0	-2066.6	-179738.4	-150345.5
	-6924.4	869.7	-957.3	-1246.5	-150774.1	-149882.4
	-8897.5	-1090.5	705.7	1144.5	118427.8	179299.2
	-8921.3	-1093.3	884.4	1964.6	147392.1	179762.4
	-8717.9	-1084.6	-678.8	210.6	-105586.1	178319.7
	-8741.7	-1087.4	-500.1	1030.6	-76621.8	178782.9
	-8874.4	-1087.5	532.8	275.5	90407.1	178806.8
	-8898.2	-1090.3	711.5	1095.6	119371.4	179269.9
	-8694.8	-1081.7	-851.7	-658.4	-133606.8	177827.3
	-8718.6	-1084.5	-672.9	161.6	-104642.5	178290.4
160.	-6820.6	863.6	421.4	-263.7	4879.2	-10694.1
	-6844.4	860.8	600.1	556.4	5248.6	-10675.5
	-6641.0	869.5	-963.1	-1197.6	2379.4	-10737.0
	-6664.8	866.7	-784.4	-377.5	2748.9	-10718.4
	-6797.5	866.6	248.5	-1132.7	4520.0	-10713.6
	-6821.3	863.8	427.2	-312.6	4889.4	-10695.1
	-6617.9	872.4	-1136.0	-2066.6	2020.2	-10756.5
	-6641.7	869.7	-957.3	-1246.5	2389.7	-10738.0
	-8614.8	-1090.5	705.7	1144.5	5516.5	4819.9
	-8638.5	-1093.3	884.4	1964.6	5886.0	4838.5
	-8435.1	-1084.6	-678.8	210.6	3016.7	4777.0
	-8458.9	-1087.4	-500.1	1030.6	3386.2	4795.6
	-8591.7	-1087.5	532.8	275.5	5157.3	4800.4
	-8615.4	-1090.3	711.5	1095.6	5526.7	4818.9
	-8412.0	-1081.7	-851.7	-658.4	2657.5	4757.5
	-8435.8	-1084.5	-672.9	161.6	3027.0	4776.0
320.	-6537.9	863.6	421.4	-263.7	-62537.8	127485.4
	-6561.7	860.8	600.1	556.4	-90763.1	127059.4
	-6358.3	869.5	-963.1	-1197.6	156476.6	128379.1
	-6382.1	866.7	-784.4	-377.5	128251.2	127953.1
	-6514.8	866.6	248.5	-1132.7	-35235.6	127938.7
	-6538.6	863.8	427.2	-312.6	-63460.9	127512.7
	-6335.2	872.4	-1136.0	-2066.6	183778.8	128832.4
	-6359.0	869.7	-957.3	-1246.5	155553.5	128406.4
	-8332.0	-1090.5	705.7	1144.5	-107394.8	-169659.4
	-8355.8	-1093.3	884.4	1964.6	-135620.2	-170085.4
	-8152.4	-1084.6	-678.8	210.6	111619.6	-168765.7
	-8176.2	-1087.4	-500.1	1030.6	83394.2	-169191.7
	-8308.9	-1087.5	532.8	275.5	-80092.6	-169206.0
	-8332.7	-1090.3	711.5	1095.6	-108318.0	-169632.1
	-8129.3	-1081.7	-851.7	-658.4	138921.8	-168312.4
	-8153.1	-1084.5	-672.9	161.6	110696.4	-168738.4

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9137.9	1382.7	761.2	-354.8	130776.8	-241993.5
	-9164.5	1378.5	988.1	817.1	167964.1	-241261.8
	-8845.8	1391.8	-1460.1	-1749.8	-231979.6	-243552.2
	-8872.3	1387.6	-1233.2	-577.9	-194792.3	-242820.5

	-9113.1	1387.2	546.4	-1603.7	95557.0	-242771.0
	-9139.7	1383.0	773.3	-431.7	132744.3	-242039.3
	-8821.0	1396.3	-1674.9	-2998.7	-267199.4	-244329.7
	-8847.5	1392.1	-1448.0	-1826.8	-230012.1	-243598.0
	-7547.0	-1608.5	1114.9	1682.2	188722.6	280866.0
	-7573.5	-1612.7	1341.8	2854.1	225909.9	281597.7
	-7254.8	-1599.4	-1106.4	287.1	-174033.8	279307.3
	-7281.3	-1603.6	-879.5	1459.0	-136846.5	280039.0
	-7522.2	-1604.0	900.1	433.3	153502.7	280088.4
	-7548.7	-1608.2	1126.9	1605.2	190690.0	280820.1
	-7230.0	-1594.9	-1321.2	-961.8	-209253.7	278529.7
	-7256.5	-1599.1	-1094.3	210.1	-172066.4	279261.4
160.	-8777.9	1382.7	761.2	-354.8	8977.7	-20762.4
	-8804.5	1378.5	988.1	817.1	9862.1	-20707.0
	-8485.8	1391.8	-1460.1	-1749.8	1628.7	-20864.1
	-8512.3	1387.6	-1233.2	-577.9	2513.1	-20808.8
	-8753.1	1387.2	546.4	-1603.7	8137.1	-20821.8
	-8779.7	1383.0	773.3	-431.7	9021.4	-20766.4
	-8461.0	1396.3	-1674.9	-2998.7	788.0	-20923.5
	-8487.5	1392.1	-1448.0	-1826.8	1672.4	-20868.2
	-7187.0	-1608.5	1114.9	1682.2	10334.7	23508.5
	-7213.5	-1612.7	1341.8	2854.1	11219.1	23563.9
	-6894.8	-1599.4	-1106.4	287.1	2985.7	23406.8
	-6921.3	-1603.6	-879.5	1459.0	3870.0	23462.2
	-7162.2	-1604.0	900.1	433.3	9494.0	23449.1
	-7188.7	-1608.2	1126.9	1605.2	10378.4	23504.5
	-6870.0	-1594.9	-1321.2	-961.8	2145.0	23347.4
	-6896.5	-1599.1	-1094.3	210.1	3029.4	23402.8
320.	-8417.9	1382.7	761.2	-354.8	-112821.4	200468.6
	-8444.5	1378.5	988.1	817.1	-148240.0	199847.7
	-8125.8	1391.8	-1460.1	-1749.8	235237.0	201823.9
	-8152.3	1387.6	-1233.2	-577.9	199818.4	201202.9
	-8393.1	1387.2	546.4	-1603.7	-79282.8	201127.4
	-8419.7	1383.0	773.3	-431.7	-114701.4	200506.4
	-8101.0	1396.3	-1674.9	-2998.7	268775.6	202482.7
	-8127.5	1392.1	-1448.0	-1826.8	233357.0	201861.7
	-6827.0	-1608.5	1114.9	1682.2	-168053.2	-233848.9
	-6853.5	-1612.7	1341.8	2854.1	-203471.8	-234469.9
	-6534.8	-1599.4	-1106.4	287.1	180005.1	-232493.7
	-6561.3	-1603.6	-879.5	1459.0	144586.5	-233114.6
	-6802.2	-1604.0	900.1	433.3	-134514.7	-233190.1
	-6828.7	-1608.2	1126.9	1605.2	-169933.3	-233811.1
	-6510.0	-1594.9	-1321.2	-961.8	213543.7	-231834.9
	-6536.5	-1599.1	-1094.3	210.1	178125.1	-232455.9

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7710.7	1543.3	743.6	285.1	128053.1	-271337.7
	-7689.0	1539.1	562.5	1425.4	98365.3	-270615.3
	-7487.5	1548.5	-791.5	-2263.8	-122001.2	-272247.8
	-7465.7	1544.3	-972.6	-1123.6	-151688.9	-271525.4
	-7731.0	1547.5	914.2	-931.1	156007.8	-272062.7
	-7709.3	1543.3	733.0	209.2	126320.1	-271340.3
	-7507.8	1552.7	-621.0	-3480.0	-94046.5	-272972.8
	-7486.0	1548.5	-802.1	-2339.8	-123734.2	-272250.4
	-9441.9	-1509.4	461.9	2208.3	81899.3	256173.4
	-9420.1	-1513.6	280.7	3348.6	52211.6	256895.8
	-9218.6	-1504.2	-1073.3	-340.6	-168155.0	255263.3
	-9196.9	-1508.4	-1254.4	799.7	-197842.7	255985.7
	-9462.2	-1505.1	632.4	992.1	109854.1	255448.4
	-9440.4	-1509.4	451.3	2132.4	80166.3	256170.8
	-9238.9	-1500.0	-902.8	-1556.8	-140200.2	254538.3
	-9217.2	-1504.2	-1083.9	-416.5	-169887.9	255260.7
160.	-7350.7	1543.3	743.6	285.1	9070.8	-24406.6
	-7329.0	1539.1	562.5	1425.4	8362.0	-24358.3
	-7127.5	1548.5	-791.5	-2263.8	4639.3	-24489.1
	-7105.7	1544.3	-972.6	-1123.6	3930.6	-24440.8
	-7371.0	1547.5	914.2	-931.1	9742.0	-24455.4
	-7349.3	1543.3	733.0	209.2	9033.3	-24407.1
	-7147.8	1552.7	-621.0	-3480.0	5310.5	-24538.0
	-7126.0	1548.5	-802.1	-2339.8	4601.8	-24489.6
	-9081.9	-1509.4	461.9	2208.3	8003.2	14675.1
	-9060.1	-1513.6	280.7	3348.6	7294.5	14723.4
	-8858.6	-1504.2	-1073.3	-340.6	3571.8	14592.6
	-8836.9	-1508.4	-1254.4	799.7	2863.0	14640.9
	-9102.2	-1505.1	632.4	992.1	8674.5	14626.2
	-9080.4	-1509.4	451.3	2132.4	7965.7	14674.6
	-8878.9	-1500.0	-902.8	-1556.8	4243.0	14543.7
	-8857.2	-1504.2	-1083.9	-416.5	3534.2	14592.1
320.	-6990.7	1543.3	743.6	285.1	-109911.6	222524.4
	-6969.0	1539.1	562.5	1425.4	-81641.3	221898.7
	-6767.5	1548.5	-791.5	-2263.8	131279.9	223269.6
	-6745.7	1544.3	-972.6	-1123.6	159550.2	222643.9
	-7011.0	1547.5	914.2	-931.1	-136523.9	223151.8
	-6989.3	1543.3	733.0	209.2	-108253.6	222526.1
	-6787.8	1552.7	-621.0	-3480.0	104667.6	223896.9
	-6766.0	1548.5	-802.1	-2339.8	132937.9	223271.2
	-8721.9	-1509.4	461.9	2208.3	-65892.9	-226823.3
	-8700.1	-1513.6	280.7	3348.6	-37622.7	-227449.0
	-8498.6	-1504.2	-1073.3	-340.6	175298.6	-226078.2
	-8476.9	-1508.4	-1254.4	799.7	203568.8	-226703.9
	-8742.2	-1505.1	632.4	992.1	-92505.2	-226196.0
	-8720.4	-1509.4	451.3	2132.4	-64235.0	-226821.7
	-8518.9	-1500.0	-902.8	-1556.8	148686.3	-225450.8
	-8497.2	-1504.2	-1083.9	-416.5	176956.5	-226076.5

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9480.8	1571.0	663.7	341.5	115574.7	-268921.4
	-9450.0	1567.0	418.9	1481.0	75329.1	-268219.8
	-9323.0	1576.1	-649.3	-2292.8	-99719.1	-269792.4
	-9292.2	1572.1	-894.2	-1153.4	-139964.7	-269090.7
	-9510.6	1575.1	900.6	-864.6	154523.1	-269623.8
	-9479.8	1571.0	655.8	274.8	114277.5	-268922.2
	-9352.8	1580.1	-412.4	-3499.0	-60770.7	-270494.8
	-9322.0	1576.1	-657.3	-2359.5	-101016.3	-269793.1
	-7513.5	-1236.0	275.9	2226.8	51727.7	229027.3
	-7482.7	-1240.0	31.0	3366.2	11482.1	229728.9
	-7355.7	-1230.9	-1037.2	-407.6	-163566.1	228156.3
	-7324.9	-1235.0	-1282.0	731.9	-203811.7	228858.0
	-7543.2	-1232.0	512.8	1020.7	90676.1	228324.9
	-7512.4	-1236.0	268.0	2160.1	50430.5	229026.5
	-7385.5	-1226.9	-800.3	-1613.7	-124617.7	227453.9
	-7354.7	-1230.9	-1045.1	-474.2	-164863.3	228155.6
160.	-9120.8	1571.0	663.7	341.5	9386.2	-17555.8
	-9090.0	1567.0	418.9	1481.0	8311.1	-17495.8
	-8963.0	1576.1	-649.3	-2292.8	4176.2	-17618.1
	-8932.2	1572.1	-894.2	-1153.4	3101.0	-17558.0
	-9150.6	1575.1	900.6	-864.6	10429.0	-17614.7
	-9119.8	1571.0	655.8	274.8	9353.8	-17554.7
	-8992.8	1580.1	-412.4	-3499.0	5219.0	-17676.9
	-8962.0	1576.1	-657.3	-2359.5	4143.8	-17616.9
	-7153.5	-1236.0	275.9	2226.8	7589.8	31268.0
	-7122.7	-1240.0	31.0	3366.2	6514.6	31328.0
	-6995.7	-1230.9	-1037.2	-407.6	2379.8	31205.7
	-6964.9	-1235.0	-1282.0	731.9	1304.6	31265.7
	-7183.2	-1232.0	512.8	1020.7	8632.6	31209.1
	-7152.4	-1236.0	268.0	2160.1	7557.4	31269.1
	-7025.5	-1226.9	-800.3	-1613.7	3422.6	31146.8
	-6994.7	-1230.9	-1045.1	-474.2	2347.4	31206.8
320.	-8760.8	1571.0	663.7	341.5	-96802.3	233809.8
	-8730.0	1567.0	418.9	1481.0	-58707.0	233228.2

	-8603.0	1576.1	-649.3	-2292.8	108071.6	234556.3
	-8572.2	1572.1	-894.2	-1153.4	146166.8	233974.7
	-8790.6	1575.1	900.6	-864.6	-133665.1	234394.4
	-8759.8	1571.0	655.8	274.8	-95569.9	233812.8
	-8632.8	1580.1	-412.4	-3499.0	71208.7	235140.9
	-8602.0	1576.1	-657.3	-2359.5	109304.0	234559.3
	-6793.5	-1236.0	275.9	2226.8	-36548.1	-166491.3
	-6762.7	-1240.0	31.0	3366.2	1547.2	-167073.0
	-6635.7	-1230.9	-1037.2	-407.6	168325.7	-165744.9
	-6604.9	-1235.0	-1282.0	731.9	206421.0	-166326.5
	-6823.2	-1232.0	512.8	1020.7	-73411.0	-165906.7
	-6792.4	-1236.0	268.0	2160.1	-35315.7	-166488.4
	-6665.5	-1226.9	-800.3	-1613.7	131462.9	-165160.2
	-6634.7	-1230.9	-1045.1	-474.2	169558.1	-165741.9

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-3151.1	877.7	676.3	-269.9	97129.1	-149982.0
	-3213.5	915.9	824.8	543.0	122854.6	-156428.8
	-2492.1	822.9	-446.5	-1199.0	-98855.8	-140646.4
	-2554.5	861.1	-298.0	-386.1	-73130.4	-147093.3
	-3093.2	836.9	532.5	-1131.8	72219.0	-143098.2
	-3155.7	875.1	681.0	-318.9	97944.5	-149545.0
	-2434.2	782.1	-590.4	-2060.9	-123765.9	-133762.6
	-2496.7	820.3	-441.9	-1248.0	-98040.5	-140209.5
	-4636.7	-957.6	896.5	1146.4	135063.3	161466.1
	-4699.2	-919.4	1045.0	1959.3	160788.8	155019.2
	-3977.7	-1012.4	-226.3	217.3	-60921.6	170801.6
	-4040.2	-974.2	-77.8	1030.2	-35196.2	164354.8
	-4578.9	-998.5	752.7	284.5	110153.2	168349.9
	-4641.3	-960.2	901.2	1097.4	135878.7	161903.0
	-3919.9	-1053.3	-370.2	-644.6	-85831.7	177685.4
	-3982.3	-1015.0	-221.7	168.3	-60106.3	171238.6
160.	-2868.4	877.7	676.3	-269.9	-11086.8	-9549.6
	-2930.8	915.9	824.8	543.0	-9119.4	-9878.4
	-2209.4	822.9	-446.5	-1199.0	-27410.4	-8981.7
	-2271.8	861.1	-298.0	-386.1	-25443.0	-9310.5
	-2810.5	836.9	532.5	-1131.8	-12982.0	-9199.2
	-2872.9	875.1	681.0	-318.9	-11014.6	-9528.0
	-2151.5	782.1	-590.4	-2060.9	-29305.6	-8631.3
	-2213.9	820.3	-441.9	-1248.0	-27338.2	-8960.1
	-4354.0	-957.6	896.5	1146.4	-8384.3	8245.2
	-4416.4	-919.4	1045.0	1959.3	-6416.8	7916.4
	-3695.0	-1012.4	-226.3	217.3	-24707.8	8813.1
	-3757.4	-974.2	-77.8	1030.2	-22740.4	8484.3
	-4296.1	-998.5	752.7	284.5	-10279.5	8595.6
	-4358.6	-960.2	901.2	1097.4	-8312.0	8266.8
	-3637.1	-1053.3	-370.2	-644.6	-26603.0	9163.5
	-3699.6	-1015.0	-221.7	168.3	-24635.6	8834.7
320.	-2585.6	877.7	676.3	-269.9	-119302.8	130882.9
	-2648.0	915.9	824.8	543.0	-141093.4	136672.1
	-1926.6	822.9	-446.5	-1199.0	44035.1	122683.0
	-1989.1	861.1	-298.0	-386.1	22244.5	128472.2
	-2527.7	836.9	532.5	-1131.8	-98183.1	124699.9
	-2590.2	875.1	681.0	-318.9	-119973.7	130489.1
	-1868.8	782.1	-590.4	-2060.9	65154.8	116500.0
	-1931.2	820.3	-441.9	-1248.0	43364.2	122289.2
	-4071.3	-957.6	896.5	1146.4	-151831.9	-144975.6
	-4133.7	-919.4	1045.0	1959.3	-173622.5	-139186.4
	-3412.3	-1012.4	-226.3	217.3	11506.0	-153175.5
	-3474.7	-974.2	-77.8	1030.2	-10284.6	-147386.3
	-4013.4	-998.5	752.7	284.5	-130712.2	-151158.6
	-4075.8	-960.2	901.2	1097.4	-152502.8	-145369.4
	-3354.4	-1053.3	-370.2	-644.6	32625.7	-159358.5
	-3416.8	-1015.0	-221.7	168.3	10835.1	-153569.3

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10035.2	1191.3	969.8	-397.4	146516.1	-225069.8
	-10138.5	1257.9	1143.3	775.5	178018.3	-236225.0
	-9021.8	1086.8	-653.8	-1667.4	-152556.0	-207607.7
	-9125.1	1153.4	-480.4	-494.6	-121053.7	-218762.9
	-9936.8	1120.7	805.5	-1607.1	116671.6	-213249.7
	-10040.1	1187.3	978.9	-434.2	148173.9	-224404.9
	-8923.4	1016.2	-818.2	-2877.1	-182400.4	-195787.6
	-9026.7	1082.8	-644.7	-1704.3	-150898.1	-206942.8
	-9938.7	-2006.4	1194.6	1555.7	187660.6	316244.9
	-10042.0	-1939.8	1368.0	2728.6	219162.8	305089.7
	-8925.3	-2110.9	-429.1	285.7	-111411.5	333707.0
	-9028.6	-2044.3	-255.6	1458.5	-79909.2	322551.8
	-9840.3	-2076.9	1030.2	346.0	157816.2	328065.0
	-9943.6	-2010.3	1203.7	1518.9	189318.4	316909.8
	-8826.9	-2181.5	-593.4	-924.0	-141255.9	345527.1
	-8930.2	-2114.9	-420.0	248.8	-109753.6	334371.9
160.	-9675.2	1191.3	969.8	-397.4	-8653.0	-34463.0
	-9778.5	1257.9	1143.3	775.5	-4902.9	-34963.4
	-8661.8	1086.8	-653.8	-1667.4	-47941.2	-33724.8
	-8765.1	1153.4	-480.4	-494.6	-44191.1	-34225.2
	-9576.8	1120.7	805.5	-1607.1	-12203.0	-33931.7
	-9680.1	1187.3	978.9	-434.2	-8453.0	-34432.2
	-8563.4	1016.2	-818.2	-2877.1	-51491.2	-33193.5
	-8666.7	1082.8	-644.7	-1704.3	-47741.2	-33693.9
	-9578.7	-2006.4	1194.6	1555.7	-3471.2	-4774.6
	-9682.0	-1939.8	1368.0	2728.6	278.9	-5275.1
	-8565.3	-2110.9	-429.1	285.7	-42759.4	-4036.4
	-8668.6	-2044.3	-255.6	1458.5	-39009.3	-4536.8
	-9480.3	-2076.9	1030.2	346.0	-7021.3	-4243.4
	-9583.6	-2010.3	1203.7	1518.9	-3271.2	-4743.8
	-8466.9	-2181.5	-593.4	-924.0	-46309.5	-3505.2
	-8570.2	-2114.9	-420.0	248.8	-42559.4	-4005.6
320.	-9315.2	1191.3	969.8	-397.4	-163822.0	156143.8
	-9418.5	1257.9	1143.3	775.5	-187824.2	166298.2
	-8301.8	1086.8	-653.8	-1667.4	56673.7	140158.2
	-8405.1	1153.4	-480.4	-494.6	32671.5	150312.6
	-9216.8	1120.7	805.5	-1607.1	-141077.8	145386.2
	-9320.1	1187.3	978.9	-434.2	-165080.0	155540.6
	-8203.4	1016.2	-818.2	-2877.1	79418.0	129400.6
	-8306.7	1082.8	-644.7	-1704.3	55415.8	139555.0
	-9218.7	-2006.4	1194.6	1555.7	-194603.0	-325794.2
	-9322.0	-1939.8	1368.0	2728.6	-218605.2	-315639.8
	-8205.3	-2110.9	-429.1	285.7	25892.8	-341779.9
	-8308.6	-2044.3	-255.6	1458.5	1890.6	-331625.5
	-9120.3	-2076.9	1030.2	346.0	-171858.7	-336551.8
	-9223.6	-2010.3	1203.7	1518.9	-195860.9	-326397.4
	-8106.9	-2181.5	-593.4	-924.0	48637.0	-352537.5
	-8210.2	-2114.9	-420.0	248.8	24634.9	-342383.1

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10938.0	1788.1	365.3	-417.2	79331.0	-293822.8
	-10935.4	1853.9	433.5	765.8	95578.7	-304933.1
	-10931.4	1677.2	-458.0	-1640.0	-132154.6	-275187.8
	-10928.8	1742.9	-389.8	-456.9	-115906.9	-286298.1
	-10940.6	1719.4	302.0	-1541.9	64213.3	-282208.3
	-10938.0	1785.1	370.2	-358.9	80461.1	-293318.6
	-10934.0	1608.5	-521.4	-2764.7	-147272.3	-263573.4
	-10931.3	1674.2	-453.2	-1581.7	-131024.5	-274683.7
	-11069.6	-1529.7	459.5	1420.3	102139.2	266507.9
	-11067.0	-1464.0	527.7	2603.3	118387.0	255397.6
	-11063.0	-1640.7	-363.9	197.5	-109346.4	285142.8
	-11060.3	-1574.9	-295.7	1380.6	-93098.6	274032.6
	-11072.2	-1598.5	396.1	295.6	87021.6	278122.4

	-11069.6	-1532.7	464.3	1478.6	103269.4	267012.1
	-11065.5	-1709.4	-427.2	-927.2	-124464.0	296757.3
	-11062.9	-1643.6	-359.0	255.8	-108216.2	285647.0
160.	-10578.0	1788.1	365.3	-417.2	20877.4	-7726.6
	-10575.4	1853.9	433.5	765.8	26211.4	-8316.8
	-10571.4	1677.2	-458.0	-1640.0	-58869.0	-6838.4
	-10568.8	1742.9	-389.8	-456.9	-53535.0	-7428.7
	-10580.6	1719.4	302.0	-1541.9	15897.0	-7108.1
	-10578.0	1785.1	370.2	-358.9	21231.0	-7698.3
	-10574.0	1608.5	-521.4	-2764.7	-63849.4	-6219.9
	-10571.3	1674.2	-453.2	-1581.7	-58515.4	-6810.2
	-10709.6	-1529.7	459.5	1420.3	28622.6	21748.9
	-10707.0	-1464.0	527.7	2603.3	33956.6	21158.6
	-10703.0	-1640.7	-363.9	197.5	-51123.8	22637.1
	-10700.3	-1574.9	-295.7	1380.6	-45789.8	22046.8
	-10712.2	-1598.5	396.1	295.6	23642.2	22367.4
	-10709.6	-1532.7	464.3	1478.6	28976.2	21777.1
	-10705.5	-1709.4	-427.2	-927.2	-56104.2	23255.6
	-10702.9	-1643.6	-359.0	255.8	-50770.2	22665.3
320.	-10218.0	1788.1	365.3	-417.2	-37576.6	278369.7
	-10215.4	1853.9	433.5	765.8	-43156.3	288299.5
	-10211.4	1677.2	-458.0	-1640.0	14417.0	261511.0
	-10208.8	1742.9	-389.8	-456.9	8837.2	271440.8
	-10220.6	1719.4	302.0	-1541.9	-32419.7	267992.2
	-10218.0	1785.1	370.2	-358.9	-37999.5	277922.0
	-10214.0	1608.5	-521.4	-2764.7	19573.8	251133.5
	-10211.3	1674.2	-453.2	-1581.7	13994.1	261063.3
	-10349.6	-1529.7	459.5	1420.3	-44894.5	-223010.1
	-10347.0	-1464.0	527.7	2603.3	-50474.2	-213080.3
	-10343.0	-1640.7	-363.9	197.5	7099.1	-239868.8
	-10340.3	-1574.9	-295.7	1380.6	1519.3	-229939.0
	-10352.2	-1598.5	396.1	295.6	-39737.6	-233387.5
	-10349.6	-1532.7	464.3	1478.6	-45317.4	-223457.8
	-10345.5	-1709.4	-427.2	-927.2	12255.9	-250246.3
	-10342.9	-1643.6	-359.0	255.8	6676.2	-240316.5

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10134.4	1692.7	235.2	-228.0	65160.5	-286197.8
	-10135.9	1757.6	265.4	979.3	73499.9	-297132.0
	-10134.6	1587.8	-397.6	-1839.8	-122587.6	-268541.7
	-10136.2	1652.7	-367.4	-632.4	-114248.1	-279475.9
	-10132.5	1625.5	207.5	-1349.0	57478.0	-274886.5
	-10134.1	1690.4	237.7	-141.6	65817.5	-285820.7
	-10132.7	1520.6	-425.3	-2960.7	-130270.0	-257230.4
	-10134.3	1585.5	-395.0	-1753.4	-121930.5	-268164.6
	-10082.9	-1657.5	278.4	1602.3	77232.4	278378.7
	-10084.5	-1592.6	308.6	2809.7	85571.9	267444.5
	-10083.1	-1762.3	-354.4	-9.4	-110515.6	296034.8
	-10084.7	-1697.4	-324.1	1197.9	-102176.1	285100.5
	-10081.0	-1724.6	250.7	481.4	69550.0	289690.0
	-10082.6	-1659.7	281.0	1688.8	77889.5	278755.8
	-10081.3	-1829.5	-382.0	-1130.3	-118198.0	307346.1
	-10082.8	-1764.6	-351.8	77.0	-109858.6	296411.8
160.	-9774.4	1692.7	235.2	-228.0	27533.1	-15373.5
	-9775.9	1757.6	265.4	979.3	31034.1	-15923.1
	-9774.6	1587.8	-397.6	-1839.8	-58970.6	-14494.9
	-9776.2	1652.7	-367.4	-632.4	-55469.7	-15044.4
	-9772.5	1625.5	207.5	-1349.0	24278.4	-14805.8
	-9774.1	1690.4	237.7	-141.6	27779.4	-15355.3
	-9772.7	1520.6	-425.3	-2960.7	-62225.3	-13927.1
	-9774.3	1585.5	-395.0	-1753.4	-58724.3	-14476.7
	-9722.9	-1657.5	278.4	1602.3	32686.9	13185.6
	-9724.5	-1592.6	308.6	2809.7	36187.9	12636.0
	-9723.1	-1762.3	-354.4	-9.4	-53816.8	14064.2
	-9724.7	-1697.4	-324.1	1197.9	-50315.8	13514.7
	-9721.0	-1724.6	250.7	481.4	29432.3	13753.3
	-9722.6	-1659.7	281.0	1688.8	32933.3	13203.8
	-9721.3	-1829.5	-382.0	-1130.3	-57071.5	14632.0
	-9722.8	-1764.6	-351.8	77.0	-53570.5	14082.4
320.	-9414.4	1692.7	235.2	-228.0	-10094.5	255450.8
	-9415.9	1757.6	265.4	979.3	-11432.0	265285.9
	-9414.6	1587.8	-397.6	-1839.8	4646.5	239552.0
	-9416.2	1652.7	-367.4	-632.4	3309.0	249387.1
	-9412.5	1625.5	207.5	-1349.0	-8921.4	245274.9
	-9414.1	1690.4	237.7	-141.6	-10258.9	255110.0
	-9412.7	1520.6	-425.3	-2960.7	5819.6	229376.1
	-9414.3	1585.5	-395.0	-1753.4	4482.1	239211.2
	-9362.9	-1657.5	278.4	1602.3	-11858.8	-252007.5
	-9364.5	-1592.6	308.6	2809.7	-13196.3	-242172.4
	-9363.1	-1762.3	-354.4	-9.4	2882.2	-267906.3
	-9364.7	-1697.4	-324.1	1197.9	1544.7	-258071.2
	-9361.0	-1724.6	250.7	481.4	-10685.7	-262183.3
	-9362.6	-1659.7	281.0	1688.8	-12023.2	-252348.2
	-9361.3	-1829.5	-382.0	-1130.3	4055.3	-278082.1
	-9362.8	-1764.6	-351.8	77.0	2717.8	-268247.0

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12408.3	1410.9	213.3	-12.4	62986.1	-258416.7
	-12415.0	1473.9	217.9	1194.9	64439.4	-269120.3
	-12398.6	1305.2	-357.0	-2020.5	-112289.0	-240421.0
	-12405.2	1368.2	-352.5	-813.2	-110835.7	-251124.5
	-12401.4	1346.1	208.9	-1114.5	61590.3	-247390.9
	-12408.1	1409.0	213.5	92.8	63043.6	-258094.4
	-12391.7	1240.4	-361.4	-3122.6	-113684.8	-229395.1
	-12398.4	1303.3	-356.9	-1915.3	-112231.5	-240098.7
	-12061.4	-1873.0	219.5	1775.1	64978.1	300124.1
	-12068.1	-1810.1	224.1	2982.4	66431.4	289420.5
	-12051.7	-1978.7	-350.8	-233.1	-110297.0	318119.8
	-12058.4	-1915.8	-346.2	974.2	-108843.7	307416.2
	-12054.6	-1937.9	215.1	673.0	63582.2	311149.9
	-12061.2	-1874.9	219.7	1880.3	65035.5	300446.3
	-12044.9	-2043.6	-355.2	-1335.2	-111692.8	329145.6
	-12051.5	-1980.6	-350.6	-127.9	-110239.5	318442.1
160.	-12048.3	1410.9	213.3	-12.4	28858.8	-32671.6
	-12055.0	1473.9	217.9	1194.9	29580.8	-33304.2
	-12038.6	1305.2	-357.0	-2020.5	-55165.1	-31586.7
	-12045.2	1368.2	-352.5	-813.2	-54443.0	-32219.3
	-12041.4	1346.1	208.9	-1114.5	28166.9	-32021.0
	-12048.1	1409.0	213.5	92.8	28889.0	-32653.6
	-12031.7	1240.4	-361.4	-3122.6	-55856.9	-30936.1
	-12038.4	1303.3	-356.9	-1915.3	-55134.8	-31568.7
	-11701.4	-1873.0	219.5	1775.1	29855.7	439.8
	-11708.1	-1810.1	224.1	2982.4	30577.8	-192.8
	-11691.7	-1978.7	-350.8	-233.1	-54168.1	1524.7
	-11698.4	-1915.8	-346.2	974.2	-53446.0	892.1
	-11694.6	-1937.9	215.1	673.0	29163.9	1090.3
	-11701.2	-1874.9	219.7	1880.3	29886.0	457.8
	-11684.9	-2043.6	-355.2	-1335.2	-54859.9	2175.2
	-11691.5	-1980.6	-350.6	-127.9	-54137.8	1542.7
320.	-11688.3	1410.9	213.3	-12.4	-5268.7	193073.4
	-11695.0	1473.9	217.9	1194.9	-5277.8	202511.8
	-11678.6	1305.2	-357.0	-2020.5	1958.8	177247.5
	-11685.2	1368.2	-352.5	-813.2	1949.6	186685.9
	-11681.4	1346.1	208.9	-1114.5	-5256.5	183348.8
	-11688.1	1409.0	213.5	92.8	-5265.7	192787.2
	-11671.7	1240.4	-361.4	-3122.6	1971.0	167522.9
	-11678.4	1303.3	-356.9	-1915.3	1961.8	176961.3
	-11341.4	-1873.0	219.5	1775.1	-5266.5	-299244.6
	-11348.1	-1810.1	224.1	2982.4	-5275.6	-289806.2
	-11331.7	-1978.7	-350.8	-233.1	1961.0	-315070.5

	-11338.4	-1915.8	-346.2	974.2	1951.8	-305632.1
	-11334.6	-1937.9	215.1	673.0	-5254.3	-308969.2
	-11341.2	-1874.9	219.7	1880.3	-5263.5	-299530.8
	-11324.9	-2043.6	-355.2	-1335.2	1973.1	-324795.2
	-11331.5	-1980.6	-350.6	-127.9	1964.0	-315356.7

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11195.4	2095.5	246.4	250.2	66233.0	-329926.3
	-11183.2	2159.6	220.9	1435.5	59496.9	-340773.9
	-11215.9	1987.7	-302.9	-2231.9	-96693.1	-311707.1
	-11203.7	2051.8	-328.5	-1046.5	-103429.2	-322554.7
	-11208.4	2028.9	269.3	-855.9	72320.4	-318670.1
	-11196.1	2093.0	243.8	329.4	65584.3	-329517.7
	-11228.9	1921.2	-280.0	-3338.0	-90605.7	-300450.9
	-11216.6	1985.3	-305.5	-2152.6	-97341.8	-311298.5
	-11808.0	-1223.6	208.6	2031.0	56088.3	231870.5
	-11795.7	-1159.4	183.1	3216.4	49352.2	221022.9
	-11828.4	-1331.3	-340.7	-451.0	-106837.7	250089.7
	-11816.2	-1267.2	-366.2	734.3	-113573.8	239242.1
	-11820.9	-1290.1	231.6	924.9	62175.7	243126.7
	-11808.7	-1226.0	206.0	2110.3	55439.6	232279.1
	-11841.4	-1397.8	-317.8	-1557.1	-100750.4	261345.9
	-11829.2	-1333.7	-343.3	-371.8	-107486.5	250498.3
160.	-10835.4	2095.5	246.4	250.2	26808.6	5347.6
	-10823.2	2159.6	220.9	1435.5	24160.9	4757.0
	-10855.9	1987.7	-302.9	-2231.9	-48225.6	6324.0
	-10843.7	2051.8	-328.5	-1046.5	-50873.3	5733.5
	-10848.4	2028.9	269.3	-855.9	29226.6	5959.8
	-10836.1	2093.0	243.8	329.4	26578.9	5369.2
	-10868.9	1921.2	-280.0	-3338.0	-45807.5	6936.2
	-10856.6	1985.3	-305.5	-2152.6	-48455.3	6345.6
	-11448.0	-1223.6	208.6	2031.0	22707.5	36101.8
	-11435.7	-1159.4	183.1	3216.4	20059.8	35511.2
	-11468.4	-1331.3	-340.7	-451.0	-52326.6	37078.2
	-11456.2	-1267.2	-366.2	734.3	-54974.4	36487.6
	-11460.9	-1290.1	231.6	924.9	25125.6	36713.9
	-11448.7	-1226.0	206.0	2110.3	22477.8	36123.3
	-11481.4	-1397.8	-317.8	-1557.1	-49908.6	37690.4
	-11469.2	-1333.7	-343.3	-371.8	-52556.3	37099.8
320.	-10475.4	2095.5	246.4	250.2	-12616.2	340621.5
	-10463.2	2159.6	220.9	1435.5	-11175.6	350288.0
	-10495.9	1987.7	-302.9	-2231.9	242.3	324355.2
	-10483.7	2051.8	-328.5	-1046.5	1683.0	334021.7
	-10488.4	2028.9	269.3	-855.9	-13867.5	330589.6
	-10476.1	2093.0	243.8	329.4	-12426.9	340256.0
	-10508.9	1921.2	-280.0	-3338.0	-1009.0	314323.3
	-10496.6	1985.3	-305.5	-2152.6	431.7	323989.7
	-11088.0	-1223.6	208.6	2031.0	-10673.7	-159667.0
	-11075.7	-1159.4	183.1	3216.4	-9233.0	-150000.5
	-11108.4	-1331.3	-340.7	-451.0	2184.9	-175933.2
	-11096.2	-1267.2	-366.2	734.3	3625.6	-166266.8
	-11100.9	-1290.1	231.6	924.9	-11925.0	-169698.9
	-11088.7	-1226.0	206.0	2110.3	-10484.3	-160032.4
	-11121.4	-1397.8	-317.8	-1557.1	933.6	-185965.2
	-11109.2	-1333.7	-343.3	-371.8	2374.2	-176298.7

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8646.8	1735.0	385.1	431.3	80385.0	-293324.2
	-8645.5	1801.5	326.1	1585.6	66715.1	-304454.7
	-8634.1	1630.4	-249.3	-2345.8	-82588.1	-275705.5
	-8632.8	1697.0	-308.2	-1191.5	-96258.0	-286836.1
	-8648.4	1665.2	439.5	-671.6	93021.9	-281645.6
	-8647.1	1731.7	380.6	482.7	79352.0	-292776.1
	-8635.7	1560.6	-194.9	-3448.8	-69951.2	-264026.9
	-8634.4	1627.2	-253.8	-2294.4	-83621.2	-275157.5
	-8716.0	-1642.6	306.4	2181.7	61613.5	271537.3
	-8714.6	-1576.0	247.5	3336.0	47943.6	260406.7
	-8703.2	-1747.1	-328.0	-595.4	-101359.6	289156.0
	-8701.9	-1680.6	-386.9	558.9	-115029.5	278025.4
	-8717.6	-1712.4	360.8	1078.7	74250.4	283215.9
	-8716.2	-1645.8	301.9	2233.0	60580.5	272085.3
	-8704.9	-1816.9	-273.5	-1698.4	-88722.7	300834.5
	-8703.5	-1750.4	-332.5	-544.1	-102392.6	289704.0
160.	-8286.8	1735.0	385.1	431.3	18773.9	-15725.8
	-8285.5	1801.5	326.1	1585.6	14535.6	-16210.5
	-8274.1	1630.4	-249.3	-2345.8	-42700.4	-14834.1
	-8272.8	1697.0	-308.2	-1191.5	-46938.7	-15318.9
	-8288.4	1665.2	439.5	-671.6	22701.5	-15215.2
	-8287.1	1731.7	380.6	482.7	18463.2	-15699.9
	-8275.7	1560.6	-194.9	-3448.8	-38772.8	-14323.5
	-8274.4	1627.2	-253.8	-2294.4	-43011.1	-14808.3
	-8356.0	-1642.6	306.4	2181.7	12587.9	8727.4
	-8354.6	-1576.0	247.5	3336.0	8349.6	8242.7
	-8343.2	-1747.1	-328.0	-595.4	-48886.4	9619.1
	-8341.9	-1680.6	-386.9	558.9	-53124.6	9134.3
	-8357.6	-1712.4	360.8	1078.7	16515.5	9238.0
	-8356.2	-1645.8	301.9	2233.0	12277.2	8753.3
	-8344.9	-1816.9	-273.5	-1698.4	-44958.8	10129.7
	-8343.5	-1750.4	-332.5	-544.1	-49197.1	9644.9
320.	-7926.8	1735.0	385.1	431.3	-42837.9	261872.7
	-7925.5	1801.5	326.1	1585.6	-37644.5	272033.7
	-7914.1	1630.4	-249.3	-2345.8	-2812.0	246037.1
	-7912.8	1697.0	-308.2	-1191.5	2381.4	256198.2
	-7928.4	1665.2	439.5	-671.6	-47619.6	251215.3
	-7927.1	1731.7	380.6	482.7	-42426.3	261376.4
	-7915.7	1560.6	-194.9	-3448.8	-7593.7	235379.7
	-7914.4	1627.2	-253.8	-2294.4	-2400.3	245540.8
	-7996.0	-1642.6	306.4	2181.7	-36438.4	-254082.3
	-7994.6	-1576.0	247.5	3336.0	-31245.1	-243921.3
	-7983.2	-1747.1	-328.0	-595.4	3587.5	-269917.9
	-7981.9	-1680.6	-386.9	558.9	8780.9	-259756.8
	-7997.6	-1712.4	360.8	1078.7	-41220.2	-264739.7
	-7996.2	-1645.8	301.9	2233.0	-36026.8	-254578.7
	-7984.9	-1816.9	-273.5	-1698.4	-1194.2	-280575.3
	-7983.5	-1750.4	-332.5	-544.1	3999.2	-270414.2

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8847.8	1917.8	907.0	392.0	136212.0	-311466.5
	-8766.2	1985.2	771.7	1532.9	111401.9	-322635.9
	-8112.4	1804.0	-159.8	-2313.9	-63924.8	-292460.2
	-8030.8	1871.3	-295.1	-1173.0	-88734.8	-303629.7
	-8924.8	1846.4	1034.4	-779.3	159583.1	-299609.9
	-8843.2	1913.7	899.1	361.6	134773.0	-310779.4
	-8189.4	1732.5	-32.3	-3485.2	-40553.7	-280603.7
	-8107.8	1799.9	-167.6	-2344.3	-65363.7	-291773.2
	-8706.9	-1362.1	746.5	2223.7	106277.1	237033.6
	-8625.3	-1294.7	611.2	3364.6	81467.1	225864.1
	-7971.5	-1475.9	-320.3	-482.1	-93859.6	256039.8
	-7889.9	-1408.6	-455.5	658.8	-118669.7	244870.3
	-8783.9	-1433.5	873.9	1052.4	129648.2	248890.1
	-8702.3	-1366.2	738.6	2193.3	104838.2	237720.6
	-8048.5	-1547.4	-192.8	-1653.5	-70488.5	267896.4
	-7966.9	-1480.0	-328.1	-512.6	-95298.6	256726.9
160.	-8487.8	1917.8	907.0	392.0	-8900.2	-4613.8
	-8406.2	1985.2	771.7	1532.9	-12063.7	-5009.4
	-7752.4	1804.0	-159.8	-2313.9	-38363.1	-3821.1
	-7670.8	1871.3	-295.1	-1173.0	-41526.7	-4216.7
	-8564.8	1846.4	1034.4	-779.3	-5920.7	-4192.5
	-8483.2	1913.7	899.1	361.6	-9084.3	-4588.1

	-7829.4	1732.5	-32.3	-3485.2	-35383.6	-3399.8
	-7747.8	1799.9	-167.6	-2344.3	-38547.2	-3795.4
	-8346.9	-1362.1	746.5	2223.7	-13155.5	19101.5
	-8265.3	-1294.7	611.2	3364.6	-16319.0	18705.9
	-7611.5	-1475.9	-320.3	-482.1	-42618.4	19894.2
	-7529.9	-1408.6	-455.5	658.8	-45781.9	19498.6
	-8423.9	-1433.5	873.9	1052.4	-10176.0	19522.8
	-8342.3	-1366.2	738.6	2193.3	-13339.5	19127.2
	-7688.5	-1547.4	-192.8	-1653.5	-39638.9	20315.5
	-7606.9	-1480.0	-328.1	-512.6	-42802.5	19919.9
320.	-8127.8	1917.8	907.0	392.0	-154012.5	302239.0
	-8046.2	1985.2	771.7	1532.9	-135529.5	312617.2
	-7392.4	1804.0	-159.8	-2313.9	-12801.3	284817.9
	-7310.8	1871.3	-295.1	-1173.0	5681.6	295196.2
	-8204.8	1846.4	1034.4	-779.3	-171424.7	291225.0
	-8123.2	1913.7	899.1	361.6	-152941.7	301603.3
	-7469.4	1732.5	-32.3	-3485.2	-30213.5	273804.0
	-7387.8	1799.9	-167.6	-2344.3	-11730.5	284182.3
	-7986.9	-1362.1	746.5	2223.7	-132588.2	-198830.5
	-7905.3	-1294.7	611.2	3364.6	-114105.2	-188452.3
	-7251.5	-1475.9	-320.3	-482.1	8623.0	-216251.5
	-7169.9	-1408.6	-455.5	658.8	27106.0	-205873.3
	-8063.9	-1433.5	873.9	1052.4	-150000.4	-209844.4
	-7982.3	-1366.2	738.6	2193.3	-131517.4	-199466.2
	-7328.5	-1547.4	-192.8	-1653.5	-8789.2	-227265.4
	-7246.9	-1480.0	-328.1	-512.6	9693.8	-216887.2

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5309.4	1491.4	989.7	317.7	144208.8	-260663.6
	-5231.0	1547.9	795.1	1440.9	109332.8	-270644.7
	-4676.0	1389.3	-10.6	-2285.3	-37646.4	-242864.3
	-4597.6	1445.8	-205.2	-1162.2	-72522.4	-252845.4
	-5382.4	1431.0	1178.2	-874.0	177988.2	-249988.0
	-5304.0	1487.5	983.6	249.2	143112.2	-259969.1
	-4749.0	1328.9	177.9	-3477.0	-3867.0	-232188.7
	-4670.6	1385.4	-16.6	-2353.9	-38743.0	-242169.8
	-3656.5	-1126.4	711.8	2231.5	94782.9	210507.1
	-3578.1	-1069.9	517.2	3354.7	59906.9	200526.0
	-3023.1	-1228.5	-288.5	-371.5	-87072.2	228306.5
	-2944.7	-1172.0	-483.1	751.6	-121948.3	218325.4
	-3729.6	-1186.8	900.3	1039.8	128562.3	221182.7
	-3651.2	-1130.3	705.7	2163.0	93686.3	211201.6
	-3096.1	-1289.0	-100.0	-1563.2	-53292.9	238982.1
	-3017.7	-1232.5	-294.5	-440.1	-88168.9	229001.0
160.	-4949.4	1491.4	989.7	317.7	-14138.6	-22033.2
	-4871.0	1547.9	795.1	1440.9	-17882.7	-22974.6
	-4316.0	1389.3	-10.6	-2285.3	-35948.9	-20575.3
	-4237.6	1445.8	-205.2	-1162.2	-39692.9	-21516.7
	-5022.4	1431.0	1178.2	-874.0	-10526.9	-21027.3
	-4944.0	1487.5	983.6	249.2	-14271.0	-21968.7
	-4389.0	1328.9	177.9	-3477.0	-32337.2	-19569.3
	-4310.6	1385.4	-16.6	-2353.9	-36081.2	-20510.7
	-3296.5	-1126.4	711.8	2231.5	-19100.5	30284.9
	-3218.1	-1069.9	517.2	3354.7	-22844.6	29343.5
	-2663.1	-1228.5	-288.5	-371.5	-40910.8	31742.9
	-2584.7	-1172.0	-483.1	751.6	-44654.8	30801.5
	-3369.6	-1186.8	900.3	1039.8	-15488.8	31290.8
	-3291.2	-1130.3	705.7	2163.0	-19232.8	30349.5
	-2736.1	-1289.0	-100.0	-1563.2	-37299.0	32748.8
	-2657.7	-1232.5	-294.5	-440.1	-41043.1	31807.4
320.	-4589.4	1491.4	989.7	317.7	-172486.2	216597.3
	-4511.0	1547.9	795.1	1440.9	-145098.3	224695.6
	-3956.0	1389.3	-10.6	-2285.3	-34251.3	201713.6
	-3877.6	1445.8	-205.2	-1162.2	-6863.3	209811.9
	-4662.4	1431.0	1178.2	-874.0	-199042.2	207933.6
	-4584.0	1487.5	983.6	249.2	-171654.2	216031.9
	-4029.0	1328.9	177.9	-3477.0	-60807.2	193049.8
	-3950.6	1385.4	-16.6	-2353.9	-33419.3	201148.2
	-2936.5	-1126.4	711.8	2231.5	-132984.1	-149937.1
	-2858.1	-1069.9	517.2	3354.7	-105596.2	-141838.8
	-2303.1	-1228.5	-288.5	-371.5	5250.8	-164820.9
	-2224.7	-1172.0	-483.1	751.6	32638.8	-156722.5
	-3009.6	-1186.8	900.3	1039.8	-159540.1	-158600.8
	-2931.2	-1130.3	705.7	2163.0	-132152.1	-150502.5
	-2376.1	-1289.0	-100.0	-1563.2	-21305.1	-173484.6
	-2297.7	-1232.5	-294.5	-440.1	6082.9	-165386.3

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	22.8	0.0	4.7	0.0	0.0	0.0
	22.0	0.0	2.9	0.0	0.0	0.0
	-9.5	0.0	-5.6	0.0	0.0	0.0
	-10.2	0.0	-7.4	0.0	0.0	0.0
	27.1	0.0	1.6	0.0	0.0	0.0
	26.4	0.0	-0.2	0.0	0.0	0.0
	-5.2	0.0	-8.7	0.0	0.0	0.0
	-5.9	0.0	-10.5	0.0	0.0	0.0
	38.4	0.0	9.3	0.0	0.0	0.0
	37.7	0.0	7.5	0.0	0.0	0.0
	6.2	0.0	-1.0	0.0	0.0	0.0
	5.4	0.0	-2.8	0.0	0.0	0.0
	42.8	0.0	6.1	0.0	0.0	0.0
	42.0	0.0	4.4	0.0	0.0	0.0
	10.5	0.0	-4.1	0.0	0.0	0.0
	9.7	0.0	-5.9	0.0	0.0	0.0
88.	22.8	-393.7	4.7	0.0	-410.3	-17226.6
	22.0	-393.7	2.9	0.0	-254.5	-17226.6
	-9.5	-393.7	-5.6	0.0	489.3	-17226.6
	-10.2	-393.7	-7.4	0.0	645.2	-17226.6
	27.1	-393.7	1.6	0.0	-136.7	-17226.6
	26.4	-393.7	-0.2	0.0	19.1	-17226.6
	-5.2	-393.7	-8.7	0.0	763.0	-17226.6
	-5.9	-393.7	-10.5	0.0	918.8	-17226.6
	38.4	-393.7	9.3	0.0	-810.9	-17226.6
	37.7	-393.7	7.5	0.0	-655.1	-17226.6
	6.2	-393.7	-1.0	0.0	88.8	-17226.6
	5.4	-393.7	-2.8	0.0	244.6	-17226.6
	42.8	-393.7	6.1	0.0	-537.3	-17226.6
	42.0	-393.7	4.4	0.0	-381.4	-17226.6
	10.5	-393.7	-4.1	0.0	362.4	-17226.6
	9.7	-393.7	-5.9	0.0	518.2	-17226.6
175.	22.8	-787.5	4.7	0.0	-820.7	-68906.2
	22.0	-787.5	2.9	0.0	-509.0	-68906.2
	-9.5	-787.5	-5.6	0.0	978.7	-68906.2
	-10.2	-787.5	-7.4	0.0	1290.3	-68906.2
	27.1	-787.5	1.6	0.0	-273.4	-68906.2
	26.4	-787.5	-0.2	0.0	38.2	-68906.2
	-5.2	-787.5	-8.7	0.0	1525.9	-68906.2
	-5.9	-787.5	-10.5	0.0	1837.6	-68906.2
	38.4	-787.5	9.3	0.0	-1621.8	-68906.2
	37.7	-787.5	7.5	0.0	-1310.1	-68906.2
	6.2	-787.5	-1.0	0.0	177.6	-68906.2
	5.4	-787.5	-2.8	0.0	489.2	-68906.2
	42.8	-787.5	6.1	0.0	-1074.5	-68906.2
	42.0	-787.5	4.4	0.0	-762.9	-68906.2
	10.5	-787.5	-4.1	0.0	724.8	-68906.2
	9.7	-787.5	-5.9	0.0	1036.5	-68906.2

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	49.2	0.0	-6.8	0.0	0.0	0.0

	49.2	0.0	-9.5	0.0	0.0	0.0
	27.5	0.0	15.9	0.0	0.0	0.0
	27.5	0.0	13.2	0.0	0.0	0.0
	49.9	0.0	-11.6	0.0	0.0	0.0
	49.9	0.0	-14.3	0.0	0.0	0.0
	28.2	0.0	11.1	0.0	0.0	0.0
	28.2	0.0	8.4	0.0	0.0	0.0
	-5.6	0.0	-7.9	0.0	0.0	0.0
	-5.6	0.0	-10.5	0.0	0.0	0.0
	-27.4	0.0	14.8	0.0	0.0	0.0
	-27.4	0.0	12.2	0.0	0.0	0.0
	-4.9	0.0	-12.7	0.0	0.0	0.0
	-4.9	0.0	-15.3	0.0	0.0	0.0
	-26.7	0.0	10.0	0.0	0.0	0.0
	-26.7	0.0	7.4	0.0	0.0	0.0
88.	49.2	-393.8	-6.8	0.0	598.9	-17226.6
	49.2	-393.8	-9.5	0.0	830.2	-17226.6
	27.5	-393.8	15.9	0.0	-1390.1	-17226.6
	27.5	-393.8	13.2	0.0	-1158.8	-17226.6
	49.9	-393.8	-11.6	0.0	1019.3	-17226.6
	49.9	-393.8	-14.3	0.0	1250.5	-17226.6
	28.2	-393.8	11.1	0.0	-969.7	-17226.6
	28.2	-393.8	8.4	0.0	-738.4	-17226.6
	-5.6	-393.8	-7.9	0.0	691.0	-17226.6
	-5.6	-393.8	-10.5	0.0	922.3	-17226.6
	-27.4	-393.8	14.8	0.0	-1298.0	-17226.6
	-27.4	-393.8	12.2	0.0	-1066.7	-17226.6
	-4.9	-393.8	-12.7	0.0	1111.3	-17226.6
	-4.9	-393.8	-15.3	0.0	1342.6	-17226.6
	-26.7	-393.8	10.0	0.0	-877.7	-17226.6
	-26.7	-393.8	7.4	0.0	-646.4	-17226.6
175.	49.2	-787.5	-6.8	0.0	1197.8	-68906.3
	49.2	-787.5	-9.5	0.0	1660.4	-68906.3
	27.5	-787.5	15.9	0.0	-2780.1	-68906.3
	27.5	-787.5	13.2	0.0	-2317.6	-68906.3
	49.9	-787.5	-11.6	0.0	2038.5	-68906.3
	49.9	-787.5	-14.3	0.0	2501.1	-68906.3
	28.2	-787.5	11.1	0.0	-1939.5	-68906.3
	28.2	-787.5	8.4	0.0	-1476.9	-68906.3
	-5.6	-787.5	-7.9	0.0	1382.0	-68906.3
	-5.6	-787.5	-10.5	0.0	1844.6	-68906.3
	-27.4	-787.5	14.8	0.0	-2596.0	-68906.3
	-27.4	-787.5	12.2	0.0	-2133.4	-68906.3
	-4.9	-787.5	-12.7	0.0	2222.7	-68906.3
	-4.9	-787.5	-15.3	0.0	2685.2	-68906.3
	-26.7	-787.5	10.0	0.0	-1755.3	-68906.3
	-26.7	-787.5	7.4	0.0	-1292.8	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	8.7	151.6	4.3	-6044.9	1366.5	116005.4
	-18.6	175.3	3.1	-5332.7	1057.6	111259.5
	310.1	115.6	-5.4	-27049.9	-1280.8	123712.0
	282.8	139.3	-6.6	-26337.7	-1589.7	118966.1
	-8.1	126.3	2.9	-6622.9	837.8	121057.6
	-35.4	150.0	1.8	-5910.7	528.8	116311.7
	293.3	90.3	-6.8	-27627.9	-1809.6	128764.2
	266.0	114.0	-7.9	-26915.7	-2118.5	124018.3
	-380.6	1622.0	5.5	-6111.0	1618.8	-175694.1
	-407.9	1645.7	4.4	-5398.9	1309.9	-180440.0
	-79.3	1586.1	-4.2	-27116.0	-1028.5	-167987.5
	-106.6	1609.8	-5.3	-26403.9	-1337.5	-172733.4
	-397.5	1596.8	4.2	-6689.0	1090.1	-170641.9
	-424.7	1620.5	3.1	-5976.8	781.1	-175387.8
	-96.1	1560.8	-5.5	-27694.0	-1557.3	-162935.3
	-123.4	1584.5	-6.6	-26981.8	-1866.2	-167681.2

195.	8.7	-1165.3	4.3	-6044.9	532.3	31443.8
	-18.6	-1141.6	3.1	-5332.7	444.2	31317.8
	310.1	-1201.3	-5.4	-27049.9	-221.7	32138.2
	282.8	-1177.6	-6.6	-26337.7	-309.9	32012.1
	-8.1	-1190.5	2.9	-6622.9	262.6	31572.5
	-35.4	-1166.9	1.8	-5910.7	174.4	31446.5
	293.3	-1226.5	-6.8	-27627.9	-491.5	32266.8
	266.0	-1202.8	-7.9	-26915.7	-579.7	32140.8
	-380.6	305.2	5.5	-6111.0	537.5	26487.8
	-407.9	328.9	4.4	-5398.9	449.4	26361.8
	-79.3	269.2	-4.2	-27116.0	-216.5	27182.2
	-106.6	292.9	-5.3	-26403.9	-304.7	27056.1
	-397.5	279.9	4.2	-6689.0	267.8	26616.5
	-424.7	303.6	3.1	-5976.8	179.6	26490.5
	-96.1	244.0	-5.5	-27694.0	-486.3	27310.9
	-123.4	267.7	-6.6	-26981.8	-574.5	27184.8
390.	8.7	-3360.9	4.3	-6044.9	-301.5	-395578.5
	-18.6	-3337.2	3.1	-5332.7	-168.9	-391084.7
	310.1	-3396.8	-5.4	-27049.9	837.7	-401900.3
	282.8	-3373.2	-6.6	-26337.7	970.3	-397406.5
	-8.1	-3386.1	2.9	-6622.9	-312.3	-400373.3
	-35.4	-3362.4	1.8	-5910.7	-179.7	-395879.5
	293.3	-3422.1	-6.8	-27627.9	826.9	-406695.1
	266.0	-3398.4	-7.9	-26915.7	959.5	-402201.3
	-380.6	-1890.4	5.5	-6111.0	-544.1	-113791.0
	-407.9	-1866.7	4.4	-5398.9	-411.5	-109297.2
	-79.3	-1926.4	-4.2	-27116.0	595.2	-120112.8
	-106.6	-1902.7	-5.3	-26403.9	727.8	-115619.0
	-397.5	-1915.6	4.2	-6689.0	-554.9	-118585.8
	-424.7	-1892.0	3.1	-5976.8	-422.3	-114092.0
	-96.1	-1951.6	-5.5	-27694.0	584.4	-124907.6
	-123.4	-1927.9	-6.6	-26981.8	717.0	-120413.8

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-772.4	6330.2	7.6	30381.3	1407.4	-282579.0
	-827.4	6352.5	6.2	33265.4	1021.8	-287291.6
	267.4	6282.3	-6.9	-42647.6	-1744.0	-272334.8
	212.3	6304.6	-8.3	-39763.6	-2129.6	-277047.4
	-859.2	6306.7	7.5	27781.0	770.5	-277620.5
	-914.3	6329.1	6.1	30665.0	384.9	-282333.1
	180.6	6258.8	-7.0	-45248.0	-2380.9	-267376.3
	125.5	6281.1	-8.4	-42363.9	-2766.5	-272088.9
	-789.5	7588.4	8.2	36005.4	2705.8	-558921.5
	-844.5	7610.7	6.8	38889.4	2320.2	-563634.2
	250.3	7540.5	-6.3	-37023.5	-445.6	-548677.3
	195.2	7562.8	-7.7	-34139.5	-831.2	-553390.0
	-876.3	7564.9	8.0	33405.0	2068.9	-553963.0
	-931.4	7587.3	6.6	36289.1	1683.3	-558675.7
	163.5	7517.0	-6.5	-39623.9	-1082.5	-543718.9
	108.4	7539.3	-7.9	-36739.9	-1468.1	-548431.5
215.	-772.4	-837.9	7.6	30381.3	-231.1	307845.0
	-827.4	-815.6	6.2	33265.4	-318.2	307933.3
	267.4	-885.8	-6.9	-42647.6	-267.5	307781.0
	212.3	-863.5	-8.3	-39763.6	-354.6	307869.3
	-859.2	-861.4	7.5	27781.0	-842.0	307758.9
	-914.3	-839.0	6.1	30665.0	-929.1	307847.2
	180.6	-909.3	-7.0	-45248.0	-878.4	307694.9
	125.5	-887.0	-8.4	-42363.9	-965.5	307783.2
	-789.5	420.3	8.2	36005.4	954.6	302012.7
	-844.5	442.6	6.8	38889.4	867.5	302101.1
	250.3	372.4	-6.3	-37023.5	918.3	301948.7
	195.2	394.7	-7.7	-34139.5	831.2	302037.1
	-876.3	396.8	8.0	33405.0	343.7	301926.6
	-931.4	419.2	6.6	36289.1	256.6	302014.9
	163.5	348.9	-6.5	-39623.9	307.3	301862.6

	108.4	371.2	-7.9	-36739.9	220.2	301951.0
430.	-772.4	-8006.0	7.6	30381.3	-1872.2	-642873.2
	-827.4	-7983.7	6.2	33265.4	-1660.7	-637983.9
	267.4	-8053.9	-6.9	-42647.6	1211.6	-653244.1
	212.3	-8031.6	-8.3	-39763.6	1423.0	-648354.7
	-859.2	-8029.5	7.5	27781.0	-2457.0	-648004.0
	-914.3	-8007.1	6.1	30665.0	-2245.6	-643114.6
	180.6	-8077.4	-7.0	-45248.0	626.7	-658374.8
	125.5	-8055.1	-8.4	-42363.9	838.1	-653485.5
	-789.5	-6747.8	8.2	36005.4	-799.1	-378195.2
	-844.5	-6725.5	6.8	38889.4	-587.7	-373305.9
	250.3	-6795.7	-6.3	-37023.5	2284.7	-388566.0
	195.2	-6773.4	-7.7	-34139.5	2496.1	-383676.7
	-876.3	-6771.3	8.0	33405.0	-1384.0	-383325.9
	-931.4	-6748.9	6.6	36289.1	-1172.6	-378436.6
	163.5	-6819.2	-6.5	-39623.9	1699.8	-393696.8
	108.4	-6796.9	-7.9	-36739.9	1911.2	-388807.5

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1543.3	6171.0	0.6	9630.0	-1467.4	-356876.2
	-1603.7	6195.3	-3.1	6154.8	-2442.5	-361719.6
	780.5	6133.2	5.2	-4112.9	2832.7	-350234.7
	720.1	6157.6	1.5	-7588.1	1857.6	-355078.1
	-1661.4	6145.4	3.8	12892.3	-921.5	-351782.7
	-1721.8	6169.8	0.0	9417.1	-1896.6	-356626.1
	662.4	6107.6	8.4	-850.6	3378.6	-345141.1
	602.0	6132.0	4.7	-4325.9	2403.5	-349984.5
	-1257.9	7557.9	-4.1	4571.8	-2231.8	-636117.7
	-1318.4	7582.3	-7.9	1096.6	-3206.9	-640961.1
	1065.9	7520.1	0.5	-9171.2	2068.3	-629476.2
	1005.5	7544.5	-3.2	-12646.4	1093.2	-634319.6
	-1376.0	7532.3	-1.0	7834.1	-1686.0	-631024.2
	-1436.5	7556.7	-4.7	4358.8	-2661.1	-635867.6
	947.8	7494.6	3.6	-5908.9	2614.1	-624382.6
	887.3	7519.0	-0.1	-9384.1	1639.0	-629226.0
200.	-1543.3	-497.0	0.6	9630.0	-1591.2	210517.0
	-1603.7	-472.7	-3.1	6154.8	-1821.9	210552.6
	780.5	-534.8	5.2	-4112.9	1788.1	209598.2
	720.1	-510.4	1.5	-7588.1	1557.3	209633.8
	-1661.4	-522.6	3.8	12892.3	-1675.0	210501.1
	-1721.8	-498.2	0.0	9417.1	-1905.7	210536.7
	662.4	-560.4	8.4	-850.6	1704.3	209582.4
	602.0	-536.0	4.7	-4325.9	1473.5	209617.9
	-1257.9	889.9	-4.1	4571.8	-1404.8	208663.5
	-1318.4	914.3	-7.9	1096.6	-1635.5	208699.1
	1065.9	852.1	0.5	-9171.2	1974.5	207744.7
	1005.5	876.5	-3.2	-12646.4	1743.7	207780.3
	-1376.0	864.3	-1.0	7834.1	-1488.6	208647.7
	-1436.5	888.7	-4.7	4358.8	-1719.4	208683.2
	947.8	826.6	3.6	-5908.9	1890.6	207728.9
	887.3	851.0	-0.1	-9384.1	1659.9	207764.4
400.	-1543.3	-7165.0	0.6	9630.0	-1716.8	-555693.9
	-1603.7	-7140.7	-3.1	6154.8	-1203.2	-550779.4
	780.5	-7202.8	5.2	-4112.9	745.2	-564164.8
	720.1	-7178.4	1.5	-7588.1	1258.8	-559250.2
	-1661.4	-7190.6	3.8	12892.3	-2430.3	-560819.2
	-1721.8	-7166.2	0.0	9417.1	-1916.7	-555904.6
	662.4	-7228.4	8.4	-850.6	31.7	-569290.0
	602.0	-7204.0	4.7	-4325.9	545.3	-564375.5
	-1257.9	-5778.1	-4.1	4571.8	-579.6	-280159.4
	-1318.4	-5753.7	-7.9	1096.6	-65.9	-275244.8
	1065.9	-5815.9	0.5	-9171.2	1882.4	-288630.3
	1005.5	-5791.5	-3.2	-12646.4	2396.1	-283715.7
	-1376.0	-5803.7	-1.0	7834.1	-1293.1	-285284.7
	-1436.5	-5779.3	-4.7	4358.8	-779.4	-280370.1
	947.8	-5841.4	3.6	-5908.9	1168.9	-293755.5
	887.3	-5817.0	-0.1	-9384.1	1682.6	-288841.0

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1998.5	5927.6	1.3	2085.3	-1492.7	-296009.2
	-1988.6	5950.5	-2.0	-3021.3	-2192.1	-300685.2
	829.5	5889.4	4.4	6558.8	2569.7	-288786.8
	839.4	5912.3	1.1	1452.2	1870.4	-293462.9
	-2090.3	5903.9	3.8	6789.2	-1084.9	-291150.9
	-2080.3	5926.8	0.5	1682.6	-1784.3	-295827.0
	737.7	5865.7	7.0	11262.7	2977.5	-283928.5
	747.6	5888.6	3.7	6156.1	2278.1	-288604.6
	-1455.4	7258.2	-3.1	-5427.6	-2171.9	-569144.6
	-1445.5	7281.1	-6.4	-10534.2	-2871.2	-573820.7
	1372.5	7220.0	0.1	-954.1	1890.6	-561922.3
	1382.5	7242.9	-3.2	-6060.7	1191.2	-566598.3
	-1547.2	7234.4	-0.6	-723.7	-1764.1	-564286.3
	-1537.2	7257.3	-3.9	-5830.4	-2463.5	-568962.4
	1280.8	7196.2	2.6	3749.8	2298.4	-557064.0
	1290.7	7219.1	-0.7	-1356.9	1599.0	-561740.1
210.	-1998.5	-1073.8	1.3	2085.3	-1760.8	213646.1
	-1988.6	-1050.9	-2.0	-3021.3	-1765.3	213777.8
	829.5	-1112.0	4.4	6558.8	1640.6	212848.4
	839.4	-1089.1	1.1	1452.2	1636.2	212980.0
	-2090.3	-1097.5	3.8	6789.2	-1882.3	213516.9
	-2080.3	-1074.6	0.5	1682.6	-1886.7	213648.5
	737.7	-1135.7	7.0	11262.7	1519.1	212719.1
	747.6	-1112.8	3.7	6156.1	1514.7	212850.8
	-1455.4	256.8	-3.1	-5427.6	-1529.7	219922.8
	-1445.5	279.7	-6.4	-10534.2	-1534.1	220054.4
	1372.5	218.6	0.1	-954.1	1871.8	219125.0
	1382.5	241.5	-3.2	-6060.7	1867.4	219256.7
	-1547.2	233.0	-0.6	-723.7	-1651.1	219793.6
	-1537.2	255.9	-3.9	-5830.4	-1655.5	219925.2
	1280.8	194.8	2.6	3749.8	1750.3	218995.8
	1290.7	217.7	-0.7	-1356.9	1745.9	219127.4
420.	-1998.5	-8075.2	1.3	2085.3	-2030.8	-746994.4
	-1988.6	-8052.3	-2.0	-3021.3	-1340.2	-742055.1
	829.5	-8113.4	4.4	6558.8	713.2	-755808.6
	839.4	-8090.5	1.1	1452.2	1403.8	-750869.3
	-2090.3	-8098.9	3.8	6789.2	-2681.4	-752111.2
	-2080.3	-8076.0	0.5	1682.6	-1990.9	-747171.8
	737.7	-8137.1	7.0	11262.7	62.5	-760925.4
	747.6	-8114.2	3.7	6156.1	753.1	-755986.0
	-1455.4	-6744.6	-3.1	-5427.6	-889.3	-461305.6
	-1445.5	-6721.7	-6.4	-10534.2	-198.7	-456366.3
	1372.5	-6782.8	0.1	-954.1	1854.7	-470119.8
	1382.5	-6759.9	-3.2	-6060.7	2545.3	-465180.5
	-1547.2	-6768.4	-0.6	-723.7	-1539.9	-466422.4
	-1537.2	-6745.5	-3.9	-5830.4	-849.4	-461483.0
	1280.8	-6806.6	2.6	3749.8	1204.1	-475236.6
	1290.7	-6783.7	-0.7	-1356.9	1894.6	-470297.2

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2422.1	8137.9	-0.8	-2800.3	-2017.3	-567149.4
	-2308.5	8154.3	-3.5	-7928.2	-2540.2	-571428.7
	225.0	8109.6	4.8	10881.2	2733.7	-560455.4
	338.6	8126.0	2.2	5753.3	2210.9	-564734.7
	-2476.8	8120.9	0.9	1927.8	-1561.4	-562719.1
	-2363.2	8137.3	-1.7	-3200.1	-2084.2	-566998.4
	170.3	8092.6	6.6	15609.4	3189.6	-556025.2
	283.9	8109.0	3.9	10481.5	2666.8	-560304.5
	-1358.5	9095.4	-4.0	-10267.1	-2664.2	-814294.2
	-1244.9	9111.8	-6.6	-15395.0	-3187.0	-818573.5

	1288.6	9067.1	1.7	3414.5	2086.8	-807600.3
	1402.2	9083.5	-1.0	-1713.4	1564.0	-811879.6
	-1413.3	9078.4	-2.2	-5538.9	-2208.3	-809864.0
	-1299.6	9094.8	-4.8	-10666.8	-2731.1	-814143.3
	1233.8	9050.1	3.5	8142.6	2542.7	-803170.1
	1347.4	9066.5	0.8	3014.7	2019.9	-807449.4
255.	-2422.1	-363.8	-0.8	-2800.3	-1805.5	424048.2
	-2308.5	-347.4	-3.5	-7928.2	-1651.7	423958.9
	225.0	-392.1	4.8	10881.2	1505.6	423526.2
	338.6	-375.7	2.2	5753.3	1659.4	423437.0
	-2476.8	-380.8	0.9	1927.8	-1802.7	424133.3
	-2363.2	-364.4	-1.7	-3200.1	-1648.9	424044.0
	170.3	-409.1	6.6	15609.4	1508.4	423611.3
	283.9	-392.7	3.9	10481.5	1662.2	423522.0
	-1358.5	593.7	-4.0	-10267.1	-1656.4	421067.7
	-1244.9	610.1	-6.6	-15395.0	-1502.6	420978.4
	1288.6	565.4	1.7	3414.5	1654.7	420545.7
	1402.2	581.8	-1.0	-1713.4	1808.5	420456.4
	-1413.3	576.7	-2.2	-5538.9	-1653.6	421152.7
	-1299.6	593.1	-4.8	-10666.8	-1499.8	421063.4
	1233.8	548.4	3.5	8142.6	1657.5	420630.7
	1347.4	564.8	0.8	3014.7	1811.3	420541.5
510.	-2422.1	-8865.5	-0.8	-2800.3	-1596.2	-752691.2
	-2308.5	-8849.1	-3.5	-7928.2	-765.7	-748590.5
	225.0	-8893.8	4.8	10881.2	280.0	-760422.0
	338.6	-8877.4	2.2	5753.3	1110.5	-756321.3
	-2476.8	-8882.5	0.9	1927.8	-2046.4	-756951.3
	-2363.2	-8866.1	-1.7	-3200.1	-1216.0	-752850.6
	170.3	-8910.8	6.6	15609.4	-170.2	-764682.1
	283.9	-8894.4	3.9	10481.5	660.2	-760581.4
	-1358.5	-7908.0	-4.0	-10267.1	-651.2	-511507.5
	-1244.9	-7891.6	-6.6	-15395.0	179.3	-507406.8
	1288.6	-7936.3	1.7	3414.5	1225.0	-519238.3
	1402.2	-7919.9	-1.0	-1713.4	2055.5	-515137.6
	-1413.3	-7925.0	-2.2	-5538.9	-1101.5	-515767.6
	-1299.6	-7908.6	-4.8	-10666.8	-271.0	-511666.9
	1233.8	-7953.3	3.5	8142.6	774.7	-523498.4
	1347.4	-7936.9	0.8	3014.7	1605.2	-519397.7

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2065.7	5835.6	-1.7	-11400.7	-1844.5	-378280.6
	-1888.9	5863.9	-5.6	-14782.1	-2205.1	-383621.8
	-71.6	5787.3	7.0	18030.7	2518.8	-370271.9
	105.2	5815.6	3.1	14649.3	2158.2	-375613.1
	-2089.1	5806.0	1.9	-8196.2	-1187.8	-372723.9
	-1912.3	5834.3	-2.1	-11577.6	-1548.3	-378065.1
	-95.1	5757.8	10.5	21235.2	3175.6	-364715.3
	81.7	5786.1	6.6	17853.8	2815.0	-370056.5
	-635.2	7451.8	-6.2	-16152.2	-2666.4	-678166.1
	-458.4	7480.0	-10.2	-19533.7	-3027.0	-683507.3
	1358.9	7403.5	2.4	13279.2	1696.9	-670157.5
	1535.7	7431.8	-1.5	9897.7	1336.3	-675498.7
	-658.6	7422.2	-2.7	-12947.7	-2009.6	-672609.5
	-481.8	7450.5	-6.6	-16329.2	-2370.2	-677950.7
	1335.4	7374.0	6.0	16483.7	2353.7	-664600.8
	1512.2	7402.3	2.0	13102.2	1993.1	-669942.0
180.	-2065.7	-165.6	-1.7	-11400.7	-1542.9	132018.4
	-1888.9	-137.3	-5.6	-14782.1	-1197.1	131767.5
	-71.6	-213.9	7.0	18030.7	1264.9	131337.0
	105.2	-185.6	3.1	14649.3	1610.7	131086.1
	-2089.1	-195.2	1.9	-8196.2	-1525.3	132259.5
	-1912.3	-166.9	-2.1	-11577.6	-1179.4	132008.6
	-95.1	-243.4	10.5	21235.2	1282.5	131578.1
	81.7	-215.1	6.6	17853.8	1628.4	131327.2
	-635.2	1450.6	-6.2	-16152.2	-1544.6	123045.4
	-458.4	1478.8	-10.2	-19533.7	-1198.7	122794.5
	1358.9	1402.3	2.4	13279.2	1263.2	122364.0
	1535.7	1430.6	-1.5	9897.7	1609.1	122113.1
	-658.6	1421.0	-2.7	-12947.7	-1527.0	123286.5
	-481.8	1449.3	-6.6	-16329.2	-1181.1	123035.6
	1335.4	1372.8	6.0	16483.7	1280.8	122605.1
	1512.2	1401.1	2.0	13102.2	1626.7	122354.2
360.	-2065.7	-6166.8	-1.7	-11400.7	-1246.9	-437906.1
	-1888.9	-6138.5	-5.6	-14782.1	-194.6	-433066.6
	-71.6	-6215.1	7.0	18030.7	15.3	-447262.6
	105.2	-6186.8	3.1	14649.3	1067.6	-442423.2
	-2089.1	-6196.4	1.9	-8196.2	-1868.5	-442980.6
	-1912.3	-6168.1	-2.1	-11577.6	-816.2	-438141.1
	-95.1	-6244.6	10.5	21235.2	-606.2	-452337.1
	81.7	-6216.3	6.6	17853.8	446.0	-447497.7
	-635.2	-4550.6	-6.2	-16152.2	-427.1	-155966.5
	-458.4	-4522.4	-10.2	-19533.7	625.2	-151127.1
	1358.9	-4598.9	2.4	13279.2	835.1	-165323.1
	1535.7	-4570.6	-1.5	9897.7	1887.4	-160483.6
	-658.6	-4580.2	-2.7	-12947.7	-1048.6	-161041.1
	-481.8	-4551.9	-6.6	-16329.2	3.6	-156201.6
	1335.4	-4628.4	6.0	16483.7	213.6	-170397.6
	1512.2	-4600.1	2.0	13102.2	1265.9	-165558.1

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1333.7	4862.2	-12.1	-34466.1	-1650.9	-167240.4
	-1207.8	4892.3	-13.5	-31948.0	-1754.1	-172338.5
	-394.2	4829.9	13.5	40461.4	2381.1	-161612.6
	-268.2	4860.0	12.1	42979.5	2277.8	-166710.8
	-1348.1	4830.7	-12.7	-36682.1	-1163.4	-161912.2
	-1222.2	4860.8	-14.1	-34164.0	-1266.7	-167010.3
	-408.6	4798.5	12.9	38245.5	2868.5	-156284.4
	-282.6	4828.5	11.5	40763.6	2765.2	-161382.6
	-188.1	6560.8	-10.6	-28854.3	-2598.1	-442538.3
	-62.2	6590.9	-11.9	-26336.3	-2701.3	-447636.4
	751.5	6528.5	15.0	46073.2	1433.9	-436910.5
	877.4	6558.6	13.7	48591.3	1330.6	-442008.7
	-202.5	6529.3	-11.2	-31070.3	-2110.7	-437210.1
	-76.6	6559.4	-12.5	-28552.2	-2213.9	-442308.2
	737.1	6497.1	14.4	43857.3	1921.3	-431582.3
	863.0	6527.1	13.1	46375.4	1818.0	-436680.5
165.	-1333.7	-638.9	-12.1	-34466.1	351.3	181180.4
	-1207.8	-608.8	-13.5	-31948.0	471.1	181045.2
	-394.2	-671.2	13.5	40461.4	159.1	181482.9
	-268.2	-641.1	12.1	42979.5	278.9	181347.7
	-1348.1	-670.4	-12.7	-36682.1	936.9	181319.6
	-1222.2	-640.3	-14.1	-34164.0	1056.7	181184.5
	-408.6	-702.6	12.9	38245.5	744.6	181622.1
	-282.6	-672.6	11.5	40763.6	864.4	181487.0
	-188.1	1059.7	-10.6	-28854.3	-850.1	186149.0
	-62.2	1089.8	-11.9	-26336.3	-730.3	186013.9
	751.5	1027.4	15.0	46073.2	-1042.3	186451.5
	877.4	1057.5	13.7	48591.3	-922.5	186316.4
	-202.5	1028.2	-11.2	-31070.3	-264.5	186288.3
	-76.6	1058.3	-12.5	-28552.2	-144.7	186153.1
	737.1	996.0	14.4	43857.3	-456.7	186590.8
	863.0	1026.0	13.1	46375.4	-336.9	186455.6
330.	-1333.7	-6140.0	-12.1	-34466.1	2352.7	-378079.5
	-1207.8	-6109.9	-13.5	-31948.0	2695.6	-373251.7
	-394.2	-6172.3	13.5	40461.4	-2062.2	-383104.0
	-268.2	-6142.2	12.1	42979.5	-1719.3	-378276.2
	-1348.1	-6171.5	-12.7	-36682.1	3036.4	-383129.2
	-1222.2	-6141.4	-14.1	-34164.0	3379.3	-378301.4
	-408.6	-6203.7	12.9	38245.5	-1378.4	-388153.7
	-282.6	-6173.7	11.5	40763.6	-1035.6	-383325.8

	-188.1	-4441.4	-10.6	-28854.3	897.1	-92844.3
	-62.2	-4411.3	-11.9	-26336.3	1240.0	-88016.5
	751.5	-4473.7	15.0	46073.2	-3517.7	-97868.8
	877.4	-4443.6	13.7	48591.3	-3174.8	-93040.9
	-202.5	-4472.9	-11.2	-31070.3	1580.9	-97894.0
	-76.6	-4442.8	-12.5	-28552.2	1923.7	-93066.1
	737.1	-4505.1	14.4	43857.3	-2834.0	-102918.5
	863.0	-4475.1	13.1	46375.4	-2491.1	-98090.6

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-838.5	405.4	-6.9	8049.0	-1312.2	8998.2
	-763.2	432.2	-6.6	6963.1	-1067.7	4164.8
	-500.4	361.2	9.5	20578.4	920.3	17409.8
	-425.0	388.0	9.8	19492.4	1164.9	12576.3
	-871.9	377.1	-8.3	9215.6	-1370.8	14103.8
	-796.6	403.9	-8.0	8129.6	-1126.2	9270.4
	-533.8	332.9	8.1	21745.0	861.8	22515.3
	-458.4	359.7	8.4	20659.0	1106.3	17681.9
	301.5	2042.3	-4.9	5098.0	-406.4	-284482.2
	376.9	2069.1	-4.6	4012.0	-161.9	-289315.7
	639.7	1998.1	11.4	17627.4	1826.2	-276070.7
	715.0	2024.9	11.7	16541.4	2070.7	-280904.1
	268.1	2014.0	-6.3	6264.6	-464.9	-279376.7
	343.5	2040.8	-6.0	5178.6	-220.4	-284210.1
	606.3	1969.8	10.0	18794.0	1767.6	-270965.2
	681.6	1996.6	10.3	17708.0	2012.2	-275798.6
210.	-838.5	-539.6	-6.9	8049.0	127.7	-5099.8
	-763.2	-512.8	-6.6	6963.1	308.8	-4307.1
	-500.4	-583.8	9.5	20578.4	-1080.1	-5968.3
	-425.0	-557.0	9.8	19492.4	-899.0	-5175.6
	-871.9	-567.9	-8.3	9215.6	362.6	-5934.9
	-796.6	-541.1	-8.0	8129.6	543.7	-5142.2
	-533.8	-612.1	8.1	21745.0	-845.2	-6803.4
	-458.4	-585.3	8.4	20659.0	-664.1	-6010.6
	301.5	1097.3	-4.9	5098.0	631.4	45168.0
	376.9	1124.1	-4.6	4012.0	812.5	45960.8
	639.7	1053.1	11.4	17627.4	-576.4	44299.6
	715.0	1079.9	11.7	16541.4	-395.3	45092.3
	268.1	1069.0	-6.3	6264.6	866.4	44333.0
	343.5	1095.8	-6.0	5178.6	1047.4	45125.7
	606.3	1024.8	10.0	18794.0	-341.4	43464.5
	681.6	1051.6	10.3	17708.0	-160.4	44257.2
420.	-838.5	-1484.6	-6.9	8049.0	1567.1	-217648.8
	-763.2	-1457.8	-6.6	6963.1	1684.7	-211230.0
	-500.4	-1528.8	9.5	20578.4	-3080.0	-227795.3
	-425.0	-1502.0	9.8	19492.4	-2962.5	-221376.5
	-871.9	-1512.9	-8.3	9215.6	2095.5	-224424.5
	-796.6	-1486.1	-8.0	8129.6	2213.1	-218005.7
	-533.8	-1557.1	8.1	21745.0	-2551.6	-234571.0
	-458.4	-1530.3	8.4	20659.0	-2434.1	-228152.2
	301.5	152.3	-4.9	5098.0	1668.8	176367.3
	376.9	179.1	-4.6	4012.0	1786.4	182786.2
	639.7	108.1	11.4	17627.4	-2978.4	166220.8
	715.0	134.9	11.7	16541.4	-2860.8	172639.6
	268.1	124.0	-6.3	6264.6	2197.2	169591.7
	343.5	150.8	-6.0	5178.6	2314.8	176010.5
	606.3	79.8	10.0	18794.0	-2450.0	159445.1
	681.6	106.6	10.3	17708.0	-2332.4	165864.0

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12.8	1682.9	-6.8	5610.9	-1105.1	26712.6
	-0.9	1574.6	-9.2	4709.6	-1609.1	50003.5
	-202.7	2552.8	12.1	6140.9	2450.5	-163694.5
	-190.8	2444.5	9.8	5239.7	1946.5	-140403.6
	-53.7	1787.3	0.6	6590.1	285.5	4264.9
	-41.8	1679.1	-1.8	5688.8	-218.6	27555.9
	-243.6	2657.2	19.5	7120.1	3841.0	-186142.1
	-231.7	2549.0	17.1	6218.8	3337.0	-162851.2
	59.2	1502.4	-14.2	-2138.9	-2740.6	64399.1
	71.1	1394.2	-16.5	-3040.2	-3244.7	87690.1
	-130.7	2372.3	4.7	-1608.9	815.0	-126007.9
	-118.8	2264.1	2.4	-2510.1	310.9	-102717.0
	18.3	1606.8	-6.8	-1159.7	-1350.1	41951.5
	30.2	1498.6	-9.1	-2061.0	-1854.1	65242.4
	-171.6	2476.8	12.1	-629.7	2205.5	-148455.6
	-159.7	2368.5	9.8	-1530.9	1701.4	-125164.7
175.	-12.8	-862.1	-6.8	5610.9	89.3	98533.9
	-0.9	-970.3	-9.2	4709.6	-7.9	102881.7
	-202.7	7.9	12.1	6140.9	335.1	60362.1
	-190.8	-100.4	9.8	5239.7	237.8	64709.9
	-53.7	-757.6	0.6	6590.1	189.0	94361.0
	-41.8	-865.9	-1.8	5688.8	91.7	98708.8
	-243.6	112.3	19.5	7120.1	434.8	56189.3
	-231.7	4.0	17.1	6218.8	337.5	60537.1
	59.2	-1042.5	-14.2	-2138.9	-261.7	104639.1
	71.1	-1150.8	-16.5	-3040.2	-358.9	108986.9
	-130.7	-172.6	4.7	-1608.9	-15.9	66467.4
	-118.8	-280.9	2.4	-2510.1	-113.2	70815.1
	18.3	-938.1	-6.8	-1159.7	-162.0	100466.3
	30.2	-1046.3	-9.1	-2061.0	-259.3	104814.0
	-171.6	-68.2	12.1	-629.7	83.8	62294.5
	-159.7	-176.4	9.8	-1530.9	-13.5	66642.3
350.	-12.8	-3407.0	-6.8	5610.9	1283.9	-275008.9
	-0.9	-3515.2	-9.2	4709.6	1593.5	-289604.3
	-202.7	-2537.1	12.1	6140.9	-1780.6	-160945.2
	-190.8	-2645.3	9.8	5239.7	-1471.0	-175540.6
	-53.7	-3302.6	0.6	6590.1	92.7	-260907.0
	-41.8	-3410.8	-1.8	5688.8	402.3	-275502.3
	-243.6	-2432.7	19.5	7120.1	-2971.8	-146843.3
	-231.7	-2540.9	17.1	6218.8	-2662.2	-161438.6
	59.2	-3587.5	-14.2	-2138.9	2217.5	-300485.1
	71.1	-3695.7	-16.5	-3040.2	2527.0	-315080.4
	-130.7	-2717.5	4.7	-1608.9	-847.0	-186421.4
	-118.8	-2825.8	2.4	-2510.1	-537.5	-201016.7
	18.3	-3483.0	-6.8	-1159.7	1026.3	-286383.1
	30.2	-3591.3	-9.1	-2061.0	1335.8	-300978.5
	-171.6	-2613.1	12.1	-629.7	-2038.2	-172319.4
	-159.7	-2721.4	9.8	-1530.9	-1728.7	-186914.8

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-59.2	1564.1	-7.7	32501.3	-2094.3	42492.4
	-93.2	1433.9	-10.0	31820.5	-2440.7	69937.5
	61.7	2883.6	24.6	32003.8	5212.9	-241628.1
	27.7	2753.4	22.4	31323.0	4866.5	-214183.0
	-47.9	1687.3	3.4	33251.5	285.4	16523.7
	-81.9	1557.1	1.2	32570.7	-61.0	43968.8
	73.0	3006.8	35.8	32754.0	7592.5	-267596.8
	39.0	2876.6	33.5	32073.2	7246.2	-240151.7
	-65.7	1303.3	-29.4	68746.7	-6420.2	93693.3
	-99.7	1173.1	-31.6	68065.9	-6766.6	121138.4
	55.2	2622.8	2.9	68249.2	886.9	-190427.2
	21.2	2492.6	0.7	67568.4	540.5	-162982.1
	-54.3	1426.6	-18.3	69496.9	-4040.6	67724.6
	-88.3	1296.4	-20.5	68816.1	-4386.9	95169.6
	66.6	2746.1	14.1	68999.4	3266.6	-216395.9
	32.6	2615.9	11.9	68318.6	2920.2	-188950.9
175.	-59.2	-980.9	-7.7	32501.3	-739.9	93524.1
	-93.2	-1111.1	-10.0	31820.5	-698.0	98182.2
	61.7	338.6	24.6	32003.8	908.7	40314.7

	27.7	208.4	22.4	31323.0	950.6	44972.8
	-47.9	-857.6	3.4	33251.5	-312.8	89127.2
	-81.9	-987.8	1.2	32570.7	-271.0	93785.3
	73.0	461.9	35.8	32754.0	1335.8	35917.8
	39.0	331.7	33.5	32073.2	1377.6	40575.9
	-65.7	-1241.6	-29.4	68746.7	-1271.2	99090.7
	-99.7	-1371.8	-31.6	68065.9	-1229.4	103748.8
	55.2	77.9	2.9	68249.2	377.4	45881.3
	21.2	-52.3	0.7	67568.4	419.2	50539.4
	-54.3	-1118.4	-18.3	69496.9	-844.2	94693.8
	-88.3	-1248.6	-20.5	68816.1	-802.4	99351.9
	66.6	201.1	14.1	68999.4	804.4	41484.3
	32.6	70.9	11.9	68318.6	846.2	46142.4
350.	-59.2	-3525.8	-7.7	32501.3	614.8	-300808.3
	-93.2	-3656.0	-10.0	31820.5	1044.8	-318937.2
	61.7	-2206.3	24.6	32003.8	-3395.6	-123106.5
	27.7	-2336.5	22.4	31323.0	-2965.6	-141235.4
	-47.9	-3402.5	3.4	33251.5	-910.8	-283633.4
	-81.9	-3532.7	1.2	32570.7	-480.8	-301762.3
	73.0	-2083.0	35.8	32754.0	-4921.2	-105931.6
	39.0	-2213.2	33.5	32073.2	-4491.2	-124060.5
	-65.7	-3786.6	-29.4	68746.7	3878.0	-340876.1
	-99.7	-3916.8	-31.6	68065.9	4308.0	-359005.0
	55.2	-2467.1	2.9	68249.2	-132.4	-163174.3
	21.2	-2597.3	0.7	67568.4	297.6	-181303.2
	-54.3	-3663.3	-18.3	69496.9	2352.4	-323701.2
	-88.3	-3793.5	-20.5	68816.1	2782.4	-341830.1
	66.6	-2343.8	14.1	68999.4	-1658.0	-145999.4
	32.6	-2474.0	11.9	68318.6	-1228.0	-164128.3

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10.2	1637.5	20.3	-57918.7	4486.2	46215.6
	10.7	1746.6	16.7	-58364.3	3902.5	23111.5
	-2.4	2601.9	-12.1	-54944.8	-3375.4	-164947.8
	18.5	2711.0	-15.7	-55390.4	-3959.0	-188051.8
	-2.5	1534.8	33.0	-57413.5	7233.7	67959.7
	18.4	1643.9	29.4	-57859.1	6650.0	44855.6
	5.3	2499.2	0.6	-54439.6	-627.9	-143203.6
	26.2	2608.3	-2.9	-54885.2	-1211.6	-166307.7
	-74.7	1873.0	-0.5	-19362.6	427.9	634.6
	-53.7	1982.1	-4.1	-19808.2	-155.8	-22469.5
	-66.8	2837.4	-32.9	-16388.7	-7433.6	-210528.8
	-45.9	2946.5	-36.4	-16834.3	-8017.3	-233632.9
	-67.0	1770.3	12.2	-18857.3	3175.4	22378.7
	-46.1	1879.4	8.7	-19303.0	2591.7	-725.4
	-59.2	2734.7	-20.1	-15883.4	-4686.2	-188784.6
	-38.3	2843.8	-23.7	-16329.1	-5269.9	-211888.7
175.	-10.2	-1042.6	20.3	-57918.7	941.4	98272.4
	10.7	-933.5	16.7	-58364.3	982.8	94252.9
	-2.4	-78.2	-12.1	-54944.8	-1256.2	55877.4
	18.5	30.9	-15.7	-55390.4	-1214.8	51858.0
	-2.5	-1145.3	33.0	-57413.5	1459.5	102043.9
	18.4	-1036.2	29.4	-57859.1	1501.0	98024.5
	5.3	-180.9	0.6	-54439.6	-738.0	59648.9
	26.2	-71.8	-2.9	-54885.2	-696.6	55629.5
	-74.7	-807.1	-0.5	-19362.6	515.3	93903.7
	-53.7	-698.0	-4.1	-19808.2	556.8	89884.3
	-66.8	157.3	-32.9	-16388.7	-1682.2	51508.7
	-45.9	266.4	-36.4	-16834.3	-1640.8	47489.3
	-67.0	-909.8	12.2	-18857.3	1033.5	97675.2
	-46.1	-800.7	8.7	-19303.0	1074.9	93655.8
	-59.2	54.6	-20.1	-15883.4	-1164.1	55280.3
	-38.3	163.6	-23.7	-16329.1	-1122.6	51260.8
350.	-10.2	-3722.7	20.3	-57918.7	-2604.0	-318692.9
	10.7	-3613.7	16.7	-58364.3	-1937.5	-303627.6
	-2.4	-2758.3	-12.1	-54944.8	863.5	-192319.1
	18.5	-2649.3	-15.7	-55390.4	1530.0	-177253.9
	-2.5	-3825.4	33.0	-57413.5	-4315.1	-332894.0
	18.4	-3716.4	29.4	-57859.1	-3648.6	-317828.8
	5.3	-2861.0	0.6	-54439.6	-847.6	-206520.2
	26.2	-2752.0	-2.9	-54885.2	-181.1	-191455.0
	-74.7	-3487.2	-0.5	-19362.6	602.2	-281849.2
	-53.7	-3378.2	-4.1	-19808.2	1268.8	-266784.0
	-66.8	-2522.8	-32.9	-16388.7	4069.7	-155475.5
	-45.9	-2413.8	-36.4	-16834.3	4736.3	-140410.2
	-67.0	-3589.9	12.2	-18857.3	-1108.9	-296050.4
	-46.1	-3480.9	8.7	-19303.0	-442.4	-280985.1
	-59.2	-2625.5	-20.1	-15883.4	2358.6	-169676.6
	-38.3	-2516.5	-23.7	-16329.1	3025.1	-154611.3

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	13.5	1717.4	5.6	5771.2	1209.4	37368.4
	-18.9	1851.4	0.8	4217.4	204.7	9689.5
	-163.1	2466.4	-6.6	9991.5	-826.9	-120666.6
	-195.6	2600.3	-11.4	8437.7	-1831.6	-148345.5
	51.8	1588.0	14.7	7448.7	2930.0	64087.4
	19.3	1722.0	9.9	5894.9	1925.3	36408.5
	-124.8	2337.0	2.5	11668.9	893.7	-93947.5
	-157.3	2470.9	-2.3	10115.1	-111.1	-121626.4
	-127.7	1945.9	-0.5	-2331.6	-508.6	-8533.7
	-160.2	2079.9	-5.3	-3885.4	-1513.3	-36212.6
	-304.3	2694.9	-12.7	1888.7	-2544.9	-166568.7
	-336.8	2828.8	-17.5	334.9	-3549.6	-194247.6
	-89.4	1816.5	8.6	-654.1	1212.0	18185.3
	-121.9	1950.5	3.8	-2207.9	207.3	-9493.6
	-266.0	2565.5	-3.6	3566.1	-824.3	-139849.6
	-298.5	2699.4	-8.4	2012.3	-1829.0	-167528.5
175.	13.5	-962.7	5.6	5771.2	222.2	103404.0
	-18.9	-828.8	0.8	4217.4	56.4	99168.1
	-163.1	-213.7	-6.6	9991.5	328.5	76440.5
	-195.6	-79.8	-11.4	8437.7	162.8	72204.5
	51.8	-1092.1	14.7	7448.7	355.7	107477.2
	19.3	-958.2	9.9	5894.9	189.9	103241.2
	-124.8	-343.1	2.5	11668.9	462.0	80513.6
	-157.3	-209.2	-2.3	10115.1	296.3	76277.7
	-127.7	-734.2	-0.5	-2331.6	-425.6	97487.9
	-160.2	-600.3	-5.3	-3885.4	-591.4	93251.9
	-304.3	14.8	-12.7	1888.7	-319.3	70524.4
	-336.8	148.7	-17.5	334.9	-485.0	66288.4
	-89.4	-863.6	8.6	-654.1	-292.1	101561.0
	-121.9	-729.7	3.8	-2207.9	-457.8	97325.0
	-266.0	-114.7	-3.6	3566.1	-185.8	74597.5
	-298.5	19.3	-8.4	2012.3	-351.5	70361.5
350.	13.5	-3642.8	5.6	5771.2	-760.2	-299582.3
	-18.9	-3508.9	0.8	4217.4	-86.9	-280375.4
	-163.1	-2893.9	-6.6	9991.5	1479.0	-195474.1
	-195.6	-2759.9	-11.4	8437.7	2152.2	-176267.2
	51.8	-3772.2	14.7	7448.7	-2213.7	-318155.1
	19.3	-3638.3	9.9	5894.9	-1540.5	-298948.2
	-124.8	-3023.3	2.5	11668.9	25.4	-214046.9
	-157.3	-2889.3	-2.3	10115.1	698.7	-194840.0
	-127.7	-3414.3	-0.5	-2331.6	-337.7	-265512.5
	-160.2	-3280.4	-5.3	-3885.4	335.6	-246305.6
	-304.3	-2665.4	-12.7	1888.7	1901.5	-161404.3
	-336.8	-2531.4	-17.5	334.9	2574.7	-142197.4
	-89.4	-3543.8	8.6	-654.1	-1791.2	-284085.3
	-121.9	-3409.8	3.8	-2207.9	-1118.0	-264878.4
	-266.0	-2794.8	-3.6	3566.1	447.9	-179977.1
	-298.5	-2660.8	-8.4	2012.3	1121.1	-160770.2

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-148.0	-103.9	11.8	-694.6	2085.1	128958.0
	-148.8	-101.7	10.5	-313.9	1862.6	128575.0
	-145.0	-109.3	-16.3	-5636.8	-2880.4	129958.6
	-145.7	-107.1	-17.6	-5256.1	-3102.8	129575.6
	-146.4	-106.2	4.7	-1033.3	722.2	129362.9
	-147.1	-104.0	3.3	-652.5	499.8	128979.9
	-143.3	-111.6	-23.4	-5975.5	-4243.3	130363.5
	-144.1	-109.4	-24.7	-5594.8	-4465.7	129980.5
	25.0	1638.7	22.9	-185.2	4100.0	-182613.4
	24.3	1640.8	21.6	195.5	3877.6	-182996.5
	28.0	1633.2	-5.1	-5127.4	-865.5	-181612.8
	27.3	1635.4	-6.5	-4746.7	-1087.9	-181995.8
	26.7	1636.4	15.8	-523.9	2737.1	-182208.5
	25.9	1638.5	14.5	-143.2	2514.7	-182591.6
	29.7	1630.9	-12.3	-5466.1	-2228.3	-181207.9
	29.0	1633.1	-13.6	-5085.4	-2450.8	-181590.9
195.	-148.0	-981.4	11.8	-694.6	-211.9	23151.0
	-148.8	-979.2	10.5	-313.9	-175.3	23191.2
	-145.0	-986.8	-16.3	-5636.8	293.5	23092.5
	-145.7	-984.6	-17.6	-5256.1	330.2	23132.7
	-146.4	-983.7	4.7	-1033.3	-187.9	23107.0
	-147.1	-981.5	3.3	-652.5	-151.2	23147.2
	-143.3	-989.1	-23.4	-5975.5	317.6	23048.5
	-144.1	-986.9	-24.7	-5594.8	354.2	23088.7
	25.0	761.2	22.9	-185.2	-368.9	51369.2
	24.3	763.3	21.6	195.5	-332.3	51409.4
	28.0	755.7	-5.1	-5127.4	136.5	51310.8
	27.3	757.9	-6.5	-4746.7	173.2	51351.0
	26.7	758.9	15.8	-523.9	-344.9	51325.3
	25.9	761.0	14.5	-143.2	-308.2	51365.5
	29.7	753.4	-12.3	-5466.1	160.6	51266.8
	29.0	755.6	-13.6	-5085.4	197.2	51307.0
390.	-148.0	-1858.9	11.8	-694.6	-2508.9	-253768.6
	-148.8	-1856.7	10.5	-313.9	-2213.2	-253305.2
	-145.0	-1864.3	-16.3	-5636.8	3467.5	-254886.0
	-145.7	-1862.1	-17.6	-5256.1	3763.2	-254422.6
	-146.4	-1861.2	4.7	-1033.3	-1097.9	-254261.4
	-147.1	-1859.0	3.3	-652.5	-802.2	-253798.0
	-143.3	-1866.6	-23.4	-5975.5	4878.4	-255378.9
	-144.1	-1864.4	-24.7	-5594.8	5174.1	-254915.5
	25.0	-116.3	22.9	-185.2	-4837.8	114239.4
	24.3	-114.2	21.6	195.5	-4542.1	114702.8
	28.0	-121.8	-5.1	-5127.4	1138.5	113121.9
	27.3	-119.6	-6.5	-4746.7	1434.2	113585.3
	26.7	-118.6	15.8	-523.9	-3426.9	113746.5
	25.9	-116.5	14.5	-143.2	-3131.2	114209.9
	29.7	-124.1	-12.3	-5466.1	2549.5	112629.0
	29.0	-121.9	-13.6	-5085.4	2845.2	113092.4

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-189.5	46.1	-19.6	2963.3	-4588.0	129030.4
	-187.2	48.4	-18.8	2092.1	-4402.4	128571.2
	-179.8	43.6	17.4	179.9	3896.4	129561.3
	-177.5	45.9	18.3	-691.2	4082.0	129102.1
	-197.4	43.9	-27.9	3830.7	-6405.8	129487.9
	-195.1	46.2	-27.0	2959.6	-6220.1	129028.7
	-187.7	41.4	9.2	1047.4	2078.7	130018.8
	-185.4	43.7	10.0	176.2	2264.3	129559.6
	21.8	1936.2	-6.8	1547.1	-1585.6	-250294.6
	24.1	1938.5	-6.0	675.9	-1400.0	-250753.8
	31.5	1933.8	30.2	-1236.3	6898.8	-249763.7
	33.7	1936.0	31.0	-2107.5	7084.5	-250222.9
	13.8	1934.0	-15.1	2414.5	-3403.3	-249837.1
	16.1	1936.3	-14.2	1543.3	-3217.7	-250296.3
	23.5	1931.5	21.9	-368.8	5081.1	-249306.2
	25.8	1933.8	22.8	-1240.0	5266.7	-249765.4
210.	-189.5	-898.9	-19.6	2963.3	-470.5	39492.3
	-187.2	-896.6	-18.8	2092.1	-462.0	39509.1
	-179.8	-901.4	17.4	179.9	239.4	39501.4
	-177.5	-899.1	18.3	-691.2	247.8	39518.2
	-197.4	-901.1	-27.9	3830.7	-556.1	39478.0
	-195.1	-898.8	-27.0	2959.6	-547.7	39494.8
	-187.7	-903.6	9.2	1047.4	153.7	39487.1
	-185.4	-901.3	10.0	176.2	162.2	39503.8
	21.8	991.2	-6.8	1547.1	-151.5	57090.4
	24.1	993.5	-6.0	675.9	-143.1	57107.2
	31.5	988.8	30.2	-1236.3	558.3	57099.5
	33.7	991.0	31.0	-2107.5	566.7	57116.2
	13.8	989.0	-15.1	2414.5	-237.2	57076.1
	16.1	991.3	-14.2	1543.3	-228.7	57092.9
	23.5	986.5	21.9	-368.8	472.6	57085.1
	25.8	988.8	22.8	-1240.0	481.1	57101.9
420.	-189.5	-1843.9	-19.6	2963.3	3647.1	-248494.9
	-187.2	-1841.6	-18.8	2092.1	3478.3	-248002.1
	-179.8	-1846.4	17.4	179.9	-3417.6	-249009.4
	-177.5	-1844.1	18.3	-691.2	-3586.4	-248516.6
	-197.4	-1846.1	-27.9	3830.7	5293.6	-248981.0
	-195.1	-1843.8	-27.0	2959.6	5124.8	-248488.2
	-187.7	-1848.6	9.2	1047.4	-1771.2	-249495.5
	-185.4	-1846.3	10.0	176.2	-1940.0	-249002.7
	21.8	46.2	-6.8	1547.1	1282.5	166026.3
	24.1	48.5	-6.0	675.9	1113.7	166519.1
	31.5	43.8	30.2	-1236.3	-5782.3	165511.8
	33.7	46.0	31.0	-2107.5	-5951.1	166004.6
	13.8	44.0	-15.1	2414.5	2929.0	165540.2
	16.1	46.3	-14.2	1543.3	2760.2	166033.0
	23.5	41.5	21.9	-368.8	-4135.8	165025.7
	25.8	43.8	22.8	-1240.0	-4304.6	165518.4

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-186.2	3234.8	-2.9	4135.1	-533.4	-213165.9
	-201.8	3148.1	-4.7	3190.9	-821.5	-199155.1
	-101.2	3930.5	10.8	4564.5	2293.4	-323058.6
	-116.8	3843.8	9.1	3620.2	2005.3	-309047.9
	-177.0	3318.4	2.4	5162.8	507.2	-226704.8
	-192.6	3231.7	0.7	4218.5	219.2	-212694.0
	-92.0	4014.1	16.2	5592.1	3334.1	-336597.5
	-107.6	3927.5	14.4	4647.9	3046.0	-322586.8
	-189.3	3105.9	-14.3	10812.0	-3023.0	-193275.6
	-204.9	3019.3	-16.0	9867.7	-3311.1	-179264.8
	-104.4	3801.6	-0.6	11241.4	-196.2	-303168.3
	-120.0	3715.0	-2.3	10297.1	-484.3	-289157.6
	-180.2	3189.5	-8.9	11839.6	-1982.3	-206814.5
	-195.8	3102.9	-10.7	10895.4	-2270.4	-192803.7
	-95.2	3885.2	4.8	12269.0	844.5	-316707.2
	-110.8	3798.6	3.0	11324.8	556.4	-302696.5
210.	-186.2	180.8	-2.9	4135.1	75.8	145470.0
	-201.8	94.2	-4.7	3190.9	157.7	141286.1
	-101.2	876.6	10.8	4564.5	22.1	181680.4
	-116.8	789.9	9.1	3620.2	104.0	177496.5
	-177.0	264.4	2.4	5162.8	-5.3	149491.8
	-192.6	177.8	0.7	4218.5	76.6	145307.9
	-92.0	960.2	16.2	5592.1	-59.0	185702.1
	-107.6	873.5	14.4	4647.9	22.9	181518.3
	-189.3	52.0	-14.3	10812.0	-27.5	138299.9
	-204.9	-34.7	-16.0	9867.7	54.4	134116.0
	-104.4	747.7	-0.6	11241.4	-81.2	174510.3
	-120.0	661.1	-2.3	10297.1	0.7	170326.4

	-180.2	135.6	-8.9	11839.6	-108.6	142321.7
	-195.8	48.9	-10.7	10895.4	-26.6	138137.8
	-95.2	831.3	4.8	12269.0	-162.3	178532.0
	-110.8	744.7	3.0	11324.8	-80.4	174348.2
420.	-186.2	-2873.1	-2.9	4135.1	683.7	-137218.3
	-201.8	-2959.7	-4.7	3190.9	1135.7	-159596.8
	-101.2	-2177.4	10.8	4564.5	-2248.0	45095.1
	-116.8	-2264.0	9.1	3620.2	-1796.0	22716.6
	-177.0	-2789.5	2.4	5162.8	-519.2	-115635.9
	-192.6	-2876.1	0.7	4218.5	-67.2	-138014.4
	-92.0	-2093.7	16.2	5592.1	-3450.8	66677.5
	-107.6	-2180.4	14.4	4647.9	-2998.8	44299.0
	-189.3	-3002.0	-14.3	10812.0	2966.7	-171448.8
	-204.9	-3088.6	-16.0	9867.7	3418.7	-193827.3
	-104.4	-2306.2	-0.6	11241.4	35.0	10864.6
	-120.0	-2392.9	-2.3	10297.1	487.0	-11513.9
	-180.2	-2918.3	-8.9	11839.6	1763.8	-149866.4
	-195.8	-3005.0	-10.7	10895.4	2215.8	-172244.9
	-95.2	-2222.6	4.8	12269.0	-1167.8	32447.0
	-110.8	-2309.2	3.0	11324.8	-715.8	10068.5

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-152.4	3033.3	-9.0	-20787.9	-1533.9	-187292.4
	-150.5	2931.8	-11.1	-21626.2	-1980.1	-170383.4
	-45.2	4055.2	11.9	-21069.1	1816.3	-352706.8
	-43.3	3953.7	9.9	-21907.5	1370.1	-335797.8
	-154.0	3129.5	-2.1	-19871.8	-399.7	-203317.4
	-152.2	3027.9	-4.1	-20710.1	-845.9	-186408.4
	-46.8	4151.4	18.9	-20153.0	2950.6	-368731.8
	-45.0	4049.8	16.8	-20991.4	2504.4	-351822.8
	-145.0	2924.1	-17.6	-50852.1	-2636.6	-172637.5
	-143.1	2822.6	-19.7	-51690.4	-3082.8	-155728.5
	-37.7	3946.0	3.4	-51133.3	713.7	-338051.9
	-35.9	3844.5	1.3	-51971.6	267.4	-321142.9
	-146.6	3020.2	-10.6	-49936.0	-1502.4	-188662.6
	-144.7	2918.7	-12.7	-50774.3	-1948.6	-171753.6
	-39.4	4042.1	10.3	-50217.2	1847.9	-354077.0
	-37.5	3940.6	8.2	-51055.5	1401.7	-337168.0
210.	-152.4	-20.6	-9.0	-20787.9	359.3	129037.1
	-150.5	-122.1	-11.1	-21626.2	352.5	124628.8
	-45.2	1001.3	11.9	-21069.1	-692.8	178223.1
	-43.3	899.8	9.9	-21907.5	-699.6	173814.9
	-154.0	75.5	-2.1	-19871.8	32.2	133205.1
	-152.2	-26.0	-4.1	-20710.1	25.4	128796.8
	-46.8	1097.4	18.9	-20153.0	-1019.9	182391.1
	-45.0	995.9	16.8	-20991.4	-1026.7	177982.8
	-145.0	-129.9	-17.6	-50852.1	1058.9	120755.4
	-143.1	-231.4	-19.7	-51690.4	1052.1	116347.1
	-37.7	892.1	3.4	-51133.3	6.8	169941.4
	-35.9	790.5	1.3	-51971.6	0.0	165533.1
	-146.6	-33.7	-10.6	-49936.0	731.8	124923.3
	-144.7	-135.2	-12.7	-50774.3	725.0	120515.0
	-39.4	988.2	10.3	-50217.2	-320.3	174109.3
	-37.5	886.7	8.2	-51055.5	-327.1	169701.1
420.	-152.4	-3074.6	-9.0	-20787.9	2252.4	-195957.6
	-150.5	-3176.1	-11.1	-21626.2	2685.1	-221683.2
	-45.2	-2052.7	11.9	-21069.1	-3201.8	67828.7
	-43.3	-2154.2	9.9	-21907.5	-2769.1	42103.1
	-154.0	-2978.4	-2.1	-19871.8	464.0	-171596.6
	-152.2	-3079.9	-4.1	-20710.1	896.6	-197322.2
	-46.8	-1956.5	18.9	-20153.0	-4990.2	92189.7
	-45.0	-2058.0	16.8	-20991.4	-4557.5	66464.1
	-145.0	-3183.8	-17.6	-50852.1	4754.3	-227175.9
	-143.1	-3285.3	-19.7	-51690.4	5186.9	-252901.5
	-37.7	-2161.9	3.4	-51133.3	-699.9	36610.4
	-35.9	-2263.4	1.3	-51971.6	-267.2	10884.8
	-146.6	-3087.6	-10.6	-49936.0	2965.8	-202814.9
	-144.7	-3189.1	-12.7	-50774.3	3398.5	-228540.5
	-39.4	-2065.7	10.3	-50217.2	-2488.3	60971.4
	-37.5	-2167.2	8.2	-51055.5	-2055.7	35245.8

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-128.1	3221.9	12.4	35575.8	1703.8	-205818.6
	-123.0	3306.9	9.2	34963.7	1044.5	-219894.7
	-57.9	3965.5	-5.7	38763.0	-774.0	-323418.4
	-52.8	4050.5	-8.8	38150.9	-1433.3	-337494.5
	-129.4	3141.8	20.4	36250.9	3026.6	-192539.9
	-124.3	3226.8	17.3	35638.8	2367.3	-206616.1
	-59.3	3885.3	2.4	39438.1	548.8	-310139.7
	-54.1	3970.4	-0.7	38825.9	-110.5	-324215.9
	-161.1	3298.5	0.5	4109.2	-15.6	-214410.0
	-156.0	3383.5	-2.6	3497.1	-675.0	-228486.2
	-90.9	4042.0	-17.5	7296.4	-2493.4	-332009.8
	-85.8	4127.1	-20.6	6684.3	-3152.8	-346086.0
	-162.4	3218.3	8.6	4784.3	1307.2	-201131.4
	-157.3	3303.3	5.5	4172.1	647.8	-215207.5
	-92.3	3961.9	-9.4	7971.5	-1170.6	-318731.2
	-87.1	4046.9	-12.5	7359.3	-1830.0	-332807.3
210.	-128.1	5.8	12.4	35575.8	-891.4	133085.0
	-123.0	90.8	9.2	34963.7	-895.3	136861.7
	-57.9	749.3	-5.7	38763.0	415.5	171638.3
	-52.8	834.4	-8.8	38150.9	411.6	175415.0
	-129.4	-74.4	20.4	36250.9	-1266.7	129533.7
	-124.3	10.6	17.3	35638.8	-1270.6	133310.4
	-59.3	669.2	2.4	39438.1	40.2	168087.1
	-54.1	754.2	-0.7	38825.9	36.3	171863.7
	-161.1	82.3	0.5	4109.2	-126.9	140570.1
	-156.0	167.3	-2.6	3497.1	-130.8	144346.8
	-90.9	825.9	-17.5	7296.4	1180.0	179123.4
	-85.8	910.9	-20.6	6684.3	1176.1	182900.1
	-162.4	2.2	8.6	4784.3	-502.2	137018.8
	-157.3	87.2	5.5	4172.1	-506.1	140795.5
	-92.3	745.7	-9.4	7971.5	804.7	175572.2
	-87.1	830.8	-12.5	7359.3	800.8	179348.8
420.	-128.1	-3210.4	12.4	35575.8	-3486.0	-203402.7
	-123.0	-3125.4	9.2	34963.7	-2834.5	-181773.3
	-57.9	-2466.8	-5.7	38763.0	1604.4	-8696.5
	-52.8	-2381.8	-8.8	38150.9	2256.0	12932.9
	-129.4	-3290.5	20.4	36250.9	-5559.5	-223783.9
	-124.3	-3205.5	17.3	35638.8	-4908.0	-202154.4
	-59.3	-2547.0	2.4	39438.1	-469.0	-29077.7
	-54.1	-2461.9	-0.7	38825.9	182.5	-7448.3
	-161.1	-3133.8	0.5	4109.2	-237.6	-179841.2
	-156.0	-3048.8	-2.6	3497.1	413.9	-158211.8
	-90.9	-2390.3	-17.5	7296.4	4852.8	14865.0
	-85.8	-2305.2	-20.6	6684.3	5504.4	36494.4
	-162.4	-3214.0	8.6	4784.3	-2311.1	-200222.4
	-157.3	-3129.0	5.5	4172.1	-1659.5	-178592.9
	-92.3	-2470.4	-9.4	7971.5	2779.4	-5516.2
	-87.1	-2385.4	-12.5	7359.3	3430.9	16113.2

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-233.1	3274.1	11.2	-8914.2	2550.8	-205743.0
	-220.4	3379.5	7.6	-10556.8	1915.8	-223760.2
	-180.0	3862.8	1.9	-4461.3	348.9	-303725.9
	-167.4	3968.2	-1.7	-6104.0	-286.1	-321743.0
	-245.8	3172.2	18.4	-7138.3	3949.8	-188320.4
	-233.2	3277.6	14.8	-8780.9	3314.8	-206337.6

	-192.8	3760.9	9.1	-2685.4	1748.0	-286303.3
	-180.1	3866.4	5.5	-4328.0	1113.0	-304320.4
	-283.4	3425.3	-5.8	-2797.0	-1276.7	-230511.2
	-270.7	3530.7	-9.5	-4439.6	-1911.7	-248528.4
	-230.4	4014.1	-15.1	1655.9	-3478.6	-328494.1
	-217.7	4119.5	-18.8	13.3	-4113.6	-346511.2
	-296.1	3323.5	1.4	-1021.0	122.3	-213088.6
	-283.5	3428.9	-2.3	-2663.6	-512.7	-231105.8
	-243.1	3912.2	-7.9	3431.9	-2079.6	-311071.4
	-230.4	4017.6	-11.6	1789.2	-2714.5	-329088.6
210.	-233.1	57.9	11.2	-8914.2	196.7	144112.7
	-220.4	163.3	7.6	-10556.8	327.1	148234.3
	-180.0	646.6	1.9	-4461.3	-52.1	169765.8
	-167.4	752.1	-1.7	-6104.0	78.3	173887.4
	-245.8	-44.0	18.4	-7138.3	82.3	140145.3
	-233.2	61.5	14.8	-8780.9	212.7	144267.0
	-192.8	544.8	9.1	-2685.4	-166.5	165798.4
	-180.1	650.2	5.5	-4328.0	-36.1	169920.1
	-283.4	209.2	-5.8	-2797.0	-49.8	151111.4
	-270.7	314.6	-9.5	-4439.6	80.6	155233.0
	-230.4	797.9	-15.1	1655.9	-298.6	176764.5
	-217.7	903.3	-18.8	13.3	-168.2	180886.1
	-296.1	107.3	1.4	-1021.0	-164.2	147144.0
	-283.5	212.7	-2.3	-2663.6	-33.8	151265.7
	-243.1	696.1	-7.9	3431.9	-413.0	172797.1
	-230.4	801.5	-11.6	1789.2	-282.6	176918.8
420.	-233.1	-3158.2	11.2	-8914.2	-2159.9	-181423.0
	-220.4	-3052.8	7.6	-10556.8	-1264.2	-155162.6
	-180.0	-2569.5	1.9	-4461.3	-450.6	-32134.2
	-167.4	-2464.1	-1.7	-6104.0	445.2	-5873.7
	-245.8	-3260.1	18.4	-7138.3	-3787.8	-206780.3
	-233.2	-3154.7	14.8	-8780.9	-2892.0	-180519.9
	-192.8	-2671.4	9.1	-2685.4	-2078.4	-57491.5
	-180.1	-2565.9	5.5	-4328.0	-1182.7	-31231.0
	-283.4	-3007.0	-5.8	-2797.0	1174.6	-142657.4
	-270.7	-2901.6	-9.5	-4439.6	2070.3	-116397.0
	-230.4	-2418.2	-15.1	1655.9	2883.9	6631.4
	-217.7	-2312.8	-18.8	13.3	3779.7	32891.9
	-296.1	-3108.8	1.4	-1021.0	-453.3	-168014.7
	-283.5	-3003.4	-2.3	-2663.6	442.5	-141754.3
	-243.1	-2520.1	-7.9	3431.9	1256.1	-18725.9
	-230.4	-2414.7	-11.6	1789.2	2151.8	7534.6

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	252.4	-287.6	4.5	17916.6	957.8	135024.4
	282.9	-311.8	2.9	18504.5	596.9	139869.3
	-73.1	-250.7	-3.5	-1061.1	-1053.3	127241.1
	-42.6	-274.9	-5.1	-473.2	-1414.1	132086.1
	310.5	-261.8	3.7	17453.9	616.9	129869.0
	341.0	-286.0	2.1	18041.8	256.0	134714.0
	-15.1	-224.9	-4.3	-1523.8	-1394.2	122085.8
	15.4	-249.1	-5.9	-935.9	-1755.1	126930.7
	-84.4	1069.2	6.2	19618.0	1824.5	-134157.2
	-53.9	1045.0	4.6	20205.9	1463.6	-129312.3
	-409.9	1106.1	-1.9	640.3	-186.6	-141940.5
	-379.4	1081.9	-3.5	1228.3	-547.5	-137095.5
	-26.4	1095.0	5.4	19155.3	1483.6	-139312.6
	4.1	1070.8	3.8	19743.2	1122.7	-134467.6
	-351.9	1131.9	-2.7	177.6	-527.5	-147095.8
	-321.4	1107.7	-4.3	765.5	-888.4	-142250.9
195.	252.4	-1091.9	4.5	17916.6	72.7	525.7
	282.9	-1116.1	2.9	18504.5	27.3	650.3
	-73.1	-1055.1	-3.5	-1061.1	-367.5	-69.8
	-42.6	-1079.3	-5.1	-473.2	-412.9	54.9
	310.5	-1066.2	3.7	17453.9	-112.9	392.9
	341.0	-1090.4	2.1	18041.8	-158.3	517.5
	-15.1	-1029.3	-4.3	-1523.8	-553.1	-202.6
	15.4	-1053.5	-5.9	-935.9	-598.5	-77.9
	-84.4	264.9	6.2	19618.0	617.7	-4082.3
	-53.9	240.7	4.6	20205.9	572.3	-3957.7
	-409.9	301.7	-1.9	640.3	177.5	-4677.8
	-379.4	277.5	-3.5	1228.3	132.1	-4553.1
	-26.4	290.6	5.4	19155.3	432.2	-4215.2
	4.1	266.4	3.8	19743.2	386.8	-4090.5
	-351.9	327.5	-2.7	177.6	-8.0	-4810.6
	-321.4	303.3	-4.3	765.5	-53.4	-4686.0
390.	252.4	-1896.3	4.5	17916.6	-812.6	-290827.6
	282.9	-1920.5	2.9	18504.5	-542.5	-295423.2
	-73.1	-1859.4	-3.5	-1061.1	318.2	-284232.3
	-42.6	-1883.6	-5.1	-473.2	588.3	-288828.0
	310.5	-1870.5	3.7	17453.9	-842.8	-285937.9
	341.0	-1894.8	2.1	18041.8	-572.6	-290533.5
	-15.1	-1833.7	-4.3	-1523.8	288.0	-279342.6
	15.4	-1857.9	-5.9	-935.9	558.2	-283938.3
	-84.4	-539.5	6.2	19618.0	-589.1	-30862.0
	-53.9	-563.7	4.6	20205.9	-319.0	-35457.7
	-409.9	-502.6	-1.9	640.3	541.6	-24266.8
	-379.4	-526.9	-3.5	1228.3	811.8	-28862.4
	-26.4	-513.8	5.4	19155.3	-619.3	-25972.4
	4.1	-538.0	3.8	19743.2	-349.2	-30568.0
	-351.9	-476.9	-2.7	177.6	511.5	-19377.1
	-321.4	-501.1	-4.3	765.5	781.6	-23972.8

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	307.4	4344.4	8.0	50053.2	1844.3	-155493.1
	365.7	4321.9	6.1	52364.5	1374.3	-150772.7
	-789.4	4389.7	-4.9	-12217.1	-1223.3	-165121.8
	-731.1	4367.3	-6.8	-9905.8	-1693.3	-160401.4
	414.4	4367.9	7.6	47973.7	1235.4	-160444.9
	472.7	4345.4	5.7	50285.0	765.4	-155724.5
	-682.4	4413.2	-5.3	-14296.6	-1832.2	-170073.6
	-624.1	4390.8	-7.1	-11985.2	-2302.2	-165353.2
	21.3	5495.4	8.2	52191.9	2616.5	-407529.8
	79.6	5473.0	6.3	54503.3	2146.5	-402809.4
	-1075.5	5540.8	-4.7	-10078.3	-451.1	-417158.5
	-1017.2	5518.3	-6.5	-7767.0	-921.1	-412438.1
	128.2	5518.9	7.9	50112.5	2007.6	-412481.6
	186.5	5496.5	6.0	52423.8	1537.6	-407761.3
	-968.6	5564.3	-5.0	-12157.8	-1060.0	-422110.3
	-910.3	5541.8	-6.9	-9846.4	-1530.0	-417389.9
215.	307.4	-805.4	8.0	50053.2	127.9	224943.1
	365.7	-827.9	6.1	52364.5	61.5	224836.7
	-789.4	-760.1	-4.9	-12217.1	-170.9	225063.3
	-731.1	-782.5	-6.8	-9905.8	-237.4	224956.9
	414.4	-781.9	7.6	47973.7	-402.2	225045.7
	472.7	-804.4	5.7	50285.0	-468.6	224939.4
	-682.4	-736.6	-5.3	-14296.6	-701.0	225165.9
	-624.1	-759.0	-7.1	-11985.2	-767.5	225059.6
	21.3	345.6	8.2	52191.9	848.2	220386.0
	79.6	323.2	6.3	54503.3	781.7	220279.7
	-1075.5	391.0	-4.7	-10078.3	549.4	220506.3
	-1017.2	368.5	-6.5	-7767.0	482.9	220399.9
	128.2	369.2	7.9	50112.5	318.1	220488.7
	186.5	346.7	6.0	52423.8	251.7	220382.4
	-968.6	414.5	-5.0	-12157.8	19.3	220608.9
	-910.3	392.0	-6.9	-9846.4	-47.2	220502.6
430.	307.4	-5955.2	8.0	50053.2	-1588.5	-501824.9
	365.7	-5977.7	6.1	52364.5	-1251.4	-506757.9
	-789.4	-5909.9	-4.9	-12217.1	881.5	-491956.2
	-731.1	-5932.3	-6.8	-9905.8	1218.6	-496889.2

	414.4	-5931.7	7.6	47973.7	-2039.8	-496667.8
	472.7	-5954.2	5.7	50285.0	-1702.6	-501600.8
	-682.4	-5886.4	-5.3	-14296.6	430.2	-486799.1
	-624.1	-5908.8	-7.1	-11985.2	767.4	-491732.1
	21.3	-4804.1	8.2	52191.9	-920.2	-258902.2
	79.6	-4826.6	6.3	54503.3	-583.0	-263835.2
	-1075.5	-4758.8	-4.7	-10078.3	1549.8	-249033.5
	-1017.2	-4781.2	-6.5	-7767.0	1887.0	-253966.6
	128.2	-4780.6	7.9	50112.5	-1371.4	-253745.1
	186.5	-4803.1	6.0	52423.8	-1034.3	-258678.1
	-968.6	-4735.3	-5.0	-12157.8	1098.6	-243876.4
	-910.3	-4757.7	-6.9	-9846.4	1435.7	-248809.4

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	840.9	4262.8	0.6	12485.9	-1165.3	-223454.1
	900.2	4237.7	-2.8	9217.4	-2011.2	-218457.3
	-1397.4	4301.5	5.8	2190.6	2515.4	-230446.4
	-1338.0	4276.5	2.4	-1077.8	1669.5	-225449.6
	958.1	4288.9	4.1	15563.3	-491.8	-228674.4
	1017.4	4263.8	0.7	12294.8	-1337.7	-223677.7
	-1280.2	4327.6	9.3	5268.0	3188.9	-235666.7
	-1220.8	4302.6	5.9	1999.6	2343.0	-230670.0
	680.2	5545.5	-5.5	7306.7	-2334.4	-481911.1
	739.6	5520.4	-8.9	4038.3	-3180.3	-476914.4
	-1558.0	5584.2	-0.3	-2988.5	1346.3	-488903.4
	-1498.7	5559.1	-3.7	-6257.0	500.4	-483906.7
	797.4	5571.5	-2.0	10384.1	-1661.0	-487131.5
	856.8	5546.5	-5.4	7115.7	-2506.9	-482134.7
	-1440.8	5610.3	3.2	88.9	2019.8	-494123.8
	-1381.5	5585.2	-0.2	-3179.6	1173.9	-489127.0
200.	840.9	-527.7	0.6	12485.9	-1284.7	150054.0
	900.2	-552.8	-2.8	9217.4	-1447.7	150036.0
	-1397.4	-489.0	5.8	2190.6	1354.9	150815.3
	-1338.0	-514.0	2.4	-1077.8	1191.9	150797.4
	958.1	-501.6	4.1	15563.3	-1310.9	150052.5
	1017.4	-526.7	0.7	12294.8	-1473.9	150034.5
	-1280.2	-462.9	9.3	5268.0	1328.7	150813.8
	-1220.8	-487.9	5.9	1999.6	1165.7	150795.9
	680.2	755.0	-5.5	7306.7	-1235.6	148127.1
	739.6	729.9	-8.9	4038.3	-1398.5	148109.1
	-1558.0	793.7	-0.3	-2988.5	1404.1	148888.4
	-1498.7	768.6	-3.7	-6257.0	1241.1	148870.4
	797.4	781.0	-2.0	10384.1	-1261.8	148125.6
	856.8	756.0	-5.4	7115.7	-1424.8	148107.6
	-1440.8	819.8	3.2	88.9	1377.8	148886.9
	-1381.5	794.7	-0.2	-3179.6	1214.9	148868.9
400.	840.9	-5318.2	0.6	12485.9	-1406.2	-434534.3
	900.2	-5343.3	-2.8	9217.4	-886.3	-439567.0
	-1397.4	-5279.5	5.8	2190.6	196.4	-426026.6
	-1338.0	-5304.5	2.4	-1077.8	716.4	-431059.2
	958.1	-5292.1	4.1	15563.3	-2132.1	-429317.0
	1017.4	-5317.2	0.7	12294.8	-1612.1	-434349.6
	-1280.2	-5253.4	9.3	5268.0	-529.4	-420809.2
	-1220.8	-5278.4	5.9	1999.6	-9.4	-425841.9
	680.2	-4035.5	-5.5	7306.7	-138.8	-179931.1
	739.6	-4060.6	-8.9	4038.3	381.2	-184963.8
	-1558.0	-3996.8	-0.3	-2988.5	1463.9	-171423.4
	-1498.7	-4021.9	-3.7	-6257.0	1983.8	-176456.0
	797.4	-4009.5	-2.0	10384.1	-864.7	-174713.8
	856.8	-4034.5	-5.4	7115.7	-344.7	-179746.4
	-1440.8	-3970.7	3.2	88.9	738.0	-166206.0
	-1381.5	-3995.8	-0.2	-3179.6	1258.0	-171238.7

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	1009.5	4096.3	1.0	2357.6	-1172.6	-179083.5
	1000.7	4072.8	-2.2	-2248.3	-1860.0	-174281.0
	-1713.4	4135.0	4.1	6870.9	2030.6	-186474.7
	-1722.1	4111.6	0.9	2265.0	1343.3	-181672.2
	1083.5	4120.5	3.5	6608.1	-777.5	-184042.0
	1074.8	4097.0	0.2	2002.2	-1464.9	-179239.5
	-1639.4	4159.3	6.6	11121.4	2425.7	-191433.2
	-1648.1	4135.8	3.3	6515.5	1738.4	-186630.7
	1079.4	5327.4	-3.0	-4585.8	-1735.6	-431938.5
	1070.6	5304.0	-6.2	-9191.7	-2423.0	-427136.1
	-1643.5	5366.2	0.1	-72.5	1467.7	-439329.7
	-1652.2	5342.7	-3.1	-4678.4	780.3	-434527.3
	1153.4	5351.7	-0.5	-335.4	-1340.5	-436897.0
	1144.6	5328.2	-3.8	-4941.3	-2027.9	-432094.6
	-1569.5	5390.4	2.6	4178.0	1862.8	-444288.2
	-1578.2	5366.9	-0.7	-428.0	1175.4	-439485.8
210.	1009.5	-933.7	1.0	2357.6	-1390.5	152983.6
	1000.7	-957.2	-2.2	-2248.3	-1391.1	152852.8
	-1713.4	-895.0	4.1	6870.9	1167.7	153732.8
	-1722.1	-918.5	0.9	2265.0	1167.1	153602.1
	1083.5	-909.5	3.5	6608.1	-1510.5	153111.9
	1074.8	-933.0	0.2	2002.2	-1511.1	152981.2
	-1639.4	-870.8	6.6	11121.4	1047.7	153861.2
	-1648.1	-894.2	3.3	6515.5	1047.1	153730.4
	1079.4	297.4	-3.0	-4585.8	-1116.3	158671.5
	1070.6	273.9	-6.2	-9191.7	-1116.9	158540.8
	-1643.5	336.2	0.1	-72.5	1441.9	159420.7
	-1652.2	312.7	-3.1	-4678.4	1441.3	159290.0
	1153.4	321.6	-0.5	-335.4	-1236.4	158799.8
	1144.6	298.2	-3.8	-4941.3	-1237.0	158669.1
	-1569.5	360.4	2.6	4178.0	1321.9	159549.1
	-1578.2	336.9	-0.7	-428.0	1321.3	159418.4
420.	1009.5	-5963.8	1.0	2357.6	-1610.7	-571252.9
	1000.7	-5987.3	-2.2	-2248.3	-924.6	-576316.8
	-1713.4	-5925.0	4.1	6870.9	307.2	-562366.7
	-1722.1	-5948.5	0.9	2265.0	993.4	-567430.5
	1083.5	-5939.5	3.5	6608.1	-2245.9	-566037.7
	1074.8	-5963.0	0.2	2002.2	-1559.7	-571101.6
	-1639.4	-5900.8	6.6	11121.4	-327.9	-557151.5
	-1648.1	-5924.3	3.3	6515.5	358.3	-562215.3
	1079.4	-4732.6	-3.0	-4585.8	-499.5	-307022.0
	1070.6	-4756.1	-6.2	-9191.7	186.7	-312085.9
	-1643.5	-4693.8	0.1	-72.5	1418.5	-298135.8
	-1652.2	-4717.3	-3.1	-4678.4	2104.7	-303199.7
	1153.4	-4708.4	-0.5	-335.4	-1134.6	-301806.8
	1144.6	-4731.9	-3.8	-4941.3	-448.4	-306870.7
	-1569.5	-4669.6	2.6	4178.0	783.4	-292920.6
	-1578.2	-4693.1	-0.7	-428.0	1469.5	-297984.4

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	625.8	5724.5	-0.8	-2893.6	-1592.9	-378179.4
	516.7	5707.7	-3.3	-7508.6	-2114.1	-373804.9
	-1923.4	5753.6	4.7	8812.3	2322.3	-385119.3
	-2032.5	5736.7	2.2	4197.3	1801.1	-380744.7
	644.8	5741.9	1.0	1369.1	-1126.0	-382688.9
	535.7	5725.1	-1.5	-3246.0	-1647.1	-378314.3
	-1904.4	5770.9	6.5	13075.0	2789.2	-389628.7
	-2013.5	5754.1	4.0	8460.0	2268.1	-385254.1
	1205.2	6608.8	-3.6	-9835.0	-2269.1	-606266.6
	1096.1	6592.0	-6.1	-14450.1	-2790.2	-601892.0
	-1344.0	6637.9	1.9	1870.9	1646.1	-613206.4
	-1453.1	6621.0	-0.6	-2744.1	1125.0	-608831.8
	1224.2	6626.2	-1.8	-5572.4	-1802.1	-610776.0
	1115.1	6609.4	-4.3	-10187.4	-2323.3	-606401.4
	-1325.0	6655.2	3.7	6133.6	2113.1	-617715.8

	-1434.1	6638.4	1.2	1518.5	1591.9	-613341.3
255.	625.8	-383.4	-0.8	-2893.6	-1392.4	302815.7
	516.7	-400.2	-3.3	-7508.6	-1275.9	302901.9
	-1923.4	-354.3	4.7	8812.3	1121.3	303286.1
	-2032.5	-371.1	2.2	4197.3	1237.8	303372.3
	644.8	-366.0	1.0	1369.1	-1371.7	302736.3
	535.7	-382.8	-1.5	-3246.0	-1255.2	302822.6
	-1904.4	-336.9	6.5	13075.0	1142.0	303206.7
	-2013.5	-353.8	4.0	8460.0	1258.5	303293.0
	1205.2	500.9	-3.6	-9835.0	-1357.0	300221.7
	1096.1	484.1	-6.1	-14450.1	-1240.5	300308.0
	-1344.0	530.0	1.9	1870.9	1156.8	300692.1
	-1453.1	513.1	-0.6	-2744.1	1273.3	300778.4
	1224.2	518.3	-1.8	-5572.4	-1336.3	300142.4
	1115.1	501.5	-4.3	-10187.4	-1219.8	300228.6
	-1325.0	547.3	3.7	6133.6	1177.5	300612.8
	-1434.1	530.5	1.2	1518.5	1294.0	300699.0
510.	625.8	-6491.3	-0.8	-2893.6	-1195.3	-573697.3
	516.7	-6508.1	-3.3	-7508.6	-441.1	-577899.3
	-1923.4	-6462.2	4.7	8812.3	-76.1	-565823.2
	-2032.5	-6479.0	2.2	4197.3	678.0	-570025.2
	644.8	-6473.9	1.0	1369.1	-1620.8	-569346.6
	535.7	-6490.7	-1.5	-3246.0	-866.7	-573548.6
	-1904.4	-6444.8	6.5	13075.0	-501.7	-561472.5
	-2013.5	-6461.7	4.0	8460.0	252.4	-565674.5
	1205.2	-5607.0	-3.6	-9835.0	-448.3	-350798.0
	1096.1	-5623.8	-6.1	-14450.1	305.8	-355000.0
	-1344.0	-5577.9	1.9	1870.9	670.8	-342924.0
	-1453.1	-5594.7	-0.6	-2744.1	1425.0	-347126.0
	1224.2	-5589.6	-1.8	-5572.4	-873.9	-346447.3
	1115.1	-5606.4	-4.3	-10187.4	-119.8	-350649.3
	-1325.0	-5560.5	3.7	6133.6	245.3	-338573.3
	-1434.1	-5577.4	1.2	1518.5	999.4	-342775.3

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	359.5	3984.2	-0.5	-15500.4	-1439.3	-233075.4
	189.3	3955.1	-4.1	-18674.8	-1870.5	-227611.0
	-1562.7	4033.7	7.2	9045.3	2149.6	-241468.3
	-1732.9	4004.6	3.5	5870.9	1718.4	-236003.9
	329.9	4014.5	3.5	-12489.1	-758.8	-238756.7
	159.7	3985.4	-0.2	-15663.5	-1190.0	-233292.2
	-1592.3	4064.0	11.1	12056.6	2830.1	-247149.6
	-1762.5	4035.0	7.4	8882.2	2398.9	-241685.1
	1297.9	5481.0	-7.5	-20499.3	-2473.2	-510464.6
	1127.7	5451.9	-11.2	-23673.7	-2904.4	-505000.2
	-624.3	5530.5	0.2	4046.4	1115.7	-518857.6
	-794.5	5501.5	-3.5	872.0	684.5	-513393.1
	1268.3	5511.3	-3.6	-17487.9	-1792.6	-516145.9
	1098.1	5482.3	-7.2	-20662.3	-2223.8	-510681.4
	-653.9	5560.9	4.1	7057.8	1796.2	-524538.8
	-824.2	5531.8	0.4	3883.4	1365.0	-519074.3
180.	359.5	-327.3	-0.5	-15500.4	-1359.9	96040.0
	189.3	-356.3	-4.1	-18674.8	-1127.1	96274.2
	-1562.7	-277.8	7.2	9045.3	855.6	96569.2
	-1732.9	-306.8	3.5	5870.9	1088.5	96803.4
	329.9	-297.0	3.5	-12489.1	-1383.8	95818.4
	159.7	-326.0	-0.2	-15663.5	-1151.0	96052.7
	-1592.3	-247.4	11.1	12056.6	831.7	96347.6
	-1762.5	-276.5	7.4	8882.2	1064.5	96581.9
	1297.9	1169.5	-7.5	-20499.3	-1130.7	88080.3
	1127.7	1140.5	-11.2	-23673.7	-897.9	88314.5
	-624.3	1219.1	0.2	4046.4	1084.8	88609.5
	-794.5	1190.0	-3.5	872.0	1317.6	88843.7
	1268.3	1199.9	-3.6	-17487.9	-1154.7	87858.7
	1098.1	1170.8	-7.2	-20662.3	-921.9	88093.0
	-653.9	1249.4	4.1	7057.8	1060.8	88387.9
	-824.2	1220.3	0.4	3883.4	1293.6	88622.2
360.	359.5	-4638.7	-0.5	-15500.4	-1286.2	-350898.9
	189.3	-4667.8	-4.1	-18674.8	-389.4	-355894.8
	-1562.7	-4589.2	7.2	9045.3	-432.5	-341461.1
	-1732.9	-4618.3	3.5	5870.9	464.3	-346456.9
	329.9	-4608.4	3.5	-12489.1	-2014.6	-345660.8
	159.7	-4637.5	-0.2	-15663.5	-1117.8	-350656.7
	-1592.3	-4558.9	11.1	12056.6	-1161.0	-336223.0
	-1762.5	-4587.9	7.4	8882.2	-264.2	-341218.8
	1297.9	-3141.9	-7.5	-20499.3	206.0	-89429.1
	1127.7	-3171.0	-11.2	-23673.7	1102.8	-94425.0
	-624.3	-3092.4	0.2	4046.4	1059.7	-79991.2
	-794.5	-3121.4	-3.5	872.0	1956.5	-84987.1
	1268.3	-3111.6	-3.6	-17487.9	-522.5	-84191.0
	1098.1	-3140.6	-7.2	-20662.3	374.4	-89186.9
	-653.9	-3062.0	4.1	7057.8	331.2	-74753.1
	-824.2	-3091.1	0.4	3883.4	1228.0	-79749.0

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-41.6	3288.1	-12.3	-58332.3	-1709.0	-89024.5
	-173.8	3257.7	-14.6	-56313.3	-1966.5	-83859.3
	-1025.0	3325.0	13.2	6227.2	1904.8	-95425.7
	-1157.3	3294.6	10.9	8246.2	1647.3	-90260.6
	-89.0	3320.0	-13.4	-60102.6	-1334.5	-94443.8
	-221.3	3289.6	-15.6	-58083.7	-1592.0	-89278.6
	-1072.5	3356.9	12.1	4456.8	2279.3	-100845.0
	-1204.7	3326.5	9.8	6475.8	2021.8	-95679.8
	770.7	4854.0	-9.9	-56931.6	-1967.2	-343509.7
	638.4	4823.6	-12.1	-54912.6	-2224.7	-338344.5
	-212.8	4890.9	15.6	7627.8	1646.6	-349910.9
	-345.0	4860.5	13.4	9646.8	1389.1	-344745.7
	723.2	4885.9	-11.0	-58702.0	-1592.7	-348929.0
	591.0	4855.5	-13.2	-56683.0	-1850.2	-343763.8
	-260.2	4922.9	14.5	5857.5	2021.1	-355330.2
	-392.5	4892.5	12.3	7876.4	1763.6	-350165.0
165.	-41.6	-664.1	-12.3	-58332.3	322.5	127451.3
	-173.8	-694.5	-14.6	-56313.3	434.6	127600.4
	-1025.0	-627.2	13.2	6227.2	-266.3	127141.0
	-1157.3	-657.6	10.9	8246.2	-154.1	127290.1
	-89.0	-632.2	-13.4	-60102.6	877.7	127301.9
	-221.3	-662.6	-15.6	-58083.7	989.9	127451.0
	-1072.5	-595.3	12.1	4456.8	289.0	126991.6
	-1204.7	-625.7	9.8	6475.8	401.2	127140.7
	770.7	901.8	-9.9	-56931.6	-337.7	131346.8
	638.4	871.4	-12.1	-54912.6	-225.5	131495.9
	-212.8	938.8	15.6	7627.8	-926.4	131036.5
	-345.0	908.4	13.4	9646.8	-814.3	131185.6
	723.2	933.8	-11.0	-58702.0	217.6	131197.5
	591.0	903.4	-13.2	-56683.0	329.7	131346.6
	-260.2	970.7	14.5	5857.5	-371.1	130887.2
	-392.5	940.3	12.3	7876.4	-259.0	131036.3
330.	-41.6	-4616.3	-12.3	-58332.3	2353.8	-308180.2
	-173.8	-4646.7	-14.6	-56313.3	2835.6	-313047.2
	-1025.0	-4579.4	13.2	6227.2	-2437.2	-302398.7
	-1157.3	-4609.8	10.9	8246.2	-1955.4	-307265.7
	-89.0	-4584.3	-13.4	-60102.6	3089.9	-303059.6
	-221.3	-4614.7	-15.6	-58083.7	3571.7	-307926.6
	-1072.5	-4547.4	12.1	4456.8	-1701.1	-297278.1
	-1204.7	-4577.8	9.8	6475.8	-1219.3	-302145.1
	770.7	-3050.3	-9.9	-56931.6	1291.7	-45903.9
	638.4	-3080.7	-12.1	-54912.6	1773.5	-50770.9
	-212.8	-3013.4	15.6	7627.8	-3499.4	-40122.4
	-345.0	-3043.8	13.4	9646.8	-3017.6	-44989.4
	723.2	-3018.4	-11.0	-58702.0	2027.8	-40783.4

591.0	-3048.8	-13.2	-56683.0	2509.6	-45650.3
-260.2	-2981.5	14.5	5857.5	-2763.3	-35001.9
-392.5	-3011.9	12.3	7876.4	-2281.5	-39868.8

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-213.4	301.2	-9.5	-8942.3	-1521.1	29639.8
	-283.4	274.2	-10.1	-10069.8	-1528.6	34539.0
	-531.6	346.2	7.9	2122.6	1478.0	21177.0
	-601.7	319.1	7.3	995.1	1470.4	26076.2
	-236.4	330.0	-10.9	-7743.6	-1687.1	24421.6
	-306.5	303.0	-11.5	-8871.1	-1694.7	29320.7
	-554.7	375.0	6.4	3321.3	1311.9	15958.8
	-624.8	348.0	5.9	2193.8	1304.3	20857.9
	467.6	1802.8	-5.3	-9678.8	-1166.5	-240620.0
	397.6	1775.8	-5.8	-10806.3	-1174.1	-235720.9
	149.4	1847.8	12.1	1386.1	1832.5	-249082.8
	79.3	1820.8	11.5	258.6	1824.9	-244183.7
	444.6	1831.6	-6.7	-8480.2	-1332.6	-245838.3
	374.5	1804.6	-7.3	-9607.7	-1340.2	-240939.1
	126.3	1876.6	10.7	2584.7	1666.4	-254301.1
	56.2	1849.6	10.1	1457.2	1658.9	-249401.9
210.	-213.4	-565.1	-9.5	-8942.3	475.5	1933.8
	-283.4	-592.1	-10.1	-10069.8	585.5	1155.5
	-531.6	-520.1	7.9	2122.6	-175.6	2919.4
	-601.7	-547.1	7.3	995.1	-65.7	2141.2
	-236.4	-536.2	-10.9	-7743.6	610.6	2768.6
	-306.5	-563.3	-11.5	-8871.1	720.5	1990.3
	-554.7	-491.2	6.4	3321.3	-40.6	3754.2
	-624.8	-518.3	5.9	2193.8	69.3	2975.9
	467.6	936.6	-5.3	-9678.8	-57.6	47012.5
	397.6	909.5	-5.8	-10806.3	52.4	46234.2
	149.4	981.5	12.1	1386.1	-708.7	47998.1
	79.3	954.5	11.5	258.6	-598.8	47219.8
	444.6	965.4	-6.7	-8480.2	77.5	47847.3
	374.5	938.3	-7.3	-9607.7	187.4	47069.0
	126.3	1010.4	10.7	2584.7	-573.7	48832.9
	56.2	983.3	10.1	1457.2	-463.7	48054.6
420.	-213.4	-1431.3	-9.5	-8942.3	2472.0	-207684.3
	-283.4	-1458.3	-10.1	-10069.8	2699.4	-214140.0
	-531.6	-1386.3	7.9	2122.6	-1829.0	-197251.1
	-601.7	-1413.4	7.3	995.1	-1601.6	-203706.8
	-236.4	-1402.5	-10.9	-7743.6	2908.1	-200796.5
	-306.5	-1429.5	-11.5	-8871.1	3135.5	-207252.2
	-554.7	-1357.5	6.4	3321.3	-1392.9	-190363.3
	-624.8	-1384.5	5.9	2193.8	-1165.5	-196819.0
	467.6	70.3	-5.3	-9678.8	1051.3	152732.9
	397.6	43.3	-5.8	-10806.3	1278.7	146277.2
	149.4	115.3	12.1	1386.1	-3249.7	163166.1
	79.3	88.3	11.5	258.6	-3022.3	156710.4
	444.6	99.1	-6.7	-8480.2	1487.4	159620.7
	374.5	72.1	-7.3	-9607.7	1714.8	153165.0
	126.3	144.1	10.7	2584.7	-2813.6	170053.9
	56.2	117.1	10.1	1457.2	-2586.2	163598.2

SOLLECITAZIONI ASTE

CASO DI CARICO : 5 SLU con SISMAY PRINC COMBINAZIONE

N. 2 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+ 1.00
2	Permanente_____	+ 1.00

N. 2 CASI DI CARICO

3	SISMAY SLU	1.00
2	SISMAX SLU	0.30

1)	+1.00*c001	+1.00*c002	+1.00*C003.001	+0.30*C002.001
2)	+1.00*c001	+1.00*c002	+1.00*C003.001	+0.30*C002.002
3)	+1.00*c001	+1.00*c002	+1.00*C003.001	+0.30*C002.003
4)	+1.00*c001	+1.00*c002	+1.00*C003.001	+0.30*C002.004
5)	+1.00*c001	+1.00*c002	+1.00*C003.002	+0.30*C002.001
6)	+1.00*c001	+1.00*c002	+1.00*C003.002	+0.30*C002.002
7)	+1.00*c001	+1.00*c002	+1.00*C003.002	+0.30*C002.003
8)	+1.00*c001	+1.00*c002	+1.00*C003.002	+0.30*C002.004
9)	+1.00*c001	+1.00*c002	+1.00*C003.003	+0.30*C002.001
10)	+1.00*c001	+1.00*c002	+1.00*C003.003	+0.30*C002.002
11)	+1.00*c001	+1.00*c002	+1.00*C003.003	+0.30*C002.003
12)	+1.00*c001	+1.00*c002	+1.00*C003.003	+0.30*C002.004
13)	+1.00*c001	+1.00*c002	+1.00*C003.004	+0.30*C002.001
14)	+1.00*c001	+1.00*c002	+1.00*C003.004	+0.30*C002.002
15)	+1.00*c001	+1.00*c002	+1.00*C003.004	+0.30*C002.003
16)	+1.00*c001	+1.00*c002	+1.00*C003.004	+0.30*C002.004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-415.0	0.0	-193374.2	14.3	-152581.0
	0.0	-443.9	-0.7	-191778.4	-116.9	-149330.6
	0.0	-478.4	1.0	-205933.4	225.9	-253683.4
	0.0	-507.4	0.4	-204337.6	94.6	-250433.0
	0.0	-82.0	6.8	-212116.5	1395.0	-188869.0
	0.0	-110.9	6.1	-210520.7	1263.7	-185618.6
	0.0	-145.4	7.8	-224675.7	1606.5	-289971.4
	0.0	-174.4	7.2	-223079.9	1475.3	-286721.0
	0.0	-3072.7	-7.4	-59937.9	-1523.9	47626.3
	0.0	-3101.7	-8.0	-58342.1	-1655.2	50876.6
	0.0	-3136.2	-6.4	-72497.1	-1312.4	-53476.1
	0.0	-3165.1	-7.0	-70901.3	-1443.6	-50225.8
	0.0	-2739.7	-0.6	-78680.2	-143.3	11338.3
	0.0	-2768.7	-1.3	-77084.4	-274.6	14588.6
	0.0	-2803.2	0.4	-91239.4	68.3	-89764.2
	0.0	-2832.1	-0.2	-89643.6	-63.0	-86513.8
195.	0.0	1334.0	0.0	-192115.1	17.4	-75397.5
	0.0	1329.3	-0.7	-190585.4	10.4	-75379.3
	0.0	1506.3	1.0	-204740.1	27.2	-162581.8
	0.0	1501.7	0.4	-203210.4	20.2	-162563.6
	0.0	1380.4	6.7	-210080.3	82.7	-75190.1
	0.0	1375.7	6.1	-208550.6	75.6	-75172.0
	0.0	1552.7	7.7	-222705.2	92.5	-162374.5
	0.0	1548.1	7.1	-221175.5	85.5	-162356.3
	0.0	1551.7	-7.3	-66308.3	-88.3	-108257.8
	0.0	1547.1	-8.0	-64778.6	-95.3	-108239.6
	0.0	1724.1	-6.3	-78933.2	-78.5	-195442.2
	0.0	1719.5	-6.9	-77403.5	-85.5	-195424.0
	0.0	1598.1	-0.6	-84273.4	-23.0	-108050.5
	0.0	1593.5	-1.2	-82743.7	-30.1	-108032.3
	0.0	1770.5	0.4	-96898.4	-13.2	-195234.8
	0.0	1765.8	-0.2	-95368.6	-20.2	-195216.7
390.	0.0	3863.2	0.0	-191520.0	21.1	418844.4
	0.0	3880.1	-0.7	-190051.0	138.0	420099.8
	0.0	4094.2	1.0	-204254.3	-170.3	373490.1
	0.0	4111.1	0.4	-202785.4	-53.4	374745.5
	0.0	3656.5	6.7	-208770.0	-1225.7	402842.2
	0.0	3673.4	6.1	-207301.1	-1108.9	404097.5
	0.0	3887.5	7.8	-221504.3	-1417.2	357487.9

	0.0	3904.3	7.1	-220035.4	-1300.3	358743.2
	0.0	6641.4	-7.4	-72907.8	1343.1	683480.2
	0.0	6658.3	-8.0	-71438.9	1460.0	684735.6
	0.0	6872.4	-6.3	-85642.1	1151.7	638126.0
	0.0	6889.3	-7.0	-84173.2	1268.6	639381.3
	0.0	6434.7	-0.6	-90157.8	96.2	667478.0
	0.0	6451.6	-1.2	-88688.9	213.1	668733.3
	0.0	6665.7	0.4	-102892.2	-95.2	622123.7
	0.0	6682.5	-0.2	-101423.3	21.7	623379.0

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2975.5	-0.3	-316234.0	-63.1	321401.5
	0.0	-3017.3	-1.0	-313614.7	-184.4	327989.8
	0.0	-2117.6	0.7	-296909.1	136.4	51543.8
	0.0	-2159.4	0.1	-294289.8	15.1	58132.0
	0.0	-2495.3	6.8	-346820.7	1294.2	246730.3
	0.0	-2537.2	6.2	-344201.5	1172.9	253318.6
	0.0	-1637.4	7.8	-327495.8	1493.8	-23127.4
	0.0	-1679.3	7.2	-324876.5	1372.4	-16539.2
	0.0	-6965.7	-7.5	-128511.6	-1417.7	860649.3
	0.0	-7007.5	-8.1	-125892.3	-1539.1	867237.5
	0.0	-6107.8	-6.4	-109186.7	-1218.2	590791.5
	0.0	-6149.6	-7.0	-106567.4	-1339.5	597379.7
	0.0	-6485.5	-0.3	-159098.3	-60.4	785978.1
	0.0	-6527.3	-0.9	-156479.0	-181.7	792566.3
	0.0	-5627.6	0.7	-139773.4	139.1	516120.3
	0.0	-5669.5	0.1	-137154.1	17.8	522708.5
215.	0.0	645.2	-0.3	-316608.7	11.5	56116.2
	0.0	623.0	-1.0	-314048.1	25.4	55918.0
	0.0	1434.7	0.7	-297388.0	-10.3	-35305.1
	0.0	1412.5	0.1	-294827.5	3.6	-35503.3
	0.0	894.6	6.8	-346503.9	-167.3	58748.5
	0.0	872.4	6.2	-343943.4	-153.4	58550.3
	0.0	1684.1	7.8	-327283.3	-189.0	-32672.8
	0.0	1661.9	7.2	-324722.7	-175.2	-32871.0
	0.0	-971.4	-7.4	-136200.2	181.0	2656.4
	0.0	-993.6	-8.1	-133639.6	194.9	2458.2
	0.0	-181.8	-6.4	-116979.6	159.2	-88765.0
	0.0	-204.0	-7.0	-114419.0	173.1	-88963.2
	0.0	-722.0	-0.3	-166095.5	2.2	5288.7
	0.0	-744.1	-0.9	-163534.9	16.1	5090.5
	0.0	67.6	0.7	-146874.8	-19.5	-86132.7
	0.0	45.4	0.1	-144314.3	-5.6	-86330.9
430.	0.0	5020.1	-0.4	-318312.8	87.0	653248.5
	0.0	5011.7	-1.0	-315800.3	237.1	649870.8
	0.0	5714.5	0.7	-299115.8	-157.7	721344.8
	0.0	5706.2	0.1	-296603.2	-7.6	717967.1
	0.0	5106.7	6.9	-347642.2	-1640.8	690814.1
	0.0	5098.4	6.3	-345129.6	-1490.7	687436.4
	0.0	5801.1	7.9	-328445.1	-1885.5	758910.4
	0.0	5792.8	7.3	-325932.6	-1735.4	755532.7
	0.0	5188.5	-7.5	-144460.7	1792.8	454344.9
	0.0	5180.2	-8.2	-141948.1	1942.9	450967.2
	0.0	5882.9	-6.5	-125263.7	1548.2	522441.2
	0.0	5874.6	-7.1	-122751.1	1698.3	519063.5
	0.0	5275.1	-0.3	-173790.0	65.0	491910.4
	0.0	5266.8	-0.9	-171277.5	215.1	488532.7
	0.0	5969.6	0.7	-154593.0	-179.6	560006.7
	0.0	5961.2	0.1	-152080.4	-29.5	556629.1

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5340.3	0.3	-172241.0	-7.5	706765.3
	0.0	-5356.1	-0.6	-169475.0	-181.7	707220.7
	0.0	-4750.5	1.7	-170101.2	274.9	593379.3
	0.0	-4766.3	0.8	-167335.2	100.7	593834.7
	0.0	-5163.9	10.4	-204874.9	2045.7	703216.7
	0.0	-5179.6	9.5	-202108.9	1871.5	703672.1
	0.0	-4574.0	11.7	-202735.1	2328.2	589830.7
	0.0	-4589.8	10.9	-199969.1	2153.9	590286.1
	0.0	-6615.2	-11.2	13106.5	-2223.3	617936.7
	0.0	-6630.9	-12.1	15872.5	-2397.5	618392.1
	0.0	-6025.3	-9.9	15246.3	-1940.8	504550.7
	0.0	-6041.1	-10.7	18012.3	-2115.0	505006.1
	0.0	-6438.7	-1.2	-19527.4	-170.0	614388.1
	0.0	-6454.5	-2.0	-16761.4	-344.3	614843.5
	0.0	-5848.9	0.2	-17387.6	112.4	501002.1
	0.0	-5864.6	-0.6	-14621.6	-61.8	501457.5
200.	0.0	-787.3	0.3	-174762.3	-67.7	88172.3
	0.0	-794.5	-0.5	-172031.0	-72.5	86396.2
	0.0	-283.8	1.7	-172603.0	-59.9	83873.4
	0.0	-290.9	0.8	-169871.7	-64.6	82097.4
	0.0	-712.1	10.3	-206986.7	-22.8	109091.4
	0.0	-719.2	9.5	-204255.4	-27.5	107315.4
	0.0	-208.6	11.7	-204827.5	-14.9	104792.6
	0.0	-215.7	10.8	-202096.1	-19.7	103016.5
	0.0	-842.6	-11.2	5165.8	19.0	-127665.2
	0.0	-849.7	-12.0	7897.1	14.2	-129441.3
	0.0	-339.1	-9.8	7325.0	26.8	-131964.1
	0.0	-346.2	-10.7	10056.4	22.0	-133740.1
	0.0	-767.4	-1.2	-27058.7	63.9	-106746.1
	0.0	-774.5	-2.0	-24327.3	59.1	-108522.1
	0.0	-263.9	0.2	-24899.4	71.7	-111044.9
	0.0	-271.0	-0.6	-22168.0	67.0	-112821.0
400.	0.0	4024.5	0.3	-177918.9	-129.4	408698.2
	0.0	4022.8	-0.5	-175212.3	35.0	406088.0
	0.0	4463.9	1.7	-175732.2	-395.8	498374.0
	0.0	4462.2	0.8	-173025.6	-231.4	495763.7
	0.0	4035.4	10.4	-209851.0	-2090.4	437728.4
	0.0	4033.8	9.5	-207144.3	-1926.0	435118.1
	0.0	4474.8	11.8	-207664.3	-2356.7	527404.1
	0.0	4473.2	10.9	-204957.7	-2192.3	524793.9
	0.0	4895.4	-11.2	-2756.2	2260.2	278448.3
	0.0	4893.8	-12.1	-49.6	2424.6	275838.1
	0.0	5334.9	-9.9	-569.5	1993.8	368124.1
	0.0	5333.2	-10.7	2137.1	2158.2	365513.8
	0.0	4906.4	-1.2	-34688.3	299.2	307478.5
	0.0	4904.7	-2.0	-31981.7	463.7	304868.2
	0.0	5345.8	0.2	-32501.6	32.9	397154.2
	0.0	5344.2	-0.7	-29795.0	197.3	394544.0

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4930.8	2.0	-42120.3	340.8	470856.2
	0.0	-4938.9	1.2	-39817.9	181.7	471746.2
	0.0	-4514.2	3.2	-46030.1	598.5	378555.5
	0.0	-4522.2	2.5	-43727.7	439.4	379445.5
	0.0	-4844.0	11.5	-69430.6	2268.2	462243.7
	0.0	-4852.0	10.7	-67128.2	2109.1	463133.7
	0.0	-4427.3	12.7	-73340.4	2525.9	369943.0
	0.0	-4435.4	12.0	-71037.9	2366.8	370833.0
	0.0	-5721.4	-12.3	44125.4	-2434.0	418816.4
	0.0	-5729.5	-13.1	46427.9	-2593.1	419706.5
	0.0	-5304.8	-11.0	40215.7	-2176.3	326515.7
	0.0	-5312.8	-11.8	42518.1	-2335.4	327405.8
	0.0	-5634.6	-2.8	16815.2	-506.5	410203.9
	0.0	-5642.6	-3.6	19117.6	-665.7	411093.9
	0.0	-5217.9	-1.5	12905.4	-248.9	317903.2
	0.0	-5226.0	-2.3	15207.9	-408.0	318793.2
210.	0.0	283.8	2.0	-45861.7	-72.6	-19332.1

	0.0	279.3	1.2	-43575.4	-67.8	-19723.0
	0.0	646.6	3.2	-49746.4	-80.2	-30176.0
	0.0	642.1	2.5	-47460.1	-75.5	-30566.9
	0.0	329.3	11.4	-72980.8	-136.0	-14466.2
	0.0	324.8	10.7	-70694.5	-131.3	-14857.2
	0.0	692.1	12.7	-76865.5	-143.7	-25310.1
	0.0	687.6	11.9	-74579.2	-138.9	-25701.1
	0.0	266.1	-12.2	35890.7	140.7	-153376.4
	0.0	261.6	-13.0	38177.0	145.4	-153767.4
	0.0	628.9	-11.0	32006.0	133.0	-164220.3
	0.0	624.4	-11.8	34292.3	137.8	-164611.3
	0.0	311.6	-2.8	8771.6	77.2	-148510.6
	0.0	307.1	-3.6	11057.9	81.9	-148901.6
	0.0	674.4	-1.5	4886.9	69.6	-159354.5
	0.0	669.9	-2.3	7173.2	74.3	-159745.5
420.	0.0	5563.0	2.0	-49787.0	-490.3	594490.6
	0.0	5560.1	1.2	-47507.8	-321.5	593354.1
	0.0	5902.8	3.3	-53662.2	-763.8	656875.3
	0.0	5899.9	2.5	-51383.0	-594.9	655738.9
	0.0	5590.4	11.5	-76823.7	-2548.8	606644.0
	0.0	5587.5	10.8	-74544.4	-2379.9	605507.6
	0.0	5930.2	12.8	-80698.8	-2822.2	669028.8
	0.0	5927.3	12.0	-78419.6	-2653.4	667892.3
	0.0	6207.2	-12.4	27800.1	2724.2	527629.9
	0.0	6204.3	-13.2	30079.3	2893.0	526493.5
	0.0	6547.0	-11.1	23924.9	2450.7	590014.7
	0.0	6544.1	-11.9	26204.1	2619.6	588878.2
	0.0	6234.6	-2.8	763.5	665.7	539783.4
	0.0	6231.7	-3.6	3042.7	834.5	538646.9
	0.0	6574.4	-1.5	-3111.7	392.2	602168.1
	0.0	6571.5	-2.3	-832.5	561.1	601031.7

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6362.7	2.7	80745.5	626.4	635154.7
	0.0	-6368.0	2.1	83224.9	478.3	637386.5
	0.0	-5919.1	3.6	75241.4	865.3	517673.7
	0.0	-5924.4	3.1	77720.7	717.1	519905.5
	0.0	-6309.1	9.7	51463.3	2429.3	610996.5
	0.0	-6314.4	9.1	53942.7	2281.1	613228.3
	0.0	-5865.5	10.6	45959.2	2668.1	493515.5
	0.0	-5870.8	10.1	48438.5	2520.0	495747.3
	0.0	-7395.2	-10.3	60593.1	-2581.6	628477.9
	0.0	-7400.5	-10.9	63072.4	-2729.8	630709.7
	0.0	-6951.6	-9.4	55088.9	-2342.8	510996.9
	0.0	-6956.9	-9.9	57568.3	-2491.0	513228.6
	0.0	-7341.6	-3.3	31310.9	-778.8	604319.7
	0.0	-7346.9	-3.9	33790.2	-926.9	606551.5
	0.0	-6898.0	-2.4	25806.7	-540.0	486838.7
	0.0	-6903.3	-2.9	28286.1	-688.1	489070.4
255.	0.0	-45.5	2.7	76044.5	-61.2	-178634.0
	0.0	-51.4	2.1	78528.2	-63.5	-177762.5
	0.0	417.4	3.6	70526.2	-56.9	-182250.1
	0.0	411.5	3.0	73009.8	-59.1	-181378.6
	0.0	15.6	9.6	46709.9	-26.7	-189003.4
	0.0	9.7	9.0	49193.6	-29.0	-188131.9
	0.0	478.6	10.5	41191.6	-22.4	-192619.5
	0.0	472.7	9.9	43675.3	-24.7	-191748.0
	0.0	-316.2	-10.1	51054.1	23.7	-350560.4
	0.0	-322.1	-10.7	53537.7	21.4	-349688.9
	0.0	146.8	-9.2	45535.7	28.0	-354176.5
	0.0	140.8	-9.8	48019.4	25.7	-353305.0
	0.0	-255.0	-3.3	21719.5	58.1	-360929.8
	0.0	-261.0	-3.8	24203.2	55.9	-360058.3
	0.0	207.9	-2.4	16201.2	62.5	-364545.9
	0.0	202.0	-2.9	18684.9	60.2	-363674.4
	0.0	279.3	1.2	-43575.4	-67.8	-19723.0
	0.0	646.6	3.2	-49746.4	-80.2	-30176.0
	0.0	642.1	2.5	-47460.1	-75.5	-30566.9
	0.0	329.3	11.4	-72980.8	-136.0	-14466.2
	0.0	324.8	10.7	-70694.5	-131.3	-14857.2
	0.0	692.1	12.7	-76865.5	-143.7	-25310.1
	0.0	687.6	11.9	-74579.2	-138.9	-25701.1
	0.0	266.1	-12.2	35890.7	140.7	-153376.4
	0.0	261.6	-13.0	38177.0	145.4	-153767.4
	0.0	628.9	-11.0	32006.0	133.0	-164220.3
	0.0	624.4	-11.8	34292.3	137.8	-164611.3
	0.0	311.6	-2.8	8771.6	77.2	-148510.6
	0.0	307.1	-3.6	11057.9	81.9	-148901.6
	0.0	674.4	-1.5	4886.9	69.6	-159354.5
	0.0	669.9	-2.3	7173.2	74.3	-159745.5
420.	0.0	5563.0	2.0	-49787.0	-490.3	594490.6
	0.0	5560.1	1.2	-47507.8	-321.5	593354.1
	0.0	5902.8	3.3	-53662.2	-763.8	656875.3
	0.0	5899.9	2.5	-51383.0	-594.9	655738.9
	0.0	5590.4	11.5	-76823.7	-2548.8	606644.0
	0.0	5587.5	10.8	-74544.4	-2379.9	605507.6
	0.0	5930.2	12.8	-80698.8	-2822.2	669028.8
	0.0	5927.3	12.0	-78419.6	-2653.4	667892.3
	0.0	6207.2	-12.4	27800.1	2724.2	527629.9
	0.0	6204.3	-13.2	30079.3	2893.0	526493.5
	0.0	6547.0	-11.1	23924.9	2450.7	590014.7
	0.0	6544.1	-11.9	26204.1	2619.6	588878.2
	0.0	6234.6	-2.8	763.5	665.7	539783.4
	0.0	6231.7	-3.6	3042.7	834.5	538646.9
	0.0	6574.4	-1.5	-3111.7	392.2	602168.1
	0.0	6571.5	-2.3	-832.5	561.1	601031.7

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6362.7	2.7	80745.5	626.4	635154.7
	0.0	-6368.0	2.1	83224.9	478.3	637386.5
	0.0	-5919.1	3.6	75241.4	865.3	517673.7
	0.0	-5924.4	3.1	77720.7	717.1	519905.5
	0.0	-6309.1	9.7	51463.3	2429.3	610996.5
	0.0	-6314.4	9.1	53942.7	2281.1	613228.3
	0.0	-5865.5	10.6	45959.2	2668.1	493515.5
	0.0	-5870.8	10.1	48438.5	2520.0	495747.3
	0.0	-7395.2	-10.3	60593.1	-2581.6	628477.9
	0.0	-7400.5	-10.9	63072.4	-2729.8	630709.7
	0.0	-6951.6	-9.4	55088.9	-2342.8	510996.9
	0.0	-6956.9	-9.9	57568.3	-2491.0	513228.6
	0.0	-7341.6	-3.3	31310.9	-778.8	604319.7
	0.0	-7346.9	-3.9	33790.2	-926.9	606551.5
	0.0	-6898.0	-2.4	25806.7	-540.0	486838.7
	0.0	-6903.3	-2.9	28286.1	-688.1	489070.4
255.	0.0	-45.5	2.7	76044.5	-61.2	-178634.0
	0.0	-51.4	2.1	78528.2	-63.5	-177762.5
	0.0	417.4	3.6	70526.2	-56.9	-182250.1
	0.0	411.5	3.0	73009.8	-59.1	-181378.6
	0.0	15.6	9.6	46709.9	-26.7	-189003.4
	0.0	9.7	9.0	49193.6	-29.0	-188131.9
	0.0	478.6	10.5	41191.6	-22.4	-192619.5
	0.0	472.7	9.9	43675.3	-24.7	-191748.0
	0.0	-316.2	-10.1	51054.1	23.7	-350560.4
	0.0	-322.1	-10.7	53537.7	21.4	-349688.9
	0.0	146.8	-9.2	45535.7	28.0	-354176.5
	0.0	140.8	-9.8	48019.4	25.7	-353305.0
	0.0	-255.0	-3.3	21719.5	58.1	-360929.8
	0.0	-261.0	-3.8	24203.2	55.9	-360058.3
	0.0	207.9	-2.4	16201.2	62.5	-364545.9
	0.0	202.0	-2.9	18684.9	60.2	-363674.4

510.	0.0	6032.5	2.8	71808.6	-756.7	590961.8
	0.0	6021.9	2.2	74311.3	-613.5	589811.7
	0.0	6608.1	3.7	66243.5	-986.3	718008.9
	0.0	6597.4	3.1	68746.2	-843.0	716858.8
	0.0	6148.4	9.7	42248.5	-2485.7	602067.4
	0.0	6137.7	9.2	44751.2	-2342.4	600917.3
	0.0	6723.9	10.7	36683.5	-2715.2	729114.5
	0.0	6713.3	10.1	39186.2	-2571.9	727964.4
	0.0	6621.7	-10.3	41800.0	2631.4	455473.1
	0.0	6611.1	-10.9	44302.7	2774.7	454322.9
	0.0	7197.3	-9.4	36235.0	2401.9	582520.2
	0.0	7186.6	-10.0	38737.7	2545.2	581370.1
	0.0	6737.6	-3.4	12240.0	902.5	466578.7
	0.0	6727.0	-3.9	14742.7	1045.8	465428.5
	0.0	7313.1	-2.4	6674.9	673.0	593625.8
	0.0	7302.5	-3.0	9177.6	816.2	592475.7

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4950.8	6.7	222759.7	1168.2	742190.7
	0.0	-4953.4	5.8	225697.1	993.1	744615.1
	0.0	-4481.4	8.2	228105.0	1446.8	687989.2
	0.0	-4484.0	7.3	231042.4	1271.7	690413.6
	0.0	-4927.8	18.0	188139.2	3245.0	714728.3
	0.0	-4930.5	17.0	191076.6	3069.9	717152.7
	0.0	-4458.4	19.5	193484.5	3523.6	660526.8
	0.0	-4461.0	18.6	196421.9	3348.5	662951.2
	0.0	-5762.8	-19.0	99225.7	-3422.9	640866.3
	0.0	-5765.4	-19.9	102163.1	-3598.0	643290.7
	0.0	-5293.3	-17.5	104571.0	-3144.3	586664.9
	0.0	-5296.0	-18.4	107508.4	-3319.4	589089.3
	0.0	-5739.8	-7.7	64605.3	-1346.1	613404.0
	0.0	-5742.4	-8.7	67542.7	-1521.2	615828.4
	0.0	-5270.4	-6.2	69950.6	-1067.5	559202.5
	0.0	-5273.0	-7.1	72888.0	-1242.6	561626.9
180.	0.0	-891.1	6.7	220274.0	-40.3	220459.7
	0.0	-899.8	5.7	223234.3	-43.5	221902.9
	0.0	-310.3	8.2	225582.6	-35.1	260468.0
	0.0	-319.0	7.3	228542.9	-38.2	261911.2
	0.0	-796.9	17.9	185381.9	11.3	203075.7
	0.0	-805.6	17.0	188342.2	8.2	204518.9
	0.0	-216.1	19.4	190690.5	16.6	243084.0
	0.0	-224.8	18.5	193650.8	13.5	244527.2
	0.0	-924.4	-18.9	92915.1	-13.5	40498.5
	0.0	-933.1	-19.9	95875.5	-16.6	41941.6
	0.0	-343.6	-17.4	98223.8	-8.3	80506.8
	0.0	-352.3	-18.3	101184.1	-11.4	81949.9
	0.0	-830.2	-7.7	58023.0	38.2	23114.5
	0.0	-838.9	-8.6	60983.4	35.0	24557.7
	0.0	-249.3	-6.2	63331.7	43.4	63122.8
	0.0	-258.1	-7.1	66292.0	40.3	64565.9
360.	0.0	2798.2	6.7	218437.0	-1248.4	398549.8
	0.0	2780.3	5.8	221429.0	-1079.6	397650.4
	0.0	3505.0	8.3	223724.6	-1516.3	554437.8
	0.0	3487.2	7.3	226716.6	-1347.6	553538.4
	0.0	2999.0	18.0	183170.5	-3220.0	407148.4
	0.0	2981.2	17.0	186162.5	-3051.3	406249.1
	0.0	3705.8	19.5	188458.1	-3488.0	563036.4
	0.0	3688.0	18.6	191450.1	-3319.3	562137.1
	0.0	3782.3	-19.0	86878.1	3393.6	300426.3
	0.0	3764.5	-19.9	89870.1	3562.3	299527.0
	0.0	4489.1	-17.5	92165.7	3125.6	456314.3
	0.0	4471.3	-18.4	95157.7	3294.4	455415.0
	0.0	3983.2	-7.7	51611.6	1421.9	309024.9
	0.0	3965.3	-8.7	54603.6	1590.6	308125.6
	0.0	4690.0	-6.2	56899.2	1153.9	464912.9

	0.0	4672.2	-7.1	59891.2	1322.7	464013.6

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4819.1	6.5	347589.9	1196.5	523731.3
	0.0	-4831.1	5.6	350253.5	1045.1	526687.9
	0.0	-4024.5	7.8	376057.9	1438.8	497186.0
	0.0	-4036.4	7.0	378721.4	1287.4	500142.6
	0.0	-4689.4	15.9	316444.5	2931.9	490774.3
	0.0	-4701.3	15.0	319108.1	2780.5	493730.9
	0.0	-3894.7	17.2	344912.5	3174.2	464229.0
	0.0	-3906.6	16.4	347576.0	3022.8	467185.6
	0.0	-4902.9	-16.7	226909.4	-3091.1	435688.1
	0.0	-4914.8	-17.6	229572.9	-3242.5	438644.8
	0.0	-4108.2	-15.4	255377.3	-2848.7	409142.8
	0.0	-4120.1	-16.2	258040.9	-3000.2	412099.4
	0.0	-4773.1	-7.4	195764.0	-1355.7	402731.1
	0.0	-4785.0	-8.2	198427.5	-1507.1	405687.8
	0.0	-3978.4	-6.0	224231.9	-1113.4	376185.8
	0.0	-3990.4	-6.8	226895.5	-1264.8	379142.4
165.	0.0	-1870.7	6.4	346632.6	131.0	-21909.6
	0.0	-1894.0	5.6	349332.5	115.3	-21814.5
	0.0	-976.1	7.8	375123.6	154.2	91232.3
	0.0	-999.4	6.9	377823.6	138.5	91327.4
	0.0	-1607.3	15.8	315057.8	321.7	-22957.6
	0.0	-1630.6	15.0	317757.7	306.0	-22862.5
	0.0	-712.7	17.1	343548.8	344.9	90184.3
	0.0	-736.0	16.3	346248.8	329.3	90279.4
	0.0	-757.9	-16.6	221775.2	-336.5	-28600.5
	0.0	-781.2	-17.5	224475.2	-352.1	-28505.5
	0.0	136.8	-15.3	250266.3	-313.3	84541.3
	0.0	113.5	-16.1	252966.2	-328.9	84636.4
	0.0	-494.5	-7.3	190200.4	-145.8	-29648.5
	0.0	-517.8	-8.1	192900.4	-161.4	-29553.5
	0.0	400.2	-6.0	218691.5	-122.5	83493.3
	0.0	376.9	-6.8	221391.4	-138.2	83588.4
330.	0.0	593.5	6.4	346533.3	-931.4	-120602.5
	0.0	555.5	5.6	349276.3	-811.6	-125519.8
	0.0	1548.7	7.8	375118.0	-1126.6	146040.3
	0.0	1510.7	6.9	377861.0	-1006.9	141123.0
	0.0	1029.7	15.8	314450.9	-2280.5	-64443.6
	0.0	991.8	15.0	317193.9	-2160.8	-69360.9
	0.0	1984.9	17.1	343035.6	-2475.8	202199.2
	0.0	1946.9	16.3	345778.6	-2356.1	197281.9
	0.0	3179.4	-16.7	217190.0	2409.7	174159.4
	0.0	3141.4	-17.5	219933.0	2529.5	169242.1
	0.0	4134.6	-15.3	245774.8	2214.4	440802.2
	0.0	4096.6	-16.2	248517.8	2334.2	435884.9
	0.0	3615.6	-7.3	185107.7	1060.5	230318.2
	0.0	3577.6	-8.1	187850.7	1180.3	225400.9
	0.0	4570.8	-6.0	213692.4	865.3	496961.1
	0.0	4532.8	-6.8	216435.4	985.0	492043.7

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3568.4	4.6	257948.4	840.5	213055.9
	0.0	-3558.5	3.9	260691.6	720.7	213822.0
	0.0	-3195.1	5.7	245799.8	1030.3	252889.7
	0.0	-3185.2	5.0	248543.0	910.6	253655.8
	0.0	-3697.6	11.8	225954.5	2124.4	206136.5
	0.0	-3687.7	11.1	228697.7	2004.6	206902.6
	0.0	-3324.2	12.9	213805.8	2314.3	245970.3
	0.0	-3314.3	12.2	216549.0	2194.5	246736.4
	0.0	-5872.2	-12.5	96533.2	-2245.5	369052.5
	0.0	-5862.3	-13.2	99276.4	-2365.3	369818.5
	0.0	-5498.8	-11.4	84384.6	-2055.6	408886.3
	0.0	-5488.9	-12.1	87127.8	-2175.4	409652.4
	0.0	-6001.4	-5.3	64539.2	-961.6	362133.1
	0.0	-5991.5	-6.0	67282.4	-1081.3	362899.1
	0.0	-5628.0	-4.2	52390.6	-771.7	401966.9
	0.0	-5618.1	-4.9	55133.8	-891.5	402733.0
210.	0.0	-1095.7	4.6	258887.1	-126.7	-264171.5
	0.0	-1108.7	3.9	261695.0	-103.9	-263643.0
	0.0	-790.1	5.7	246878.5	-158.7	-149571.8
	0.0	-803.0	5.0	249686.4	-135.9	-149043.3
	0.0	-955.6	11.8	226131.8	-352.6	-270921.6
	0.0	-968.6	11.1	228939.7	-329.9	-270393.1
	0.0	-650.0	12.9	214123.2	-384.6	-156321.9
	0.0	-663.0	12.2	216931.1	-361.9	-155793.4
	0.0	-1173.6	-12.5	91229.2	370.6	-364599.2
	0.0	-1186.5	-13.2	94037.1	393.3	-364070.6
	0.0	-867.9	-11.4	79220.6	338.6	-249999.5
	0.0	-880.9	-12.1	82028.5	361.3	-249470.9
	0.0	-1033.5	-5.3	58473.9	144.6	-371349.3
	0.0	-1046.4	-6.0	61281.8	167.4	-370820.7
	0.0	-727.8	-4.2	46465.3	112.6	-256749.6
	0.0	-740.8	-4.9	49273.2	135.4	-256221.0
420.	0.0	705.8	4.7	260863.0	-1102.1	-295134.6
	0.0	665.3	4.0	263746.9	-935.4	-300146.0
	0.0	708.6	5.7	248946.4	-1358.1	-143277.7
	0.0	668.1	5.1	251830.2	-1191.3	-148289.0
	0.0	1171.6	12.0	227215.2	-2852.8	-239204.3
	0.0	1131.0	11.3	230099.0	-2686.0	-244215.6
	0.0	1174.4	13.1	215298.5	-3108.7	-87347.3
	0.0	1133.8	12.4	218182.3	-2942.0	-92358.7
	0.0	3247.9	-12.7	86290.7	3010.9	-143232.0
	0.0	3207.3	-13.3	89174.5	3177.7	-148243.3
	0.0	3250.7	-11.6	74374.0	2755.0	8625.0
	0.0	3210.1	-12.3	77257.8	2921.8	3613.6
	0.0	3713.6	-5.3	52642.8	1260.3	-87301.6
	0.0	3673.1	-6.0	55526.6	1427.0	-92312.9
	0.0	3716.4	-4.3	40726.1	1004.3	64555.4
	0.0	3675.9	-5.0	43609.9	1171.1	59544.0

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1589.4	0.1	178523.8	31.6	73134.1
	0.0	-1584.3	-0.5	177271.3	-95.7	67179.0
	0.0	-1913.0	1.1	179202.0	235.0	73678.8
	0.0	-1907.8	0.5	177949.6	107.8	67723.7
	0.0	-1640.6	6.7	194018.5	1361.0	141082.2
	0.0	-1635.4	6.1	192766.0	1233.7	135127.2
	0.0	-1964.1	7.7	194696.7	1564.4	141626.9
	0.0	-1959.0	7.1	193444.3	1437.2	135671.9
	0.0	-1712.4	-7.3	9259.0	-1485.2	-453494.6
	0.0	-1707.2	-8.0	8006.5	-1612.4	-459449.7
	0.0	-2035.9	-6.3	9937.2	-1281.8	-452949.9
	0.0	-2030.7	-7.0	8684.8	-1409.0	-458905.0
	0.0	-1763.5	-0.8	24753.7	-155.8	-385546.5
	0.0	-1758.3	-1.4	23501.3	-283.0	-391501.5
	0.0	-2087.1	0.3	25431.9	47.6	-385001.8
	0.0	-2081.9	-0.4	24179.5	-79.6	-390956.8
175.	0.0	-203.4	0.1	176099.4	8.6	-88186.6
	0.0	-181.4	-0.5	174853.1	-8.9	-91594.7
	0.0	-222.5	1.1	177681.0	36.3	-117559.6
	0.0	-200.5	0.5	176434.7	18.8	-120967.7
	0.0	-453.9	6.7	191517.6	189.2	-48627.4
	0.0	-431.9	6.0	190271.3	171.7	-52035.5
	0.0	-473.0	7.7	193099.2	216.9	-78000.4
	0.0	-451.0	7.0	191852.9	199.4	-81408.5
	0.0	1690.8	-7.3	7721.0	-205.6	-440026.8
	0.0	1712.8	-7.9	6474.6	-223.1	-443434.9

	0.0	1671.7	-6.3	9302.5	-177.9	-469399.8
	0.0	1693.7	-6.9	8056.2	-195.4	-472807.9
	0.0	1440.3	-0.7	23139.1	-25.0	-400467.6
	0.0	1462.3	-1.4	21892.8	-42.5	-403875.7
	0.0	1421.3	0.3	24720.7	2.7	-429840.6
	0.0	1443.3	-0.4	23474.4	-14.8	-433248.7
350.	0.0	1494.6	0.1	174165.3	-14.1	20089.9
	0.0	1522.6	-0.5	172921.7	77.6	21208.0
	0.0	1779.7	1.1	176654.7	-161.3	13934.5
	0.0	1807.8	0.5	175411.0	-69.6	15052.5
	0.0	1172.7	6.7	189549.9	-976.6	7794.9
	0.0	1200.7	6.0	188306.2	-884.9	8912.9
	0.0	1457.9	7.7	192039.2	-1123.8	1639.4
	0.0	1485.9	7.0	190795.6	-1032.1	2757.5
	0.0	4128.3	-7.3	6204.4	1067.6	82256.6
	0.0	4156.3	-7.9	4960.8	1159.3	83374.7
	0.0	4413.4	-6.3	8693.8	920.4	76101.2
	0.0	4441.4	-6.9	7450.1	1012.1	77219.2
	0.0	3806.4	-0.7	21589.0	105.0	69961.6
	0.0	3834.4	-1.4	20345.3	196.7	71079.6
	0.0	4091.6	0.3	24078.3	-42.2	63806.1
	0.0	4119.6	-0.4	22834.6	49.5	64924.2

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4430.3	0.1	107737.9	-6.6	318684.8
	0.0	-4409.1	-0.6	105844.1	-130.2	310752.0
	0.0	-4915.2	1.4	157880.2	197.7	367732.9
	0.0	-4894.1	0.6	155986.4	74.0	359800.1
	0.0	-4678.6	8.0	130448.5	1310.0	411907.5
	0.0	-4657.4	7.3	128554.6	1186.3	403974.7
	0.0	-5163.6	9.2	180590.8	1514.3	460955.6
	0.0	-5142.4	8.5	178697.0	1390.6	453022.7
	0.0	-2020.1	-8.8	-109008.7	-1436.5	-622881.7
	0.0	-1999.0	-9.5	-110902.6	-1560.1	-630814.5
	0.0	-2505.1	-7.5	-58866.4	-1232.2	-573833.7
	0.0	-2483.9	-8.3	-60760.2	-1355.9	-581766.5
	0.0	-2268.4	-0.9	-86298.2	-119.9	-529659.1
	0.0	-2247.3	-1.6	-88192.0	-243.6	-537591.9
	0.0	-2753.4	0.3	-36155.8	84.3	-480611.0
	0.0	-2732.3	-0.4	-38049.7	-39.3	-488543.8
175.	0.0	-1809.1	0.1	105188.0	-31.1	-227605.7
	0.0	-1774.9	-0.6	103302.9	-24.4	-230559.2
	0.0	-2323.4	1.4	155926.4	-41.4	-265511.2
	0.0	-2289.2	0.6	154041.3	-34.7	-268464.7
	0.0	-2210.8	8.0	127793.0	-90.1	-192860.2
	0.0	-2176.6	7.2	125907.9	-83.3	-195813.7
	0.0	-2725.1	9.2	178531.4	-100.4	-230765.7
	0.0	-2690.9	8.5	176646.2	-93.6	-233719.2
	0.0	2157.2	-8.8	-110485.1	96.8	-594927.1
	0.0	2191.4	-9.5	-112370.3	103.5	-597880.6
	0.0	1642.9	-7.5	-59746.8	86.5	-632832.6
	0.0	1677.1	-8.3	-61631.9	93.2	-635786.1
	0.0	1755.5	-0.9	-87880.2	37.9	-560181.6
	0.0	1789.7	-1.6	-89765.3	44.6	-563135.1
	0.0	1241.2	0.3	-37141.8	27.6	-598087.1
	0.0	1275.4	-0.4	-39026.9	34.3	-601040.6
350.	0.0	857.1	0.1	102931.0	-56.4	-312189.7
	0.0	895.9	-0.6	101049.4	80.9	-308643.2
	0.0	285.8	1.4	154406.7	-281.6	-444850.6
	0.0	324.5	0.6	152525.0	-144.2	-441304.1
	0.0	402.2	8.0	125493.3	-1492.7	-353799.7
	0.0	441.0	7.3	123611.7	-1355.3	-350253.2
	0.0	-169.1	9.3	176969.0	-1717.8	-486460.6
	0.0	-130.4	8.5	175087.3	-1580.5	-482914.1
	0.0	5357.4	-8.8	-112269.1	1632.8	75511.2
	0.0	5396.1	-9.5	-114150.8	1770.1	79057.7
	0.0	4786.1	-7.6	-60793.5	1407.6	-57149.7
	0.0	4824.8	-8.3	-62675.1	1545.0	-53603.2
	0.0	4902.5	-0.9	-89706.8	196.5	33901.2
	0.0	4941.2	-1.7	-91588.5	333.9	37447.7
	0.0	4331.2	0.3	-38231.2	-28.6	-98759.7
	0.0	4369.9	-0.4	-40112.8	108.7	-95213.2

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4320.0	4.4	-213833.3	752.9	287999.0
	0.0	-4338.0	3.7	-216095.5	643.1	295103.8
	0.0	-3790.3	5.5	-163132.2	932.1	233329.0
	0.0	-3808.3	4.9	-165394.4	822.2	240433.9
	0.0	-4107.2	11.7	-186782.7	1935.2	204227.0
	0.0	-4125.2	11.0	-189044.9	1825.3	211331.8
	0.0	-3577.5	12.8	-136081.6	2114.3	149557.0
	0.0	-3595.5	12.2	-138343.8	2004.4	156661.9
	0.0	-2604.9	-12.4	-15850.5	-2049.3	-419423.6
	0.0	-2623.0	-13.1	-18112.7	-2159.2	-412318.7
	0.0	-2075.3	-11.3	34850.6	-1870.2	-474093.6
	0.0	-2093.3	-12.0	32588.4	-1980.1	-466988.7
	0.0	-2392.1	-5.1	11200.1	-867.1	-503195.6
	0.0	-2410.2	-5.8	8937.9	-977.0	-496090.7
	0.0	-1862.5	-4.0	61901.2	-688.0	-557865.6
	0.0	-1880.5	-4.7	59639.0	-797.9	-550760.7
175.	0.0	-1929.9	4.4	-211743.8	-21.0	-259626.1
	0.0	-1960.4	3.7	-213995.8	-10.4	-256895.9
	0.0	-1359.6	5.5	-160389.4	-36.1	-218608.5
	0.0	-1390.1	4.8	-162641.4	-25.5	-215878.4
	0.0	-1569.9	11.7	-184815.1	-115.5	-291760.9
	0.0	-1600.4	11.0	-187067.2	-104.9	-289030.7
	0.0	-999.7	12.8	-133460.7	-130.6	-250743.3
	0.0	-1030.2	12.1	-135712.8	-120.0	-248013.1
	0.0	1019.3	-12.4	-14736.9	122.0	-546019.6
	0.0	988.8	-13.1	-16988.9	132.6	-543289.5
	0.0	1589.6	-11.3	36617.5	106.8	-505002.1
	0.0	1559.1	-12.0	34365.5	117.4	-502271.9
	0.0	1379.3	-5.1	12191.8	27.5	-578154.4
	0.0	1348.8	-5.8	9939.7	38.1	-575424.2
	0.0	1949.5	-4.0	63546.1	12.3	-537136.8
	0.0	1919.0	-4.7	61294.1	23.0	-534406.7
350.	0.0	541.1	4.4	-210243.8	-795.5	-383091.0
	0.0	506.2	3.7	-212491.9	-664.1	-386195.1
	0.0	1184.3	5.6	-158093.2	-1005.3	-236179.1
	0.0	1149.4	4.9	-160341.3	-873.9	-239283.2
	0.0	952.4	11.8	-183362.1	-2169.6	-346397.2
	0.0	917.6	11.1	-185610.2	-2038.2	-349501.3
	0.0	1595.7	12.9	-131211.5	-2379.5	-199485.3
	0.0	1560.8	12.2	-133459.6	-2248.1	-202589.4
	0.0	3913.3	-12.5	-13664.3	2297.0	-105094.0
	0.0	3878.4	-13.2	-15912.4	2428.4	-108198.1
	0.0	4556.5	-11.3	38486.3	2087.2	41817.9
	0.0	4521.7	-12.0	36238.2	2218.6	38713.8
	0.0	4324.7	-5.1	13217.4	922.9	-68400.2
	0.0	4289.8	-5.8	10969.3	1054.3	-71504.3
	0.0	4967.9	-4.0	65368.0	713.0	78511.7
	0.0	4933.0	-4.7	63119.9	844.4	75407.6

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1637.1	6.1	-210342.8	1231.5	80717.3
	0.0	-1647.3	5.2	-212273.9	1040.6	88099.9
	0.0	-1211.8	7.5	-210669.0	1521.4	74518.3
	0.0	-1222.0	6.6	-212600.1	1330.5	81901.0
	0.0	-1528.6	15.9	-186715.9	3221.9	-3420.9

	0.0	-1538.8	15.0	-188647.0	3031.0	3961.8
	0.0	-1103.3	17.4	-187042.1	3511.8	-9619.8
	0.0	-1113.5	16.4	-188973.3	3320.9	-2237.1
	0.0	-1739.7	-16.8	-2624.3	-3397.5	-358330.5
	0.0	-1749.9	-17.7	-4555.5	-3588.4	-350947.9
	0.0	-1314.4	-15.4	-2950.6	-3107.6	-364529.5
	0.0	-1324.6	-16.3	-4881.7	-3298.5	-357146.8
	0.0	-1631.2	-7.0	21002.6	-1407.2	-442468.7
	0.0	-1641.4	-7.9	19071.4	-1598.1	-435086.0
	0.0	-1205.9	-5.5	20676.3	-1117.2	-448667.6
	0.0	-1216.1	-6.5	18745.2	-1308.1	-441285.0
175.	0.0	-140.3	6.0	-209180.6	168.9	-81305.5
	0.0	-168.7	5.1	-211102.9	142.1	-77487.7
	0.0	-86.4	7.5	-208392.2	208.6	-45697.2
	0.0	-114.8	6.5	-210314.5	181.8	-41879.4
	0.0	183.1	15.8	-185662.4	444.5	-125473.8
	0.0	154.7	14.9	-187584.7	417.6	-121656.0
	0.0	237.0	17.2	-184874.0	484.2	-89865.5
	0.0	208.6	16.3	-186796.3	457.3	-86047.7
	0.0	1505.3	-16.7	-2501.4	-469.1	-368185.3
	0.0	1476.9	-17.6	-4423.6	-496.0	-364367.5
	0.0	1559.2	-15.2	-1713.0	-429.4	-332577.0
	0.0	1530.8	-16.2	-3635.2	-456.3	-328759.2
	0.0	1828.7	-6.9	21016.8	-193.6	-412353.6
	0.0	1800.3	-7.8	19094.5	-220.5	-408535.8
	0.0	1882.6	-5.5	21805.2	-153.9	-376745.4
	0.0	1854.2	-6.4	19882.9	-180.8	-372927.5
350.	0.0	1803.7	6.0	-208600.6	-888.3	57617.0
	0.0	1768.8	5.1	-210519.3	-752.0	55737.1
	0.0	1489.4	7.5	-206695.8	-1097.6	70481.2
	0.0	1454.6	6.5	-208614.5	-961.3	68601.3
	0.0	2203.3	15.8	-185125.7	-2319.0	78641.0
	0.0	2168.4	14.9	-187044.4	-2182.7	76761.1
	0.0	1889.1	17.2	-183220.9	-2528.3	91505.2
	0.0	1854.2	16.3	-185139.6	-2392.0	89625.3
	0.0	4093.9	-16.7	-2385.2	2444.6	130549.7
	0.0	4059.0	-17.6	-4303.9	2580.9	128669.8
	0.0	3779.7	-15.2	-480.4	2235.3	143413.9
	0.0	3744.8	-16.2	-2399.1	2371.6	141534.0
	0.0	4493.5	-6.9	21089.8	1013.9	151573.7
	0.0	4458.7	-7.8	19171.1	1150.2	149693.9
	0.0	4179.3	-5.5	22994.5	804.6	164437.9
	0.0	4144.4	-6.4	21075.8	940.9	162558.0

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2668.0	0.2	-122955.1	29.4	128655.3
	0.0	-2669.5	-0.3	-121621.9	-55.0	128829.9
	0.0	-2472.5	1.1	-123320.4	166.3	37719.5
	0.0	-2474.1	0.6	-121987.3	81.9	37894.1
	0.0	-2649.6	5.5	-138982.4	911.6	126618.3
	0.0	-2651.2	5.0	-137649.3	827.2	126792.9
	0.0	-2454.2	6.4	-139347.7	1048.5	35682.5
	0.0	-2455.7	5.9	-138014.6	964.1	35857.1
	0.0	-2871.5	-6.1	25641.5	-997.3	150237.6
	0.0	-2873.0	-6.6	26974.6	-1081.6	150412.1
	0.0	-2676.0	-5.2	25276.2	-860.3	59301.7
	0.0	-2677.6	-5.7	26609.3	-944.7	59476.3
	0.0	-2853.1	-0.8	9614.1	-115.1	148200.6
	0.0	-2854.7	-1.3	10947.3	-199.4	148375.2
	0.0	-2657.7	0.1	9248.8	21.8	57264.8
	0.0	-2659.2	-0.4	10581.9	-62.5	57439.4
195.	0.0	-370.0	0.2	-121376.8	-18.1	-174896.7
	0.0	-370.7	-0.3	-120096.2	-3.4	-174937.7
	0.0	58.4	1.1	-121693.3	-42.3	-201583.5
	0.0	57.7	0.6	-120412.6	-27.6	-201624.5
	0.0	-361.9	5.5	-136784.9	-167.1	-174409.3
	0.0	-362.6	5.0	-135504.2	-152.5	-174450.3
	0.0	66.5	6.4	-137101.3	-191.3	-201096.1
	0.0	65.8	5.9	-135820.6	-176.6	-201137.0
	0.0	-451.7	-6.1	21038.9	182.1	-180291.1
	0.0	-452.4	-6.6	22319.5	196.8	-180332.0
	0.0	-23.4	-5.2	20722.5	158.0	-206977.8
	0.0	-24.1	-5.7	22003.1	172.7	-207018.8
	0.0	-443.6	-0.8	5630.9	33.1	-179803.6
	0.0	-444.3	-1.3	6911.5	47.8	-179844.6
	0.0	-15.2	0.1	5314.4	9.0	-206490.4
	0.0	-15.9	-0.4	6595.1	23.6	-206531.4
390.	0.0	2405.0	0.3	-120218.0	-66.5	15272.7
	0.0	2404.9	-0.3	-118985.5	47.9	15152.9
	0.0	2865.5	1.1	-120486.7	-252.8	78466.4
	0.0	2865.4	0.6	-119254.1	-138.4	78346.6
	0.0	2406.4	5.6	-135060.0	-1253.9	16634.5
	0.0	2406.3	5.1	-133827.4	-1139.5	16514.7
	0.0	2867.0	6.4	-135328.6	-1440.3	79828.2
	0.0	2866.8	5.9	-134096.0	-1325.9	79708.4
	0.0	2393.7	-6.1	16509.0	1370.4	1620.7
	0.0	2393.6	-6.6	17741.5	1484.8	1500.9
	0.0	2854.3	-5.3	16240.4	1184.0	64814.4
	0.0	2854.1	-5.8	17472.9	1298.4	64694.6
	0.0	2395.1	-0.8	1667.1	182.9	2982.5
	0.0	2395.0	-1.3	2899.6	297.3	2862.7
	0.0	2855.7	0.1	1398.4	-3.5	66176.2
	0.0	2855.5	-0.5	2631.0	110.9	66056.4

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2924.7	3.1	160687.1	680.9	20010.2
	0.0	-2924.2	2.6	162846.9	564.4	20003.8
	0.0	-2355.6	3.9	159657.1	864.2	-44049.7
	0.0	-2355.0	3.4	161817.0	747.8	-44056.1
	0.0	-2930.8	8.5	135079.1	1887.5	20030.9
	0.0	-2930.3	8.0	137239.0	1771.1	20024.5
	0.0	-2361.6	9.3	134049.2	2070.8	-44029.0
	0.0	-2361.1	8.8	136209.1	1954.4	-44035.4
	0.0	-2972.3	-9.0	-8251.1	-1995.8	16367.1
	0.0	-2971.7	-9.5	-6091.3	-2112.2	16360.7
	0.0	-2403.1	-8.2	-9281.0	-1812.5	-47692.8
	0.0	-2402.5	-8.7	-7121.2	-1928.9	-47699.2
	0.0	-2978.4	-3.6	-33859.0	-789.2	16387.8
	0.0	-2977.8	-4.1	-31699.2	-905.6	16381.4
	0.0	-2409.2	-2.8	-34888.9	-605.8	-47672.1
	0.0	-2408.6	-3.3	-32729.1	-722.3	-47678.5
210.	0.0	-21.1	3.1	162358.7	30.6	-284085.3
	0.0	-21.2	2.6	164569.9	22.3	-284039.3
	0.0	516.6	3.9	161281.3	44.0	-227572.1
	0.0	516.5	3.4	163492.5	35.7	-227526.2
	0.0	-19.6	8.4	136146.0	111.1	-284606.9
	0.0	-19.7	7.9	138357.2	102.8	-284561.0
	0.0	518.0	9.2	135068.7	124.5	-228093.8
	0.0	517.9	8.7	137279.8	116.2	-228047.8
	0.0	-4.9	-8.9	-11548.3	-119.0	-291882.9
	0.0	-5.0	-9.4	-9337.1	-127.3	-291836.9
	0.0	532.8	-8.1	-12625.7	-105.5	-235369.7
	0.0	532.7	-8.6	-10414.5	-113.8	-235323.8
	0.0	-3.4	-3.6	-37761.0	-38.5	-292404.5
	0.0	-3.5	-4.1	-35549.8	-46.8	-292358.6
	0.0	534.2	-2.8	-38838.3	-25.0	-235891.4
	0.0	534.1	-3.3	-36627.2	-33.3	-235845.4
420.	0.0	2653.4	3.1	164680.9	-617.7	-4899.4
	0.0	2652.4	2.6	166952.2	-518.4	-4961.5
	0.0	2897.7	3.9	163551.7	-773.3	138731.4

0.0	2896.7	3.4	165823.0	-674.0	138669.3
0.0	2665.5	8.4	137758.4	-1658.0	-4055.8
0.0	2664.5	7.9	140029.8	-1558.7	-4117.9
0.0	2909.8	9.3	136629.2	-1813.6	139575.0
0.0	2908.8	8.7	138900.6	-1714.3	139512.9
0.0	2784.7	-8.9	-14891.7	1750.1	1866.1
0.0	2783.7	-9.4	-12620.4	1849.4	1804.0
0.0	3029.0	-8.1	-16020.9	1594.5	145496.9
0.0	3028.0	-8.6	-13749.6	1693.7	145434.8
0.0	2796.8	-3.6	-41814.2	709.8	2709.7
0.0	2795.8	-4.1	-39542.8	809.0	2647.6
0.0	3041.1	-2.8	-42943.3	554.2	146340.5
0.0	3040.1	-3.3	-40672.0	653.4	146278.4

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4566.1	0.0	26879.4	-9.2	487148.1
	0.0	-4558.1	-0.1	26445.1	-24.1	482786.7
	0.0	-4500.2	0.1	27680.6	15.0	477965.8
	0.0	-4492.1	0.0	27246.3	0.1	473604.4
	0.0	-4662.9	0.6	32058.0	164.8	539096.9
	0.0	-4654.8	0.5	31623.7	150.0	534735.6
	0.0	-4596.9	0.6	32859.1	189.0	529914.6
	0.0	-4588.8	0.6	32424.8	174.1	525553.3
	0.0	-3157.7	-0.6	-21508.5	-180.0	-216233.5
	0.0	-3149.6	-0.7	-21942.8	-194.9	-220594.9
	0.0	-3091.7	-0.5	-20707.4	-155.8	-225415.8
	0.0	-3083.6	-0.6	-21141.7	-170.7	-229777.2
	0.0	-3254.4	0.0	-16330.0	-5.9	-164284.7
	0.0	-3246.4	-0.1	-16764.3	-20.8	-168646.0
	0.0	-3188.4	0.1	-15528.8	18.2	-173467.0
	0.0	-3180.4	0.0	-15963.1	3.3	-177828.3
385.	0.0	-826.3	0.0	26523.6	0.0	-523864.0
	0.0	-814.3	0.0	26091.2	0.0	-524031.9
	0.0	-842.9	0.0	27342.0	0.0	-523795.3
	0.0	-830.8	0.0	26909.6	0.0	-523963.1
	0.0	-969.7	0.3	31679.6	0.0	-521867.7
	0.0	-957.6	0.3	31247.2	0.0	-522035.6
	0.0	-986.2	0.4	32498.0	0.0	-521798.9
	0.0	-974.2	0.3	32065.6	0.0	-521966.8
	0.0	1095.1	-0.3	-21656.7	0.0	-543677.8
	0.0	1107.1	-0.4	-22089.1	0.0	-543845.7
	0.0	1078.5	-0.3	-20838.3	0.0	-543609.0
	0.0	1090.6	-0.3	-21270.7	0.0	-543776.9
	0.0	951.7	0.0	-16500.6	0.0	-541681.5
	0.0	963.7	0.0	-16933.0	0.0	-541849.4
	0.0	935.2	0.0	-15682.2	0.0	-541612.7
	0.0	947.2	0.0	-16114.6	0.0	-541780.6
770.	0.0	2655.7	0.0	26387.0	10.7	-188972.9
	0.0	2663.7	-0.1	25952.9	25.4	-184997.8
	0.0	2574.2	0.0	27229.5	-13.3	-208750.7
	0.0	2582.2	0.0	26795.4	1.4	-204775.5
	0.0	2560.6	0.5	31563.2	-162.1	-236307.4
	0.0	2568.6	0.5	31129.1	-147.4	-232332.2
	0.0	2479.1	0.6	32405.7	-186.1	-256085.1
	0.0	2487.1	0.6	31971.6	-171.4	-252110.0
	0.0	4036.8	-0.6	-21983.9	178.6	466364.4
	0.0	4044.7	-0.6	-22418.0	193.3	470339.6
	0.0	3955.3	-0.5	-21141.5	154.5	446586.7
	0.0	3963.2	-0.6	-21575.5	169.2	450561.8
	0.0	3941.6	0.0	-16807.7	5.8	419030.0
	0.0	3949.6	-0.1	-17241.8	20.5	423005.1
	0.0	3860.1	0.1	-15965.3	-18.2	399252.2
	0.0	3868.1	0.0	-16399.4	-3.5	403227.4

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4840.5	0.1	10737.9	19.2	455141.2
	0.0	-4834.6	0.0	10538.9	6.3	452401.0
	0.0	-4800.8	0.1	11165.0	40.0	452798.3
	0.0	-4794.9	0.1	10965.9	27.2	450058.1
	0.0	-4911.4	0.6	13139.2	174.2	487980.3
	0.0	-4905.5	0.5	12940.2	161.4	485240.1
	0.0	-4871.7	0.7	13566.3	195.1	485637.3
	0.0	-4865.8	0.6	13367.2	182.2	482897.2
	0.0	-3177.6	-0.6	-10030.2	-187.7	-264490.9
	0.0	-3171.7	-0.7	-10229.3	-200.6	-267231.1
	0.0	-3137.9	-0.6	-9603.2	-166.8	-266833.9
	0.0	-3132.0	-0.6	-9802.2	-179.7	-269574.1
	0.0	-3248.5	-0.1	-7628.9	-32.7	-231651.9
	0.0	-3242.6	-0.2	-7828.0	-45.5	-234392.1
	0.0	-3208.8	0.0	-7201.9	-11.8	-233994.8
	0.0	-3202.9	-0.1	-7401.0	-24.7	-236735.0
385.	0.0	-821.8	0.0	10630.6	0.0	-593838.7
	0.0	-814.5	0.0	10432.4	0.0	-593902.6
	0.0	-833.2	0.1	11064.6	0.0	-590973.9
	0.0	-825.9	0.1	10866.4	0.0	-591037.8
	0.0	-909.7	0.3	13021.3	0.0	-593077.2
	0.0	-902.3	0.3	12823.2	0.0	-593141.1
	0.0	-921.1	0.4	13455.3	0.0	-590212.4
	0.0	-913.7	0.4	13257.1	0.0	-590276.3
	0.0	1077.9	-0.4	-10047.8	0.0	-603684.2
	0.0	1085.3	-0.4	-10246.0	0.0	-603748.1
	0.0	1066.5	-0.3	-9613.9	0.0	-600819.4
	0.0	1073.8	-0.3	-9812.0	0.0	-600883.3
	0.0	990.0	-0.1	-7657.1	0.0	-602922.7
	0.0	997.4	-0.1	-7855.3	0.0	-602986.6
	0.0	978.6	0.0	-7223.1	0.0	-600057.9
	0.0	986.0	0.0	-7421.3	0.0	-600121.8
770.	0.0	2645.7	0.1	10611.2	-19.7	-255353.3
	0.0	2651.5	0.0	10412.2	-6.8	-252766.8
	0.0	2589.8	0.1	11055.7	-40.8	-265722.4
	0.0	2595.6	0.1	10856.7	-27.9	-263135.9
	0.0	2575.9	0.6	13011.1	-174.3	-286348.8
	0.0	2581.6	0.5	12812.2	-161.3	-283762.4
	0.0	2519.9	0.7	13455.6	-195.4	-296717.9
	0.0	2525.7	0.6	13256.7	-182.5	-294131.4
	0.0	4288.7	-0.6	-10148.5	188.2	439154.5
	0.0	4294.5	-0.7	-10347.4	201.1	441741.0
	0.0	4232.8	-0.6	-9704.0	167.0	428785.4
	0.0	4238.5	-0.6	-9903.0	180.0	431371.9
	0.0	4218.8	-0.1	-7748.6	33.6	408158.9
	0.0	4224.6	-0.2	-7947.5	46.5	410745.4
	0.0	4162.9	0.0	-7304.1	12.5	397789.9
	0.0	4168.7	-0.1	-7503.0	25.4	400376.4

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4875.2	0.2	-975.0	51.4	441566.5
	0.0	-4874.9	0.1	-1128.5	36.4	441345.8
	0.0	-4867.1	0.3	-639.1	75.7	440567.8
	0.0	-4866.8	0.2	-792.6	60.7	440347.1
	0.0	-4879.8	0.8	840.7	234.8	444184.7
	0.0	-4879.5	0.7	687.3	219.8	443964.0
	0.0	-4871.7	0.9	1176.6	259.0	443186.0
	0.0	-4871.4	0.8	1023.2	244.0	442965.3
	0.0	-3231.4	-0.8	-4335.8	-250.3	-242788.3
	0.0	-3231.1	-0.9	-4489.3	-265.3	-243009.0
	0.0	-3223.3	-0.8	-4000.0	-226.0	-243787.0
	0.0	-3223.0	-0.8	-4153.4	-241.0	-244007.8
	0.0	-3236.0	-0.2	-2520.1	-66.9	-240170.1
	0.0	-3235.7	-0.3	-2673.6	-81.9	-240390.8

	0.0	-3227.9	-0.1	-2184.2	-42.7	-241168.8
	0.0	-3227.6	-0.2	-2337.7	-57.7	-241389.5
385.	0.0	-809.6	0.1	-908.0	0.0	-607877.7
	0.0	-808.9	0.1	-1060.8	0.0	-607878.8
	0.0	-810.4	0.1	-582.1	0.0	-607482.3
	0.0	-809.7	0.1	-734.9	0.0	-607483.4
	0.0	-817.4	0.5	899.9	0.0	-607876.2
	0.0	-816.7	0.4	747.1	0.0	-607877.3
	0.0	-818.1	0.5	1225.8	0.0	-607480.9
	0.0	-817.5	0.5	1073.0	0.0	-607481.9
	0.0	977.4	-0.5	-4254.6	0.0	-614525.0
	0.0	978.0	-0.5	-4407.4	0.0	-614526.0
	0.0	976.6	-0.4	-3928.7	0.0	-614129.6
	0.0	977.3	-0.5	-4081.5	0.0	-614130.6
	0.0	969.6	-0.1	-2446.7	0.0	-614523.5
	0.0	970.3	-0.2	-2599.5	0.0	-614524.5
	0.0	968.8	-0.1	-2120.8	0.0	-614128.1
	0.0	969.5	-0.1	-2273.6	0.0	-614129.2
770.	0.0	2617.5	0.2	-848.5	-51.1	-270708.4
	0.0	2617.8	0.1	-1001.9	-36.2	-270489.1
	0.0	2608.7	0.3	-529.9	-75.2	-272178.9
	0.0	2609.1	0.2	-683.3	-60.3	-271959.6
	0.0	2612.9	0.8	966.6	-233.5	-273310.4
	0.0	2613.3	0.7	813.2	-218.7	-273091.0
	0.0	2604.2	0.9	1285.2	-257.7	-274780.8
	0.0	2604.6	0.8	1131.8	-242.8	-274561.5
	0.0	4243.2	-0.8	-4208.6	249.2	395789.4
	0.0	4243.6	-0.9	-4362.0	264.1	396008.8
	0.0	4234.5	-0.8	-3890.0	225.1	394319.0
	0.0	4234.9	-0.8	-4043.4	240.0	394538.3
	0.0	4238.7	-0.2	-2393.5	66.7	393187.5
	0.0	4239.1	-0.3	-2546.9	81.6	393406.9
	0.0	4230.0	-0.1	-2074.9	42.6	391717.1
	0.0	4230.4	-0.2	-2228.3	57.5	391936.4

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4673.1	0.3	-17581.8	84.8	454380.3
	0.0	-4677.4	0.2	-17881.6	71.0	456670.6
	0.0	-4764.6	0.4	-16929.8	106.7	462314.6
	0.0	-4768.9	0.3	-17229.7	92.9	464604.9
	0.0	-4619.7	0.8	-14014.7	249.2	426433.0
	0.0	-4624.0	0.8	-14314.5	235.5	428723.3
	0.0	-4711.2	0.9	-13362.7	271.1	434367.2
	0.0	-4715.5	0.9	-13662.6	257.4	436657.6
	0.0	-3205.9	-0.9	6092.7	-263.0	-186514.3
	0.0	-3210.2	-0.9	5792.8	-276.7	-184224.0
	0.0	-3297.4	-0.8	6744.7	-241.1	-178580.1
	0.0	-3301.7	-0.9	6444.8	-254.8	-176289.7
	0.0	-3152.6	-0.3	9659.8	-98.6	-214461.7
	0.0	-3156.9	-0.4	9359.9	-112.3	-212171.3
	0.0	-3244.1	-0.3	10311.8	-76.7	-206527.4
	0.0	-3248.4	-0.3	10011.9	-90.4	-204237.0
385.	0.0	-834.4	0.2	-17443.4	0.0	-568478.5
	0.0	-840.7	0.1	-17742.0	0.0	-568403.1
	0.0	-824.6	0.2	-16801.5	0.0	-575838.5
	0.0	-830.9	0.2	-17100.0	0.0	-575763.1
	0.0	-757.3	0.5	-13891.8	0.0	-569401.0
	0.0	-763.7	0.5	-14190.4	0.0	-569325.6
	0.0	-747.5	0.5	-13249.9	0.0	-576761.0
	0.0	-753.9	0.5	-13548.4	0.0	-576685.6
	0.0	862.0	-0.5	6130.0	0.0	-577823.3
	0.0	855.6	-0.5	5831.4	0.0	-577747.9
	0.0	871.8	-0.5	6771.9	0.0	-585183.3
	0.0	865.4	-0.5	6473.4	0.0	-585107.9
	0.0	939.1	-0.2	9681.6	0.0	-578745.8
	0.0	932.7	-0.2	9383.0	0.0	-578670.5
	0.0	948.9	-0.1	10323.5	0.0	-586105.8
	0.0	942.5	-0.2	10025.0	0.0	-586030.4
770.	0.0	2529.3	0.3	-17449.3	-84.2	-256050.1
	0.0	2525.1	0.2	-17749.0	-70.4	-258155.9
	0.0	2630.8	0.4	-16812.1	-106.4	-241730.1
	0.0	2626.6	0.3	-17111.8	-92.6	-243835.9
	0.0	2581.6	0.8	-13883.8	-247.9	-230308.8
	0.0	2577.4	0.8	-14183.5	-234.1	-232414.6
	0.0	2683.0	0.9	-13246.6	-270.1	-215988.8
	0.0	2678.9	0.9	-13546.3	-256.3	-218094.6
	0.0	3978.6	-0.9	6217.9	261.3	361229.0
	0.0	3974.5	-0.9	5918.2	275.1	359123.3
	0.0	4080.1	-0.8	6855.2	239.1	375549.0
	0.0	4076.0	-0.8	6555.4	252.9	373443.2
	0.0	4030.9	-0.3	9783.4	97.6	386970.4
	0.0	4026.7	-0.4	9483.7	111.4	384864.6
	0.0	4132.4	-0.3	10420.7	75.4	401290.3
	0.0	4128.2	-0.3	10120.9	89.2	399184.5

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4137.5	0.3	-36834.4	99.8	439682.1
	0.0	-4142.8	0.3	-37299.1	87.3	443213.5
	0.0	-4250.1	0.4	-36024.4	119.7	456112.7
	0.0	-4255.4	0.4	-36489.1	107.2	459644.1
	0.0	-4072.4	0.8	-31259.6	244.6	397285.6
	0.0	-4077.8	0.8	-31724.2	232.1	400817.0
	0.0	-4185.0	0.9	-30449.6	264.5	413716.2
	0.0	-4190.3	0.8	-30914.3	251.9	417247.6
	0.0	-3126.1	-0.9	8051.2	-257.5	-99841.8
	0.0	-3131.5	-0.9	7586.5	-270.1	-96310.4
	0.0	-3238.7	-0.8	8861.1	-237.7	-83411.2
	0.0	-3244.0	-0.8	8396.5	-250.2	-79879.8
	0.0	-3061.1	-0.4	13626.0	-112.8	-142238.3
	0.0	-3066.4	-0.4	13161.3	-125.3	-138706.9
	0.0	-3173.6	-0.3	14436.0	-92.9	-125807.7
	0.0	-3179.0	-0.4	13971.3	-105.4	-122276.3
385.	0.0	-773.7	0.2	-36384.9	0.0	-486158.9
	0.0	-783.9	0.2	-36847.5	0.0	-485978.9
	0.0	-761.0	0.2	-35533.6	0.0	-488573.6
	0.0	-771.1	0.2	-35996.3	0.0	-488393.6
	0.0	-652.0	0.5	-30834.3	0.0	-488310.9
	0.0	-662.2	0.5	-31296.9	0.0	-488130.9
	0.0	-639.2	0.5	-29983.0	0.0	-490725.6
	0.0	-649.4	0.5	-30445.7	0.0	-490545.6
	0.0	725.6	-0.5	8309.9	0.0	-503326.7
	0.0	715.4	-0.5	7847.3	0.0	-503146.7
	0.0	738.4	-0.5	9161.2	0.0	-505741.4
	0.0	728.2	-0.5	8698.5	0.0	-505561.4
	0.0	847.3	-0.2	13860.6	0.0	-505478.7
	0.0	837.1	-0.2	13397.9	0.0	-505298.7
	0.0	860.1	-0.2	14711.8	0.0	-507893.5
	0.0	849.9	-0.2	14249.1	0.0	-507713.5
770.	0.0	2527.2	0.3	-36236.2	-100.3	-170355.1
	0.0	2522.0	0.3	-36700.6	-88.0	-173472.1
	0.0	2643.6	0.4	-35336.6	-120.0	-146781.4
	0.0	2638.4	0.4	-35801.1	-107.6	-149898.4
	0.0	2590.8	0.8	-30663.9	-244.6	-132870.3
	0.0	2585.6	0.8	-31128.3	-232.2	-135987.3
	0.0	2707.3	0.9	-29764.4	-264.2	-109296.5
	0.0	2702.1	0.8	-30228.8	-251.9	-112413.5
	0.0	3512.9	-0.9	8637.4	256.1	327172.4
	0.0	3507.7	-0.9	8173.0	268.5	324055.3
	0.0	3629.3	-0.8	9536.9	236.5	350746.1
	0.0	3624.1	-0.8	9072.5	248.8	347629.1

	0.0	3576.5	-0.4	14209.7	111.9	364657.2
	0.0	3571.3	-0.4	13745.3	124.2	361540.2
	0.0	3693.0	-0.3	15109.2	92.2	388230.9
	0.0	3687.8	-0.4	14644.8	104.6	385113.9

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3742.5	0.1	79096.0	14.4	203329.8
	0.0	-3706.0	-0.4	77825.5	-70.2	197374.8
	0.0	-4191.0	0.9	74069.3	152.8	210648.6
	0.0	-4154.5	0.4	72798.8	68.1	204693.6
	0.0	-4162.0	5.1	94973.7	903.2	271555.1
	0.0	-4125.5	4.7	93703.2	818.5	265600.1
	0.0	-4610.5	5.9	89947.0	1041.5	278873.9
	0.0	-4574.0	5.5	88676.5	956.9	272918.9
	0.0	-306.6	-5.6	-107188.0	-990.3	-332624.3
	0.0	-270.1	-6.1	-108458.5	-1075.0	-338579.3
	0.0	-755.1	-4.9	-112214.7	-852.0	-325305.4
	0.0	-718.6	-5.3	-113485.2	-936.6	-331260.5
	0.0	-726.1	-0.6	-91310.3	-101.6	-264399.0
	0.0	-689.6	-1.1	-92580.8	-186.2	-270354.0
	0.0	-1174.6	0.2	-96337.0	36.8	-257080.1
	0.0	-1138.1	-0.3	-97607.5	-47.9	-263035.2
210.	0.0	-1264.3	0.1	77224.0	-8.1	-331069.7
	0.0	-1233.7	-0.4	75952.1	8.2	-329740.6
	0.0	-1334.8	0.9	73281.4	-35.5	-378627.4
	0.0	-1304.2	0.4	72009.4	-19.2	-377298.3
	0.0	-1615.3	5.2	93118.9	-177.0	-346505.6
	0.0	-1584.6	4.7	91847.0	-160.7	-345176.5
	0.0	-1685.8	5.9	89176.3	-204.4	-394063.3
	0.0	-1655.1	5.5	87904.3	-188.1	-392734.2
	0.0	1505.0	-5.7	-109213.8	194.4	-187229.0
	0.0	1535.7	-6.1	-110485.7	210.7	-185899.9
	0.0	1434.5	-4.9	-113156.4	167.0	-234786.8
	0.0	1465.2	-5.3	-114428.3	183.3	-233457.7
	0.0	1154.0	-0.6	-93318.8	25.5	-202664.9
	0.0	1184.7	-1.1	-94590.8	41.8	-201335.8
	0.0	1083.6	0.2	-97261.5	-1.9	-250222.7
	0.0	1114.2	-0.3	-98533.4	14.4	-248893.6
420.	0.0	1782.5	0.1	75661.3	-31.2	-288386.9
	0.0	1794.0	-0.4	74382.9	87.2	-282383.1
	0.0	2123.5	0.9	72787.0	-226.1	-308358.8
	0.0	2135.0	0.4	71508.5	-107.8	-302355.0
	0.0	1657.8	5.2	91637.2	-1268.7	-356663.6
	0.0	1669.4	4.7	90358.7	-1150.4	-350659.8
	0.0	1998.8	6.0	88762.8	-1463.7	-376635.5
	0.0	2010.4	5.6	87484.4	-1345.3	-370631.7
	0.0	2268.5	-5.7	-111677.1	1391.8	226694.1
	0.0	2280.0	-6.2	-112955.5	1510.2	232697.9
	0.0	2609.5	-4.9	-114551.4	1196.9	206722.2
	0.0	2621.0	-5.4	-115829.9	1315.2	212726.0
	0.0	2143.8	-0.6	-95701.2	154.3	158417.4
	0.0	2155.3	-1.1	-96979.7	272.6	164421.2
	0.0	2484.8	0.2	-98575.6	-40.7	138445.5
	0.0	2496.3	-0.3	-99854.0	77.7	144449.3

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5620.2	0.2	176508.0	58.5	326590.0
	0.0	-5574.2	-0.4	174739.8	-64.4	318338.0
	0.0	-5253.7	1.1	134319.4	258.0	211581.1
	0.0	-5207.6	0.5	132551.3	135.1	203329.1
	0.0	-6162.1	6.1	197993.1	1341.2	423779.6
	0.0	-6116.1	5.6	196224.9	1218.3	415527.6
	0.0	-5795.6	7.1	155804.6	1540.7	308770.8
	0.0	-5749.6	6.5	154036.4	1417.8	300518.8
	0.0	-157.3	-6.7	-47157.1	-1465.7	-631624.2
	0.0	-111.3	-7.3	-48925.2	-1588.6	-639876.1
	0.0	209.2	-5.8	-89345.6	-1266.1	-746633.0
	0.0	255.2	-6.4	-91113.7	-1389.1	-754885.0
	0.0	-699.3	-0.8	-25671.9	-183.0	-534434.5
	0.0	-653.2	-1.3	-27440.1	-305.9	-542686.5
	0.0	-332.8	0.2	-67860.5	16.6	-649443.4
	0.0	-286.7	-0.4	-69628.6	-106.4	-657695.4
210.	0.0	-2225.1	0.2	174324.5	19.5	-501703.6
	0.0	-2184.0	-0.4	172553.8	15.1	-500629.9
	0.0	-1913.0	1.1	133022.7	27.4	-546329.5
	0.0	-1871.9	0.5	131252.0	23.0	-545255.9
	0.0	-2708.9	6.1	195839.2	58.2	-514309.8
	0.0	-2667.8	5.5	194068.6	53.8	-513236.2
	0.0	-2396.8	7.0	154537.5	66.1	-558935.8
	0.0	-2355.7	6.4	152766.8	61.7	-557862.2
	0.0	2642.8	-6.6	-49581.8	-63.2	-353894.9
	0.0	2683.9	-7.2	-51352.4	-67.6	-352821.3
	0.0	2954.9	-5.7	-90883.5	-55.3	-398520.9
	0.0	2996.0	-6.3	-92654.2	-59.7	-397447.2
	0.0	2159.0	-0.7	-28067.0	-24.5	-366501.2
	0.0	2200.1	-1.3	-29837.7	-28.9	-365427.5
	0.0	2471.1	0.2	-69368.7	-16.6	-411127.2
	0.0	2512.2	-0.4	-71139.4	-21.0	-410053.5
420.	0.0	1543.0	0.2	172839.4	-18.3	-582757.2
	0.0	1569.2	-0.4	171059.1	95.5	-574432.2
	0.0	1871.1	1.1	132258.9	-201.6	-561617.6
	0.0	1897.3	0.5	130478.6	-87.8	-553292.5
	0.0	1234.7	6.1	194470.1	-1221.1	-680741.8
	0.0	1260.9	5.5	192689.8	-1107.3	-672416.8
	0.0	1562.8	7.0	153889.6	-1404.3	-659602.2
	0.0	1589.0	6.5	152109.3	-1290.5	-651277.2
	0.0	4616.5	-6.7	-52205.1	1335.3	421568.7
	0.0	4642.7	-7.2	-53985.4	1449.1	429893.8
	0.0	4944.6	-5.8	-92785.6	1152.1	442708.4
	0.0	4970.8	-6.3	-94565.9	1265.9	451033.4
	0.0	4308.2	-0.7	-30574.5	132.5	323584.1
	0.0	4334.3	-1.3	-32354.8	246.3	331909.2
	0.0	4636.3	0.2	-71154.9	-50.7	344723.7
	0.0	4662.5	-0.4	-72935.2	63.1	353048.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5143.8	3.3	-143494.5	699.7	225644.3
	0.0	-5185.3	2.7	-145518.7	582.6	233086.5
	0.0	-5589.1	4.1	-185537.3	883.5	357680.4
	0.0	-5630.6	3.6	-187561.5	766.4	365122.6
	0.0	-4653.8	8.8	-119041.6	1919.8	137771.1
	0.0	-4695.3	8.2	-121065.8	1802.7	145213.3
	0.0	-5099.1	9.6	-161084.4	2103.5	269807.2
	0.0	-5140.6	9.0	-163108.6	1986.5	277249.4
	0.0	-979.9	-9.2	59730.0	-2027.6	-498809.7
	0.0	-1021.4	-9.8	57705.7	-2144.6	-491367.4
	0.0	-1425.2	-8.4	17687.1	-1843.8	-366773.6
	0.0	-1466.7	-8.9	15662.9	-1960.9	-359331.3
	0.0	-489.8	-3.7	84182.9	-807.5	-586682.9
	0.0	-531.3	-4.3	82158.7	-924.5	-579240.7
	0.0	-935.1	-2.9	42140.1	-623.7	-454646.8
	0.0	-976.6	-3.4	40115.8	-740.8	-447204.6
210.	0.0	-1902.7	3.2	-142333.3	18.8	-520727.7
	0.0	-1939.6	2.7	-144360.7	10.9	-521685.0
	0.0	-2273.9	4.0	-183417.2	32.0	-473482.2
	0.0	-2310.7	3.5	-185444.5	24.1	-474439.5
	0.0	-1467.6	8.7	-117842.7	90.9	-509443.5
	0.0	-1504.5	8.1	-119870.1	83.0	-510400.8
	0.0	-1838.7	9.5	-158926.5	104.0	-462197.9

	0.0	-1875.6	9.0	-160953.9	96.1	-463155.3
	0.0	1789.1	-9.1	61114.9	-99.1	-403367.3
	0.0	1752.3	-9.7	59087.5	-107.0	-404324.6
	0.0	1418.0	-8.3	20031.0	-85.9	-356121.7
	0.0	1381.1	-8.8	18003.7	-93.8	-357079.0
	0.0	2224.2	-3.7	85605.5	-27.0	-392083.1
	0.0	2187.4	-4.2	83578.1	-34.9	-393040.4
	0.0	1853.1	-2.9	44521.7	-13.8	-344837.5
	0.0	1816.3	-3.4	42494.3	-21.7	-345794.8
420.	0.0	1834.8	3.2	-141742.4	-661.0	-539531.2
	0.0	1812.2	2.7	-143781.1	-560.2	-546911.6
	0.0	1461.9	4.1	-182031.9	-817.5	-568840.7
	0.0	1439.3	3.5	-184070.5	-716.7	-576221.1
	0.0	2102.1	8.7	-117116.0	-1732.1	-452376.5
	0.0	2079.5	8.2	-119154.6	-1631.4	-459756.9
	0.0	1729.3	9.5	-157405.5	-1888.6	-481686.0
	0.0	1706.6	9.0	-159444.1	-1787.9	-489066.4
	0.0	4097.6	-9.2	62744.7	1822.9	221121.5
	0.0	4075.0	-9.7	60706.1	1923.7	213741.1
	0.0	3724.8	-8.4	22455.2	1666.4	191812.0
	0.0	3702.2	-8.9	20416.6	1767.1	184431.6
	0.0	4365.0	-3.7	87371.1	751.7	308276.2
	0.0	4342.4	-4.2	85332.5	852.5	300895.8
	0.0	3992.1	-2.9	47081.6	595.2	278966.7
	0.0	3969.5	-3.4	45043.0	696.0	271586.3

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4565.6	4.6	-118797.8	817.3	297931.7
	0.0	-4610.4	3.9	-120567.9	691.0	305465.1
	0.0	-4045.3	5.8	-122646.9	1018.0	292770.8
	0.0	-4090.1	5.1	-124417.0	891.7	300304.1
	0.0	-4051.2	12.2	-96818.1	2144.4	211726.1
	0.0	-4095.9	11.5	-98588.2	2018.1	219259.4
	0.0	-3530.9	13.4	-100667.2	2345.1	206565.2
	0.0	-3575.7	12.6	-102437.3	2218.8	214098.5
	0.0	-1618.1	-12.9	97057.3	-2263.2	-167220.9
	0.0	-1662.9	-13.6	95287.2	-2389.5	-159687.6
	0.0	-1097.9	-11.7	93208.2	-2062.5	-172381.9
	0.0	-1142.6	-12.5	91438.2	-2188.8	-164848.5
	0.0	-1103.7	-5.3	119037.0	-936.1	-253426.6
	0.0	-1148.5	-6.0	117266.9	-1062.4	-245893.2
	0.0	-583.5	-4.2	115187.9	-735.4	-258587.5
	0.0	-628.2	-4.9	113417.9	-861.7	-251054.2
210.	0.0	-1629.6	4.6	-118689.0	-155.8	-364133.4
	0.0	-1667.9	3.9	-120461.6	-130.5	-365580.0
	0.0	-1564.2	5.8	-121202.1	-197.5	-307373.5
	0.0	-1602.6	5.1	-122974.7	-172.3	-308820.1
	0.0	-1190.8	12.2	-96677.8	-416.3	-347287.1
	0.0	-1229.2	11.5	-98450.4	-391.0	-348733.8
	0.0	-1125.4	13.4	-99190.9	-458.0	-290527.2
	0.0	-1163.8	12.6	-100963.5	-432.8	-291973.8
	0.0	743.0	-12.9	97387.6	441.0	-246149.1
	0.0	704.6	-13.6	95615.1	466.2	-247595.7
	0.0	808.3	-11.7	94874.6	399.2	-189389.2
	0.0	770.0	-12.5	93102.0	424.5	-190835.8
	0.0	1181.7	-5.3	119398.9	180.5	-229302.8
	0.0	1143.4	-6.0	117626.3	205.7	-230749.4
	0.0	1247.1	-4.2	116885.8	138.7	-172542.9
	0.0	1208.7	-4.9	115113.2	164.0	-173989.5
420.	0.0	2041.2	4.7	-119055.8	-1139.1	-335687.9
	0.0	2023.5	4.0	-120838.0	-960.7	-343289.6
	0.0	1612.9	5.9	-120242.9	-1426.0	-316089.9
	0.0	1595.1	5.2	-122025.1	-1247.5	-323691.6
	0.0	2235.5	12.4	-96924.9	-3004.3	-249256.4
	0.0	2217.8	11.7	-98707.0	-2825.9	-256858.1

	0.0	1807.2	13.6	-98112.0	-3291.2	-229658.3
	0.0	1789.4	12.9	-99894.2	-3112.7	-237260.1
	0.0	2436.9	-13.1	98108.1	3174.1	98400.9
	0.0	2419.2	-13.8	96326.0	3352.5	90799.2
	0.0	2008.6	-11.9	96921.0	2887.2	117999.0
	0.0	1990.8	-12.7	95138.8	3065.6	110397.3
	0.0	2631.2	-5.4	120239.1	1308.9	184832.5
	0.0	2613.5	-6.1	118456.9	1487.3	177230.7
	0.0	2202.9	-4.2	119051.9	1022.0	204430.5
	0.0	2185.1	-5.0	117269.7	1200.4	196828.8

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2564.2	0.1	-11936.8	28.5	117538.5
	0.0	-2535.3	-0.6	-10467.6	-111.7	114194.9
	0.0	-2668.9	1.2	-3345.1	258.5	21229.8
	0.0	-2640.0	0.5	-1875.8	118.3	17886.2
	0.0	-2897.0	7.3	-29411.7	1500.6	155003.9
	0.0	-2868.1	6.6	-27942.4	1360.4	151660.3
	0.0	-3001.7	8.4	-20819.9	1730.6	58695.1
	0.0	-2972.8	7.7	-19350.7	1590.4	55351.5
	0.0	118.3	-8.0	126265.4	-1645.5	-100800.8
	0.0	147.1	-8.7	127734.6	-1785.7	-104144.4
	0.0	13.6	-6.9	134857.1	-1415.5	-197109.6
	0.0	42.5	-7.5	136326.4	-1555.8	-200453.2
	0.0	-214.5	-0.8	108790.6	-173.4	-63335.5
	0.0	-185.7	-1.5	110259.8	-313.6	-66679.1
	0.0	-319.2	0.3	117382.3	56.6	-159644.2
	0.0	-290.3	-0.4	118851.5	-83.7	-162987.8
195.	0.0	761.7	0.1	-8880.6	11.7	-63587.9
	0.0	767.2	-0.6	-7468.6	4.0	-63620.4
	0.0	958.9	1.2	-39.4	25.7	-147649.1
	0.0	964.4	0.5	1372.7	17.9	-147681.6
	0.0	705.2	7.2	-25682.3	86.9	-63591.4
	0.0	710.7	6.5	-24270.2	79.1	-63623.9
	0.0	902.4	8.3	-16841.0	100.8	-147652.6
	0.0	907.9	7.6	-15428.9	93.1	-147685.1
	0.0	657.8	-7.9	122616.9	-96.0	-35165.8
	0.0	663.3	-8.6	124029.0	-103.7	-35198.3
	0.0	855.0	-6.8	131458.1	-82.0	-119226.9
	0.0	860.5	-7.5	132870.2	-89.8	-119259.4
	0.0	601.4	-0.8	105815.3	-20.8	-35169.3
	0.0	606.8	-1.5	107227.4	-28.6	-35201.8
	0.0	798.5	0.3	114656.5	-6.9	-119230.4
	0.0	804.0	-0.4	116068.6	-14.6	-119262.9
390.	0.0	4408.8	0.1	-5855.2	-4.6	435644.6
	0.0	4393.6	-0.6	-4495.3	119.8	434620.1
	0.0	4733.4	1.2	3266.2	-206.0	404947.9
	0.0	4718.3	0.5	4626.0	-81.6	403923.4
	0.0	4595.7	7.2	-22041.6	-1322.8	448922.7
	0.0	4580.5	6.6	-20681.8	-1198.4	447898.3
	0.0	4920.3	8.4	-12920.3	-1524.1	418226.0
	0.0	4905.1	7.7	-11560.5	-1399.7	417201.6
	0.0	1826.2	-7.9	119392.1	1448.8	196915.8
	0.0	1811.1	-8.6	120751.9	1573.2	195891.4
	0.0	2150.9	-6.8	128513.4	1247.5	166219.1
	0.0	2135.7	-7.5	129873.2	1371.9	165194.7
	0.0	2013.1	-0.8	103205.6	130.7	210194.0
	0.0	1998.0	-1.5	104565.5	255.1	209169.5
	0.0	2337.8	0.3	112327.0	-70.6	179497.3
	0.0	2322.6	-0.4	113686.8	53.8	178472.8

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5077.0	-0.3	114260.2	-46.7	647214.8
	0.0	-5036.5	-1.0	116248.3	-171.4	640864.0

	0.0	-4395.3	0.7	89898.8	154.7	413543.2
	0.0	-4354.7	0.1	91886.9	30.0	407192.4
	0.0	-5542.7	6.9	91050.8	1341.9	719307.7
	0.0	-5502.2	6.3	93038.9	1217.1	712956.9
	0.0	-4860.9	8.0	66689.4	1543.3	485636.1
	0.0	-4820.4	7.3	68677.5	1418.5	479285.3
	0.0	-1208.1	-7.6	232100.1	-1473.1	125434.1
	0.0	-1167.6	-8.3	234088.2	-1597.9	119083.4
	0.0	-526.3	-6.6	207738.7	-1271.8	-108237.5
	0.0	-485.8	-7.2	209726.8	-1396.5	-114588.2
	0.0	-1673.8	-0.4	208890.7	-84.6	197527.0
	0.0	-1633.2	-1.0	210878.8	-209.3	191176.3
	0.0	-992.0	0.7	184529.3	116.8	-36144.6
	0.0	-951.5	0.0	186517.4	-7.9	-42495.3
215.	0.0	-790.8	-0.3	117826.1	21.3	13211.9
	0.0	-769.1	-1.0	119763.3	33.5	13457.8
	0.0	-106.2	0.7	93739.7	0.4	-72003.3
	0.0	-84.5	0.1	95676.9	12.6	-71757.4
	0.0	-1035.0	6.9	95215.5	-144.5	10080.5
	0.0	-1013.4	6.3	97152.7	-132.2	10326.4
	0.0	-350.4	7.9	71129.1	-165.4	-75134.7
	0.0	-328.7	7.3	73066.3	-153.1	-74888.8
	0.0	779.3	-7.6	229259.9	161.1	66478.7
	0.0	801.0	-8.2	231197.1	173.4	66724.6
	0.0	1463.9	-6.6	205173.5	140.2	-18736.5
	0.0	1485.6	-7.2	207110.8	152.5	-18490.6
	0.0	535.1	-0.4	206649.3	-4.6	63347.3
	0.0	556.8	-1.0	208586.5	7.7	63593.2
	0.0	1219.7	0.7	182562.9	-25.5	-21867.9
	0.0	1241.4	0.0	184500.1	-13.2	-21622.0
430.	0.0	3597.3	-0.3	121886.7	90.8	314065.6
	0.0	3605.8	-1.0	123781.2	241.0	317450.9
	0.0	4240.5	0.7	97974.3	-153.8	371927.2
	0.0	4248.9	0.1	99868.7	-3.7	375312.6
	0.0	3509.1	7.0	99779.9	-1641.2	276337.6
	0.0	3517.5	6.4	101674.4	-1491.0	279723.0
	0.0	4152.3	8.1	75867.4	-1885.8	334199.2
	0.0	4160.7	7.4	77761.9	-1735.7	337584.6
	0.0	3435.4	-7.7	227382.5	1806.9	508885.0
	0.0	3443.8	-8.3	229277.0	1957.1	512270.4
	0.0	4078.5	-6.7	203470.0	1562.2	566746.7
	0.0	4086.9	-7.3	205364.5	1712.4	570132.0
	0.0	3347.2	-0.4	205275.7	74.9	471157.1
	0.0	3355.6	-1.0	207170.1	225.1	474542.5
	0.0	3990.3	0.7	181363.2	-169.8	529018.7
	0.0	3998.7	0.0	183257.7	-19.6	532404.1

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4743.1	0.3	1059.3	-19.8	442780.0
	0.0	-4727.6	-0.6	3514.0	-192.4	442246.9
	0.0	-4221.0	1.6	-9917.8	262.7	333384.8
	0.0	-4205.4	0.8	-7463.2	90.1	332851.7
	0.0	-4917.7	10.3	-27872.3	2018.9	447262.5
	0.0	-4902.1	9.4	-25417.6	1846.4	446729.5
	0.0	-4395.6	11.7	-38849.4	2301.5	337867.3
	0.0	-4380.0	10.8	-36394.8	2128.9	337334.3
	0.0	-3501.1	-11.2	156170.0	-2211.8	527298.8
	0.0	-3485.5	-12.1	158624.6	-2384.4	526765.8
	0.0	-2979.0	-9.8	145192.8	-1929.3	417903.6
	0.0	-2963.4	-10.7	147647.5	-2101.9	417370.6
	0.0	-3675.7	-1.2	127238.4	-173.1	531781.4
	0.0	-3660.1	-2.0	129693.0	-345.7	531248.3
	0.0	-3153.5	0.2	116261.2	109.4	422386.2
	0.0	-3138.0	-0.7	118715.9	-63.2	421853.1
200.	0.0	-647.8	0.3	5076.1	-73.1	-95903.7
	0.0	-640.5	-0.6	7499.2	-77.2	-94206.6
	0.0	-177.6	1.6	-5806.0	-66.2	-106080.6
	0.0	-170.3	0.8	-3383.0	-70.3	-104383.5
	0.0	-725.1	10.2	-23482.9	-30.2	-115942.8
	0.0	-717.8	9.4	-21059.8	-34.3	-114245.7
	0.0	-254.9	11.6	-34365.0	-23.4	-126119.7
	0.0	-247.6	10.7	-31942.0	-27.5	-124422.6
	0.0	-593.8	-11.1	155153.1	23.8	112450.7
	0.0	-586.5	-12.0	157576.2	19.7	114147.8
	0.0	-123.6	-9.8	144271.0	30.7	102273.8
	0.0	-116.3	-10.6	146694.0	26.6	103970.9
	0.0	-671.1	-1.2	126594.1	66.7	92411.6
	0.0	-663.8	-2.0	129017.2	62.6	94108.7
	0.0	-200.9	0.2	115712.0	73.5	82234.7
	0.0	-193.6	-0.7	118135.0	69.4	83931.8
400.	0.0	3409.2	0.3	9111.4	-128.2	181044.4
	0.0	3411.2	-0.6	11511.7	35.9	183627.0
	0.0	3837.2	1.7	-1715.4	-396.7	260540.4
	0.0	3839.2	0.8	684.9	-232.6	263123.0
	0.0	3393.9	10.3	-19178.8	-2079.0	152227.0
	0.0	3395.9	9.4	-16778.6	-1914.8	154809.6
	0.0	3821.9	11.7	-30005.6	-2347.4	231723.0
	0.0	3823.9	10.8	-27605.3	-2183.3	234305.7
	0.0	2555.4	-11.2	154700.3	2258.7	305572.2
	0.0	2557.4	-12.1	157100.6	2422.8	308154.9
	0.0	2983.4	-9.8	143873.5	1990.3	385068.3
	0.0	2985.4	-10.7	146273.8	2154.4	387650.9
	0.0	2540.1	-1.2	126410.1	308.0	276754.8
	0.0	2542.1	-2.1	128810.4	472.1	279337.5
	0.0	2968.1	0.2	115583.3	39.6	356250.9
	0.0	2970.1	-0.7	117983.6	203.7	358833.5

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4059.0	2.0	-11559.1	344.2	284024.4
	0.0	-4050.7	1.2	-9440.6	185.0	283014.8
	0.0	-3671.6	3.2	-15638.4	603.8	194592.0
	0.0	-3663.2	2.5	-13519.9	444.6	193582.3
	0.0	-4149.4	11.4	-36651.9	2263.5	294054.4
	0.0	-4141.1	10.7	-34533.4	2104.2	293044.7
	0.0	-3762.0	12.7	-40731.2	2523.0	204621.9
	0.0	-3753.6	11.9	-38612.7	2363.8	203612.3
	0.0	-3269.9	-12.3	65382.6	-2433.7	329159.7
	0.0	-3261.5	-13.1	67501.2	-2592.9	328150.1
	0.0	-2882.4	-11.0	61303.4	-2174.1	239727.3
	0.0	-2874.0	-11.8	63421.9	-2333.4	238717.6
	0.0	-3360.3	-2.8	40289.9	-514.4	339189.7
	0.0	-3351.9	-3.6	42408.4	-673.7	338180.0
	0.0	-2972.8	-1.5	36210.6	-254.9	249757.2
	0.0	-2964.5	-2.3	38329.1	-414.1	248747.6
210.	0.0	165.8	2.0	-7328.7	-70.3	-124247.0
	0.0	170.6	1.2	-5225.3	-66.0	-123905.2
	0.0	513.2	3.2	-11378.7	-77.0	-136754.2
	0.0	518.0	2.5	-9275.3	-72.7	-136412.4
	0.0	115.6	11.4	-32243.7	-132.9	-128569.3
	0.0	120.5	10.6	-30140.2	-128.5	-128227.5
	0.0	463.1	12.7	-36293.7	-139.5	-141076.5
	0.0	467.9	11.9	-34190.2	-135.2	-140734.7
	0.0	192.2	-12.2	65335.7	136.8	3795.9
	0.0	197.1	-13.0	67439.2	141.1	4137.7
	0.0	539.7	-11.0	61285.7	130.1	-8711.3
	0.0	544.5	-11.7	63389.2	134.5	-8369.5
	0.0	142.1	-2.8	40420.7	74.2	-526.3
	0.0	147.0	-3.6	42524.2	78.6	-184.5
	0.0	489.5	-1.5	36370.7	67.6	-13033.5
	0.0	494.4	-2.3	38474.2	71.9	-12691.7

420.	0.0	4359.8	2.0	-3128.0	-489.2	351721.1
	0.0	4363.1	1.2	-1031.1	-321.0	352891.3
	0.0	4689.9	3.3	-7164.9	-762.5	409940.0
	0.0	4693.2	2.5	-5068.1	-594.3	411110.2
	0.0	4327.5	11.5	-27964.9	-2537.6	339109.6
	0.0	4330.8	10.7	-25868.1	-2369.4	340279.8
	0.0	4657.6	12.8	-32001.9	-2810.9	397328.6
	0.0	4660.9	12.0	-29905.0	-2642.7	398498.7
	0.0	3730.7	-12.3	65550.8	2715.9	415169.1
	0.0	3734.0	-13.1	67647.6	2884.1	416339.3
	0.0	4060.8	-11.1	61513.9	2442.6	473388.0
	0.0	4064.1	-11.9	63610.7	2610.8	474558.2
	0.0	3698.5	-2.8	40713.9	667.4	402557.7
	0.0	3701.8	-3.6	42810.7	835.7	403727.8
	0.0	4028.6	-1.6	36676.9	394.2	460776.6
	0.0	4031.9	-2.4	38773.7	562.4	461946.8

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5310.7	2.7	1960.5	621.6	416569.9
	0.0	-5305.0	2.1	4256.8	474.0	414278.9
	0.0	-4885.3	3.6	-1203.6	860.4	307545.2
	0.0	-4879.5	3.0	1092.7	712.9	305254.2
	0.0	-5369.8	9.6	-25118.9	2415.1	441452.1
	0.0	-5364.0	9.1	-22822.6	2267.5	439161.1
	0.0	-4944.3	10.6	-28283.0	2653.9	332427.4
	0.0	-4938.6	10.0	-25986.7	2506.3	330136.4
	0.0	-4281.7	-10.2	-12342.0	-2567.0	420429.3
	0.0	-4276.0	-10.8	-10045.8	-2714.5	418138.3
	0.0	-3856.3	-9.3	-15506.1	-2328.1	311404.5
	0.0	-3850.5	-9.9	-13209.9	-2475.7	309113.5
	0.0	-4340.8	-3.3	-39421.4	-773.5	445311.5
	0.0	-4335.0	-3.8	-37125.2	-921.1	443020.5
	0.0	-3915.4	-2.3	-42585.5	-534.7	336286.8
	0.0	-3909.6	-2.9	-40289.3	-682.2	333995.8
255.	0.0	-288.8	2.7	6989.6	-60.7	-294016.7
	0.0	-282.4	2.1	9289.7	-62.7	-294833.4
	0.0	152.5	3.6	3822.2	-57.2	-293957.0
	0.0	158.8	3.0	6122.3	-59.2	-294773.8
	0.0	-354.9	9.5	-20135.7	-26.6	-284275.8
	0.0	-348.6	8.9	-17835.6	-28.6	-285092.6
	0.0	86.3	10.4	-23303.1	-23.1	-284216.2
	0.0	92.7	9.9	-21003.0	-25.1	-285033.0
	0.0	-14.6	-10.1	-11882.4	22.4	-127344.0
	0.0	-8.3	-10.7	-9582.3	20.4	-128160.8
	0.0	426.6	-9.2	-15049.8	25.9	-127284.4
	0.0	433.0	-9.7	-12749.7	23.9	-128101.2
	0.0	-80.8	-3.2	-39007.7	56.6	-117603.2
	0.0	-74.4	-3.8	-36707.6	54.6	-118420.0
	0.0	360.5	-2.3	-42175.1	60.0	-117543.6
	0.0	366.9	-2.9	-39875.0	58.0	-118360.3
510.	0.0	4705.9	2.7	12090.5	-750.8	268436.7
	0.0	4716.9	2.2	14408.0	-607.6	269741.3
	0.0	5239.7	3.7	8901.1	-982.2	391454.8
	0.0	5250.7	3.1	11218.6	-839.0	392759.4
	0.0	4586.7	9.7	-15240.9	-2471.1	255597.2
	0.0	4597.7	9.1	-12923.3	-2327.8	256901.8
	0.0	5120.4	10.6	-18430.3	-2702.5	378615.3
	0.0	5131.4	10.0	-16112.8	-2559.2	379919.9
	0.0	4133.1	-10.3	-11523.4	2614.1	401013.0
	0.0	4144.0	-10.8	-9205.9	2757.4	402317.6
	0.0	4666.8	-9.3	-14712.8	2382.7	524031.2
	0.0	4677.8	-9.9	-12395.3	2526.0	525335.7
	0.0	4013.8	-3.3	-38854.7	893.8	388173.5
	0.0	4024.8	-3.9	-36537.2	1037.1	389478.1
	0.0	4547.5	-2.4	-42044.2	662.4	511191.7
	0.0	4558.5	-3.0	-39726.7	805.7	512496.2

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4169.8	6.7	5254.6	1164.2	388782.2
	0.0	-4166.9	5.8	7851.7	989.4	386410.2
	0.0	-3718.3	8.2	-9211.4	1444.9	343898.5
	0.0	-3715.4	7.3	-6614.3	1270.1	341526.5
	0.0	-4196.0	17.9	-25364.4	3231.4	415666.9
	0.0	-4193.1	17.0	-22767.3	3056.6	413294.9
	0.0	-3744.5	19.5	-39830.4	3512.1	370783.2
	0.0	-3741.6	18.5	-37233.3	3337.2	368411.2
	0.0	-3361.0	-18.9	-92283.8	-3399.0	484621.4
	0.0	-3358.1	-19.8	-89686.7	-3573.8	482249.4
	0.0	-2909.5	-17.3	-106749.8	-3118.3	439737.7
	0.0	-2906.6	-18.3	-104152.7	-3293.1	437365.7
	0.0	-3387.2	-7.6	-122902.8	-1331.8	511506.1
	0.0	-3384.3	-8.6	-120305.7	-1506.6	509134.0
	0.0	-2935.8	-6.1	-137368.8	-1051.2	466622.4
	0.0	-2932.8	-7.1	-134771.7	-1226.0	464250.4
180.	0.0	-604.6	6.7	8913.2	-43.5	-41152.9
	0.0	-595.7	5.7	11531.2	-47.2	-42504.2
	0.0	-67.4	8.2	-5596.3	-36.7	2794.5
	0.0	-58.5	7.3	-2978.3	-40.4	1443.2
	0.0	-699.5	17.9	-21953.2	7.6	-24726.8
	0.0	-690.7	16.9	-19335.2	3.9	-26078.2
	0.0	-162.3	19.4	-36462.7	14.4	19220.6
	0.0	-153.5	18.4	-33844.7	10.7	17869.2
	0.0	-559.4	-18.8	-92221.2	-12.8	134076.0
	0.0	-550.5	-19.7	-89603.2	-16.5	132724.7
	0.0	-22.2	-17.3	-106730.7	-6.0	178023.4
	0.0	-13.3	-18.2	-104112.7	-9.7	176672.1
	0.0	-654.3	-7.6	-123087.6	38.3	150502.1
	0.0	-645.5	-8.5	-120469.6	34.6	149150.8
	0.0	-117.1	-6.1	-137597.1	45.1	194449.5
	0.0	-108.3	-7.0	-134979.1	41.4	193098.2
360.	0.0	2969.9	6.7	12598.1	-1251.1	171891.6
	0.0	2987.5	5.8	15244.8	-1083.9	172876.4
	0.0	3595.6	8.3	-1997.6	-1518.0	320675.3
	0.0	3613.2	7.3	649.0	-1350.7	321660.1
	0.0	2772.5	17.9	-18606.6	-3214.2	162547.5
	0.0	2790.1	17.0	-15959.9	-3046.9	163532.3
	0.0	3398.2	19.5	-33202.4	-3481.0	311331.2
	0.0	3415.8	18.5	-30555.7	-3313.8	312316.1
	0.0	2022.9	-18.8	-92430.3	3371.2	269643.3
	0.0	2040.5	-19.8	-89783.6	3538.5	270628.2
	0.0	2648.6	-17.3	-107026.0	3104.4	418427.0
	0.0	2666.2	-18.3	-104379.3	3271.6	419411.9
	0.0	1825.5	-7.6	-123635.0	1408.2	260299.2
	0.0	1843.1	-8.6	-120988.3	1575.4	261284.1
	0.0	2451.2	-6.1	-138230.7	1141.3	409083.0
	0.0	2468.8	-7.1	-135584.1	1308.6	410067.8

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3192.3	6.5	-101363.9	1199.7	234550.8
	0.0	-3180.4	5.6	-99391.2	1048.5	231567.6
	0.0	-2470.9	7.8	-133901.9	1438.4	214775.6
	0.0	-2459.0	6.9	-131929.3	1287.1	211792.4
	0.0	-3321.6	15.9	-124487.0	2940.2	267880.9
	0.0	-3309.7	15.1	-122514.4	2788.9	264897.7
	0.0	-2600.2	17.3	-157025.1	3178.8	248105.6
	0.0	-2588.3	16.4	-155052.5	3027.5	245122.5
	0.0	-3108.4	-16.7	-160684.7	-3078.6	318865.7
	0.0	-3096.5	-17.5	-158712.0	-3229.9	315882.5
	0.0	-2387.0	-15.4	-193222.8	-2840.0	299090.5

	0.0	-2375.1	-16.2	-191250.1	-2991.2	296107.3
	0.0	-3237.7	-7.2	-183807.8	-1338.2	352195.8
	0.0	-3225.8	-8.1	-181835.2	-1489.4	349212.6
	0.0	-2516.3	-5.9	-216345.9	-1099.5	332420.6
	0.0	-2504.4	-6.8	-214373.3	-1250.8	329437.4
165.	0.0	80.0	6.4	-98096.3	134.5	-21950.2
	0.0	102.8	5.6	-96091.3	120.5	-22104.7
	0.0	856.2	7.7	-130773.4	157.8	82296.4
	0.0	879.1	6.9	-128768.5	143.8	82141.8
	0.0	-177.3	15.9	-121600.3	315.5	-20012.8
	0.0	-154.5	15.0	-119595.4	301.5	-20167.4
	0.0	598.9	17.2	-154277.5	338.8	84233.7
	0.0	621.7	16.3	-152272.6	324.8	84079.1
	0.0	-1001.6	-16.6	-161199.5	-329.4	-16519.2
	0.0	-978.8	-17.4	-159194.6	-343.4	-16673.8
	0.0	-225.4	-15.3	-193876.6	-306.1	87727.3
	0.0	-202.6	-16.1	-191871.7	-320.1	87572.8
	0.0	-1259.0	-7.2	-184703.5	-148.3	-14581.9
	0.0	-1236.1	-8.0	-182698.6	-162.3	-14736.4
	0.0	-482.7	-5.9	-217380.7	-125.0	89664.6
	0.0	-459.9	-6.7	-215375.8	-139.0	89510.1
330.	0.0	3330.0	6.4	-95071.3	-927.5	259831.7
	0.0	3366.9	5.6	-93029.1	-804.6	264568.6
	0.0	4112.0	7.7	-127968.4	-1118.9	493617.1
	0.0	4148.9	6.9	-125926.3	-996.0	498353.9
	0.0	2907.0	15.9	-119014.4	-2301.3	206136.7
	0.0	2943.9	15.0	-116972.2	-2178.4	210873.5
	0.0	3689.0	17.2	-151911.5	-2492.7	439922.0
	0.0	3725.9	16.3	-149869.4	-2369.8	444658.9
	0.0	815.6	-16.6	-162113.5	2411.7	-27839.7
	0.0	852.6	-17.5	-160071.3	2534.6	-23102.9
	0.0	1597.6	-15.3	-195010.7	2220.2	205945.6
	0.0	1634.5	-16.2	-192968.5	2343.1	210682.5
	0.0	392.6	-7.2	-186056.6	1037.8	-81534.7
	0.0	429.6	-8.0	-184014.4	1160.7	-76797.9
	0.0	1174.6	-5.9	-218953.8	846.4	152250.6
	0.0	1211.6	-6.7	-216911.6	969.3	156987.4

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4614.0	4.8	48087.9	860.5	242403.8
	0.0	-4622.8	4.1	50499.1	732.8	241545.0
	0.0	-4162.6	5.9	53480.5	1062.1	271349.6
	0.0	-4171.4	5.2	55891.8	934.4	270490.9
	0.0	-4497.5	12.5	19690.4	2218.5	250566.8
	0.0	-4506.3	11.7	22101.6	2090.8	249708.1
	0.0	-4046.1	13.6	25083.0	2420.1	279512.7
	0.0	-4054.9	12.9	27494.2	2292.4	278654.0
	0.0	-2414.0	-13.1	-112445.6	-2336.1	96205.4
	0.0	-2422.8	-13.9	-110034.4	-2463.8	95346.6
	0.0	-1962.6	-12.0	-107053.0	-2134.5	125151.3
	0.0	-1971.4	-12.7	-104641.8	-2262.2	124292.5
	0.0	-2297.5	-5.5	-140843.2	-978.1	104368.4
	0.0	-2306.3	-6.2	-138431.9	-1105.8	103509.7
	0.0	-1846.1	-4.3	-135450.5	-776.5	133314.3
	0.0	-1854.9	-5.0	-133039.3	-904.2	132455.6
210.	0.0	-536.5	4.8	51889.1	-144.0	-297131.6
	0.0	-523.4	4.1	54355.8	-119.1	-297613.9
	0.0	-227.2	5.9	56960.4	-185.5	-184819.5
	0.0	-214.1	5.2	59427.1	-160.6	-185301.8
	0.0	-678.6	12.5	22837.5	-396.0	-290691.6
	0.0	-665.4	11.7	25304.2	-371.2	-291173.9
	0.0	-369.3	13.6	27908.9	-437.5	-178379.4
	0.0	-356.1	12.9	30375.6	-412.7	-178861.8
	0.0	-495.9	-13.1	-114093.2	421.0	-202278.2
	0.0	-482.8	-13.9	-111626.5	445.9	-202760.6
	0.0	-186.7	-12.0	-109021.8	379.6	-89966.1
	0.0	-173.5	-12.7	-106555.1	404.4	-90448.5
	0.0	-638.0	-5.5	-143144.7	169.0	-195838.2
	0.0	-624.8	-6.2	-140678.0	193.8	-196320.5
	0.0	-328.7	-4.3	-138073.4	127.5	-83526.1
	0.0	-315.6	-5.0	-135606.7	152.4	-84008.4
420.	0.0	3545.4	4.9	55898.1	-1157.9	18130.6
	0.0	3585.1	4.1	58430.2	-978.9	23115.5
	0.0	3477.9	6.0	60668.5	-1445.2	160669.0
	0.0	3517.6	5.3	63200.6	-1266.1	165653.8
	0.0	3089.8	12.7	26076.2	-3036.6	-37270.6
	0.0	3129.5	11.9	28608.3	-2857.5	-32285.8
	0.0	3022.3	13.8	30846.6	-3323.8	105267.7
	0.0	3062.0	13.1	33378.7	-3144.8	110252.6
	0.0	1038.8	-13.4	-116197.9	3205.8	-140129.2
	0.0	1078.5	-14.1	-113665.8	3384.9	-135144.3
	0.0	971.3	-12.2	-111427.5	2918.5	2409.1
	0.0	1011.0	-12.9	-108895.4	3097.6	7394.0
	0.0	583.2	-5.6	-146019.8	1327.1	-195530.4
	0.0	622.9	-6.3	-143487.8	1506.2	-190545.6
	0.0	515.7	-4.4	-141249.4	1039.9	-52992.1
	0.0	555.4	-5.1	-138717.3	1218.9	-48007.3

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2004.6	130.6	1487.9	45.9	266508.9	-25890.1
	-2028.4	142.5	1443.8	-212.6	258958.1	-27888.0
	-2391.6	-463.9	1564.2	460.9	279611.3	74534.1
	-2415.4	-452.0	1520.1	202.4	272060.5	72536.2
	-1722.8	6.8	1994.0	2756.0	353199.4	-5096.8
	-1746.5	18.7	1949.9	2497.4	345648.6	-7094.7
	-2109.8	-587.7	2070.3	3170.9	366301.8	95327.4
	-2133.5	-575.8	2026.2	2912.4	358751.0	93329.5
	-4784.9	313.4	-2339.4	-3009.1	-393555.9	-56938.0
	-4808.6	325.3	-2383.5	-3267.6	-401106.8	-58935.9
	-5171.9	-281.2	-2263.1	-2594.1	-380453.5	43486.2
	-5195.6	-269.3	-2307.2	-2852.7	-388004.4	41488.3
	-4503.0	189.6	-1833.3	-299.1	-306865.4	-36144.7
	-4526.8	201.5	-1877.4	-557.6	-314416.3	-38142.6
	-4890.0	-405.0	-1757.0	115.9	-293763.1	64279.5
	-4913.8	-393.1	-1801.1	-142.6	-301313.9	62281.6
160.	-1721.9	130.6	1487.9	45.9	28447.4	-4989.4
	-1745.6	142.5	1443.8	-212.6	27952.5	-5083.7
	-2108.9	-463.9	1564.2	460.9	29335.7	305.3
	-2132.6	-452.0	1520.1	202.4	28840.8	211.1
	-1440.0	6.8	1994.0	2756.0	34161.4	-4004.7
	-1463.8	18.7	1949.9	2497.4	33666.5	-4098.9
	-1827.0	-587.7	2070.3	3170.9	35049.8	1290.1
	-1850.8	-575.8	2026.2	2912.4	34554.8	1195.8
	-4502.1	313.4	-2339.4	-3009.1	-19244.6	-6798.0
	-4525.9	325.3	-2383.5	-3267.6	-19739.6	-6892.2
	-4889.1	-281.2	-2263.1	-2594.1	-18356.3	-1503.2
	-4912.9	-269.3	-2307.2	-2852.7	-18851.3	-1597.5
	-4220.3	189.6	-1833.3	-299.1	-13530.6	-5813.2
	-4244.0	201.5	-1877.4	-557.6	-14025.6	-5907.5
	-4607.3	-405.0	-1757.0	115.9	-12642.3	-518.5
	-4631.1	-393.1	-1801.1	-142.6	-13137.2	-612.8
320.	-1439.1	130.6	1487.9	45.9	-209614.2	15910.9
	-1462.9	142.5	1443.8	-212.6	-203053.3	17720.3
	-1826.2	-463.9	1564.2	460.9	-220939.9	-73923.9
	-1849.9	-452.0	1520.1	202.4	-214379.0	-72114.4
	-1157.3	6.8	1994.0	2756.0	-284876.6	-2912.9
	-1181.1	18.7	1949.9	2497.4	-278315.7	-1103.5
	-1544.3	-587.7	2070.3	3170.9	-296202.4	-92747.7
	-1568.1	-575.8	2026.2	2912.4	-289641.5	-90938.3
	-4219.4	313.4	-2339.4	-3009.1	355066.8	43342.4

	-4243.2	325.3	-2383.5	-3267.6	361627.7	45151.8
	-4606.4	-281.2	-2263.1	-2594.1	343741.0	-46492.4
	-4630.2	-269.3	-2307.2	-2852.7	350301.9	-44682.9
	-3937.5	189.6	-1833.3	-299.1	279804.3	24518.6
	-3961.3	201.5	-1877.4	-557.6	286365.2	26328.0
	-4324.6	-405.0	-1757.0	115.9	268478.6	-65316.2
	-4348.3	-393.1	-1801.1	-142.6	275039.5	-63506.8

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11269.0	-95.4	2397.5	-90.8	443396.0	-10203.2
	-11306.5	-74.8	2346.7	-452.7	434312.8	-13642.3
	-11127.1	-1129.5	2493.3	504.4	460384.9	164157.9
	-11164.6	-1108.9	2442.5	142.5	451301.7	160718.8
	-10830.4	-310.7	2993.8	3830.0	549955.4	25755.2
	-10868.0	-290.2	2943.0	3468.1	540872.2	22316.1
	-10688.5	-1344.9	3089.6	4425.1	566944.3	200116.3
	-10726.0	-1324.3	3038.7	4063.3	557861.1	196677.2
	-15627.2	253.6	-3178.5	-4197.3	-567275.2	-68252.1
	-15664.7	274.2	-3229.3	-4559.2	-576358.3	-71691.1
	-15485.3	-780.5	-3082.7	-3602.1	-550286.3	106109.1
	-15522.8	-759.9	-3133.6	-3964.0	-559369.4	102670.0
	-15188.6	38.2	-2582.2	-276.5	-460715.8	-32293.7
	-15226.2	58.8	-2633.1	-638.4	-469799.0	-35732.8
	-15046.7	-995.9	-2486.5	318.7	-443726.9	142067.4
	-15084.2	-975.3	-2537.3	-43.2	-452810.1	138628.4
160.	-10909.0	-95.4	2397.5	-90.8	59789.3	-25465.1
	-10946.5	-74.8	2346.7	-452.7	58839.7	-25609.1
	-10767.1	-1129.5	2493.3	504.4	61457.1	-16567.3
	-10804.6	-1108.9	2442.5	142.5	60507.5	-16711.3
	-10470.4	-310.7	2993.8	3830.0	70946.9	-23964.7
	-10508.0	-290.2	2943.0	3468.1	69997.3	-24108.7
	-10328.5	-1344.9	3089.6	4425.1	72614.8	-15066.8
	-10366.0	-1324.3	3038.7	4063.3	71665.1	-15210.8
	-15267.2	253.6	-3178.5	-4197.3	-58715.1	-27675.7
	-15304.7	274.2	-3229.3	-4559.2	-59664.7	-27819.7
	-15125.3	-780.5	-3082.7	-3602.1	-57047.2	-18777.9
	-15162.8	-759.9	-3133.6	-3964.0	-57996.9	-18921.9
	-14828.6	38.2	-2582.2	-276.5	-47557.4	-26175.3
	-14866.2	58.8	-2633.1	-638.4	-48507.1	-26319.3
	-14686.7	-995.9	-2486.5	318.7	-45889.6	-17277.4
	-14724.2	-975.3	-2537.3	-43.2	-46839.2	-17421.4
320.	-10549.0	-95.4	2397.5	-90.8	-323817.7	-40727.2
	-10586.5	-74.8	2346.7	-452.7	-316633.8	-37576.1
	-10407.1	-1129.5	2493.3	504.4	-337470.9	-197292.5
	-10444.6	-1108.9	2442.5	142.5	-330287.0	-194141.5
	-10110.4	-310.7	2993.8	3830.0	-408061.7	-73684.7
	-10148.0	-290.2	2943.0	3468.1	-400877.8	-70533.6
	-9968.5	-1344.9	3089.6	4425.1	-421715.0	-230250.0
	-10006.0	-1324.3	3038.7	4063.3	-414531.1	-227099.0
	-14907.2	253.6	-3178.5	-4197.3	449845.3	12900.7
	-14944.7	274.2	-3229.3	-4559.2	457029.2	16051.8
	-14765.3	-780.5	-3082.7	-3602.1	436192.0	-143664.7
	-14802.8	-759.9	-3133.6	-3964.0	443375.9	-140513.6
	-14468.6	38.2	-2582.2	-276.5	365601.2	-20056.8
	-14506.2	58.8	-2633.1	-638.4	372785.1	-16905.7
	-14326.7	-995.9	-2486.5	318.7	351947.9	-176622.2
	-14364.2	-975.3	-2537.3	-43.2	359131.8	-173471.1

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14926.9	534.5	1329.0	-103.7	341074.0	-80309.3
	-14926.3	554.7	1309.1	-442.9	336459.1	-83708.1
	-14965.5	-540.1	1363.6	447.5	348949.1	100371.9
	-14964.9	-519.9	1343.7	108.3	344334.3	96973.1
	-14933.8	320.8	1567.9	3851.3	396327.4	-44373.7
	-14933.2	341.0	1548.0	3512.1	391712.6	-47772.5
	-14972.4	-753.8	1602.6	4402.6	404202.5	136307.5
	-14971.8	-733.6	1582.6	4063.4	399587.7	132908.7
	-14961.0	904.9	-1522.7	-4196.0	-373798.7	-142170.2
	-14960.4	925.2	-1542.6	-4535.2	-378413.5	-145569.0
	-14999.6	-169.6	-1488.1	-3644.8	-365923.5	38511.0
	-14999.0	-149.4	-1508.0	-3984.0	-370538.3	35112.2
	-14967.9	691.3	-1283.8	-241.0	-318545.2	-106234.6
	-14967.3	711.5	-1303.7	-580.2	-323160.0	-109633.4
	-15006.5	-383.3	-1249.2	310.3	-310670.1	74446.6
	-15005.9	-363.1	-1269.1	-28.9	-315284.9	71047.8
160.	-14566.9	534.5	1329.0	-103.7	128430.2	5203.6
	-14566.3	554.7	1309.1	-442.9	127002.2	5037.8
	-14605.5	-540.1	1363.6	447.5	130765.5	13956.2
	-14604.9	-519.9	1343.7	108.3	129337.5	13790.5
	-14573.8	320.8	1567.9	3851.3	145458.2	6950.1
	-14573.2	341.0	1548.0	3512.1	144030.2	6784.4
	-14612.4	-753.8	1602.6	4402.6	147793.5	15702.8
	-14611.8	-733.6	1582.6	4063.4	146365.5	15537.0
	-14601.0	904.9	-1522.7	-4196.0	-130168.7	2621.4
	-14600.4	925.2	-1542.6	-4535.2	-131596.7	2455.6
	-14639.6	-169.6	-1488.1	-3644.8	-127833.5	11374.1
	-14639.0	-149.4	-1508.0	-3984.0	-129261.5	11208.3
	-14607.9	691.3	-1283.8	-241.0	-113140.7	4368.0
	-14607.3	711.5	-1303.7	-580.2	-114568.7	4202.2
	-14646.5	-383.3	-1249.2	310.3	-110805.5	13120.6
	-14645.9	-363.1	-1269.1	-28.9	-112233.5	12954.9
320.	-14206.9	534.5	1329.0	-103.7	-84214.9	90716.2
	-14206.3	554.7	1309.1	-442.9	-82456.1	93783.5
	-14245.5	-540.1	1363.6	447.5	-87419.6	-72459.7
	-14244.9	-519.9	1343.7	108.3	-85660.8	-69392.4
	-14213.8	320.8	1567.9	3851.3	-105412.4	58273.7
	-14213.2	341.0	1548.0	3512.1	-103653.6	61340.9
	-14252.4	-753.8	1602.6	4402.6	-108617.1	-104902.2
	-14251.8	-733.6	1582.6	4063.4	-106858.3	-101834.9
	-14241.0	904.9	-1522.7	-4196.0	113462.7	147413.3
	-14240.4	925.2	-1542.6	-4535.2	115221.5	150480.6
	-14279.6	-169.6	-1488.1	-3644.8	110258.0	-15762.5
	-14279.0	-149.4	-1508.0	-3984.0	112016.8	-12695.2
	-14247.9	691.3	-1283.8	-241.0	92265.3	114970.8
	-14247.3	711.5	-1303.7	-580.2	94024.1	118038.1
	-14286.5	-383.3	-1249.2	310.3	89060.6	-48205.1
	-14285.9	-363.1	-1269.1	-28.9	90819.4	-45137.8

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13795.9	427.6	1082.6	489.3	319324.3	-72795.3
	-13796.5	447.2	1074.0	152.9	316988.3	-76096.6
	-13779.0	-654.2	1096.7	1034.2	323077.8	108754.1
	-13779.5	-634.5	1088.0	697.8	320741.8	105452.8
	-13790.9	217.5	1187.8	4532.7	347541.6	-37553.9
	-13791.5	237.2	1179.1	4196.3	345205.6	-40855.1
	-13774.0	-864.2	1201.8	5077.6	351295.1	143995.5
	-13774.5	-844.5	1193.2	4741.2	348959.1	140694.3
	-13794.3	771.2	-1077.2	-4881.7	-311354.3	-130438.5
	-13794.8	790.8	-1085.8	-5218.1	-313690.3	-133739.7
	-13777.4	-310.6	-1063.1	-4336.8	-307600.8	51110.9
	-13777.9	-290.9	-1071.8	-4673.2	-309936.8	47809.7
	-13789.3	561.1	-972.0	-838.3	-283137.0	-95197.1
	-13789.8	580.8	-980.6	-1174.7	-285473.0	-98498.3
	-13772.4	-520.6	-958.0	-293.4	-279383.5	86352.4
	-13772.9	-500.9	-966.6	-629.8	-281719.5	83051.1
160.	-13435.9	427.6	1082.6	489.3	146104.3	-4385.1
	-13436.5	447.2	1074.0	152.9	145152.5	-4538.2
	-13419.0	-654.2	1096.7	1034.2	147612.8	4089.1
	-13419.5	-634.5	1088.0	697.8	146661.1	3936.1

	-13430.9	217.5	1187.8	4532.7	157493.8	-2748.7
	-13431.5	237.2	1179.1	4196.3	156542.0	-2901.8
	-13414.0	-864.2	1201.8	5077.6	159002.3	5725.5
	-13414.5	-844.5	1193.2	4741.2	158050.6	5572.4
	-13434.3	771.2	-1077.2	-4881.7	-139006.9	-7051.6
	-13434.8	790.8	-1085.8	-5218.1	-139958.7	-7204.7
	-13417.4	-310.6	-1063.1	-4336.8	-137498.3	1422.6
	-13417.9	-290.9	-1071.8	-4673.2	-138450.1	1269.5
	-13429.3	561.1	-972.0	-838.3	-127617.4	-5415.3
	-13429.8	580.8	-980.6	-1174.7	-128569.1	-5568.4
	-13412.4	-520.6	-958.0	-293.4	-126108.8	3058.9
	-13412.9	-500.9	-966.6	-629.8	-127060.6	2905.8
320.	-13075.9	427.6	1082.6	489.3	-27116.6	64025.2
	-13076.5	447.2	1074.0	152.9	-26684.1	67020.2
	-13059.0	-654.2	1096.7	1034.2	-27853.0	-100575.8
	-13059.5	-634.5	1088.0	697.8	-27420.5	-97580.7
	-13070.9	217.5	1187.8	4532.7	-32554.8	32056.4
	-13071.5	237.2	1179.1	4196.3	-32122.3	35051.5
	-13054.0	-864.2	1201.8	5077.6	-33291.2	-132544.6
	-13054.5	-844.5	1193.2	4741.2	-32858.7	-129549.5
	-13074.3	771.2	-1077.2	-4881.7	33341.3	116335.2
	-13074.8	790.8	-1085.8	-5218.1	33773.8	119330.2
	-13057.4	-310.6	-1063.1	-4336.8	32604.9	-48265.8
	-13057.9	-290.9	-1071.8	-4673.2	33037.4	-45270.7
	-13069.3	561.1	-972.0	-838.3	27903.1	84366.4
	-13069.8	580.8	-980.6	-1174.7	28335.6	87361.5
	-13052.4	-520.6	-958.0	-293.4	27166.7	-80234.6
	-13052.9	-500.9	-966.6	-629.8	27599.2	-77239.5

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16800.8	88.6	1021.9	1168.1	311347.8	-39003.7
	-16802.9	107.6	1020.6	836.1	310927.0	-42218.5
	-16688.9	-971.9	1023.8	1704.6	311978.1	140526.2
	-16691.0	-952.9	1022.5	1372.7	311557.2	137311.5
	-16779.3	-115.2	1037.3	5212.8	316211.6	-4507.8
	-16781.3	-96.2	1036.0	4880.8	315790.8	-7722.5
	-16667.4	-1175.8	1039.2	5749.3	316841.9	175022.1
	-16669.4	-1156.8	1037.9	5417.3	316421.0	171807.4
	-16833.8	432.0	-909.7	-5556.0	-275895.2	-97197.6
	-16835.9	451.0	-911.0	-5888.0	-276316.0	-100412.3
	-16721.9	-628.5	-907.7	-5019.5	-275264.9	82332.3
	-16723.9	-609.5	-909.1	-5351.5	-275685.7	79117.6
	-16812.3	228.2	-894.2	-1511.4	-271031.4	-62701.7
	-16814.3	247.2	-895.6	-1843.3	-271452.2	-65916.4
	-16700.4	-832.4	-892.3	-974.8	-270401.1	116828.2
	-16702.4	-813.4	-893.6	-1306.8	-270821.9	113613.5
160.	-16440.8	88.6	1021.9	1168.1	147845.0	-24823.1
	-16442.9	107.6	1020.6	836.1	147638.2	-24998.4
	-16328.9	-971.9	1023.8	1704.6	148167.1	-14983.2
	-16331.0	-952.9	1022.5	1372.7	147960.3	-15158.5
	-16419.3	-115.2	1037.3	5212.8	150241.5	-22939.6
	-16421.3	-96.2	1036.0	4880.8	150034.7	-23114.9
	-16307.4	-1175.8	1039.2	5749.3	150563.5	-13099.7
	-16309.4	-1156.8	1037.9	5417.3	150356.8	-13275.0
	-16473.8	432.0	-909.7	-5556.0	-130350.9	-28073.6
	-16475.9	451.0	-911.0	-5888.0	-130557.6	-28249.0
	-16361.9	-628.5	-907.7	-5019.5	-130028.8	-18233.7
	-16363.9	-609.5	-909.1	-5351.5	-130235.6	-18409.0
	-16452.3	228.2	-894.2	-1511.4	-127954.4	-26190.1
	-16454.3	247.2	-895.6	-1843.3	-128161.2	-26365.4
	-16340.4	-832.4	-892.3	-974.8	-127632.3	-16350.2
	-16342.4	-813.4	-893.6	-1306.8	-127839.1	-16525.5
320.	-16080.8	88.6	1021.9	1168.1	-15657.8	-10642.5
	-16082.9	107.6	1020.6	836.1	-15650.5	-7778.4
	-15968.9	-971.9	1023.8	1704.6	-15643.9	-170492.6
	-15971.0	-952.9	1022.5	1372.7	-15636.7	-167628.5
	-16059.3	-115.2	1037.3	5212.8	-15728.7	-41371.4
	-16061.3	-96.2	1036.0	4880.8	-15721.4	-38507.3
	-15947.4	-1175.8	1039.2	5749.3	-15714.8	-201221.5
	-15949.4	-1156.8	1037.9	5417.3	-15707.5	-198357.4
	-16113.8	432.0	-909.7	-5556.0	15193.4	41050.3
	-16115.9	451.0	-911.0	-5888.0	15200.7	43914.4
	-16001.9	-628.5	-907.7	-5019.5	15207.3	-118799.8
	-16003.9	-609.5	-909.1	-5351.5	15214.6	-115935.7
	-16092.3	228.2	-894.2	-1511.4	15122.6	10321.4
	-16094.3	247.2	-895.6	-1843.3	15129.9	13185.5
	-15980.4	-832.4	-892.3	-974.8	15136.4	-149528.6
	-15982.4	-813.4	-893.6	-1306.8	15143.7	-146664.5

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15656.7	983.2	1037.3	2009.6	303310.7	-133485.4
	-15652.9	1002.6	1044.5	1677.5	305166.3	-136760.1
	-15854.3	-88.5	1025.5	2539.7	300334.6	47111.3
	-15850.6	-69.0	1032.7	2207.6	302190.3	43836.6
	-15696.2	775.4	947.6	5979.8	280423.7	-98484.5
	-15692.4	794.9	954.8	5647.7	282279.4	-101759.2
	-15893.8	-296.2	935.8	6509.9	277447.7	82112.1
	-15890.0	-276.7	943.0	6177.8	279303.4	78837.4
	-15590.2	1328.9	-836.7	-6317.3	-243821.6	-191647.6
	-15586.4	1348.3	-829.5	-6649.4	-241965.9	-194922.3
	-15787.8	257.2	-848.6	-5787.3	-246797.6	-11051.0
	-15784.1	276.7	-841.4	-6119.4	-244941.9	-14325.7
	-15629.7	1121.1	-926.5	-2347.1	-266708.5	-156646.8
	-15625.9	1140.6	-919.2	-2679.2	-264852.8	-159921.5
	-15827.3	49.5	-938.3	-1817.1	-269684.5	23949.9
	-15823.5	69.0	-931.1	-2149.2	-267828.9	20675.2
160.	-15296.7	983.2	1037.3	2009.6	137341.1	23820.6
	-15292.9	1002.6	1044.5	1677.5	138040.4	23655.8
	-15494.3	-88.5	1025.5	2539.7	136260.3	32958.6
	-15490.6	-69.0	1032.7	2207.6	136959.6	32793.7
	-15336.2	775.4	947.6	5979.8	128808.4	25584.5
	-15332.4	794.9	954.8	5647.7	129507.7	25419.7
	-15533.8	-296.2	935.8	6509.9	127727.7	34722.4
	-15530.0	-276.7	943.0	6177.8	128427.0	34557.6
	-15230.2	1328.9	-836.7	-6317.3	-109942.5	20970.4
	-15226.4	1348.3	-829.5	-6649.4	-109243.2	20805.6
	-15427.8	257.2	-848.6	-5787.3	-111023.2	30108.3
	-15424.1	276.7	-841.4	-6119.4	-110323.9	29943.5
	-15269.7	1121.1	-926.5	-2347.1	-118475.1	22734.3
	-15265.9	1140.6	-919.2	-2679.2	-117775.8	22569.5
	-15467.3	49.5	-938.3	-1817.1	-119555.9	31872.2
	-15463.5	69.0	-931.1	-2149.2	-118856.6	31707.4
320.	-14936.7	983.2	1037.3	2009.6	-28630.2	181126.6
	-14932.9	1002.6	1044.5	1677.5	-29087.3	184071.7
	-15134.3	-88.5	1025.5	2539.7	-27815.6	18805.8
	-15130.6	-69.0	1032.7	2207.6	-28272.7	21750.9
	-14976.2	775.4	947.6	5979.8	-22808.5	149653.5
	-14972.4	794.9	954.8	5647.7	-23265.6	152598.6
	-15173.8	-296.2	935.8	6509.9	-21994.0	-12667.2
	-15170.0	-276.7	943.0	6177.8	-22451.1	-9722.2
	-14870.2	1328.9	-836.7	-6317.3	23938.2	233588.5
	-14866.4	1348.3	-829.5	-6649.4	23481.1	236533.5
	-15067.8	257.2	-848.6	-5787.3	24752.8	71267.7
	-15064.1	276.7	-841.4	-6119.4	24295.7	74212.7
	-14909.7	1121.1	-926.5	-2347.1	29759.9	202115.4
	-14905.9	1140.6	-919.2	-2679.2	29302.8	205060.4
	-15107.3	49.5	-938.3	-1817.1	30574.4	39794.6
	-15103.5	69.0	-931.1	-2149.2	30117.3	42739.6

Asta	38	nodi	7	31		

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11756.2	504.8	1224.5	2544.7	310524.3	-88142.4
	-11755.7	525.2	1241.6	2212.0	314384.2	-91533.7
	-11781.0	-585.2	1193.7	3074.8	303774.5	93480.9
	-11780.4	-564.8	1210.8	2742.1	307634.4	90089.6
	-11762.2	288.9	1017.7	6396.5	264006.7	-52161.6
	-11761.7	309.2	1034.8	6063.9	267866.6	-55552.9
	-11787.0	-801.1	986.9	6926.7	257256.9	129461.7
	-11786.4	-780.8	1004.0	6594.0	261116.7	126070.4
	-11809.9	833.9	-969.5	-6742.2	-239868.2	-143517.7
	-11809.3	854.2	-952.4	-7074.8	-236008.3	-146909.0
	-11834.6	-256.1	-1000.3	-6212.0	-246618.0	38105.7
	-11834.0	-235.8	-983.2	-6544.7	-242758.1	34714.4
	-11815.9	617.9	-1176.3	-2890.3	-286385.8	-107536.9
	-11815.3	638.3	-1159.2	-3223.0	-282525.9	-110928.2
	-11840.6	-472.1	-1207.1	-2360.2	-293135.6	74086.4
	-11840.0	-451.7	-1190.0	-2692.9	-289275.8	70695.1
160.	-11396.2	504.8	1224.5	2544.7	114604.3	-7372.7
	-11395.7	525.2	1241.6	2212.0	115721.1	-7508.0
	-11421.0	-585.2	1193.7	3074.8	112783.8	-146.7
	-11420.4	-564.8	1210.8	2742.1	113900.7	-281.9
	-11402.2	288.9	1017.7	6396.5	101178.0	-5944.9
	-11401.7	309.2	1034.8	6063.9	102294.9	-6080.2
	-11427.0	-801.1	986.9	6926.7	99357.6	1281.1
	-11426.4	-780.8	1004.0	6594.0	100474.4	1145.9
	-11449.9	833.9	-969.5	-6742.2	-84746.3	-10097.8
	-11449.3	854.2	-952.4	-7074.8	-83629.5	-10233.1
	-11474.6	-256.1	-1000.3	-6212.0	-86566.7	-2871.8
	-11474.0	-235.8	-983.2	-6544.7	-85449.9	-3007.0
	-11455.9	617.9	-1176.3	-2890.3	-98172.6	-8670.0
	-11455.3	638.3	-1159.2	-3223.0	-97055.7	-8805.3
	-11480.6	-472.1	-1207.1	-2360.2	-99993.0	-1444.0
	-11480.0	-451.7	-1190.0	-2692.9	-98876.1	-1579.2
320.	-11036.2	504.8	1224.5	2544.7	-81318.3	73396.4
	-11035.7	525.2	1241.6	2212.0	-82944.5	76517.2
	-11061.0	-585.2	1193.7	3074.8	-78209.3	-93774.9
	-11060.4	-564.8	1210.8	2742.1	-79835.5	-90654.1
	-11042.2	288.9	1017.7	6396.5	-61653.3	40271.2
	-11041.7	309.2	1034.8	6063.9	-63279.4	43392.0
	-11067.0	-801.1	986.9	6926.7	-58544.3	-126900.0
	-11066.4	-780.8	1004.0	6594.0	-60170.4	-123779.2
	-11089.9	833.9	-969.5	-6742.2	70378.1	123322.6
	-11089.3	854.2	-952.4	-7074.8	68751.9	126443.4
	-11114.6	-256.1	-1000.3	-6212.0	73487.1	-43848.6
	-11114.0	-235.8	-983.2	-6544.7	71860.9	-40727.8
	-11095.9	617.9	-1176.3	-2890.3	90043.1	90197.4
	-11095.3	638.3	-1159.2	-3223.0	88417.0	93318.2
	-11120.6	-472.1	-1207.1	-2360.2	93152.1	-76973.8
	-11120.0	-451.7	-1190.0	-2692.9	91526.0	-73853.0

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8482.0	800.5	1996.8	2524.7	376577.1	-119655.0
	-8452.2	821.2	2036.2	2175.4	383681.8	-123076.2
	-8534.2	-256.2	1918.5	3089.0	362640.4	56452.9
	-8504.3	-235.5	1957.9	2739.7	369745.1	53031.7
	-8834.6	582.6	1531.6	6340.0	292716.7	-83627.3
	-8804.7	603.3	1571.0	5990.7	299821.4	-87048.5
	-8886.7	-474.1	1453.3	6904.3	278780.0	92480.5
	-8856.9	-453.4	1492.7	6555.0	285884.7	89059.4
	-11656.5	1157.4	-1663.3	-6704.5	-298760.0	-179212.7
	-11626.6	1178.1	-1623.9	-7053.9	-291655.3	-182633.9
	-11708.6	100.7	-1741.6	-6140.3	-312696.7	-3104.8
	-11678.7	121.3	-1702.1	-6489.6	-305592.0	-6526.0
	-12009.0	939.5	-2128.5	-2889.2	-382620.4	-143185.1
	-11979.2	960.2	-2089.1	-3238.6	-375515.7	-146606.2
	-12061.2	-117.2	-2206.8	-2325.0	-396557.1	32922.8
	-12031.3	-96.5	-2167.3	-2674.3	-389452.4	29501.7
160.	-8122.0	800.5	1996.8	2524.7	57095.6	8425.8
	-8092.2	821.2	2036.2	2175.4	57893.7	8314.3
	-8174.2	-256.2	1918.5	3089.0	55679.9	15455.8
	-8144.3	-235.5	1957.9	2739.7	56478.0	15344.3
	-8474.6	582.6	1531.6	6340.0	47665.4	9594.8
	-8444.7	603.3	1571.0	5990.7	48463.5	9483.3
	-8526.7	-474.1	1453.3	6904.3	46249.8	16624.8
	-8496.9	-453.4	1492.7	6555.0	47047.9	16513.3
	-11296.5	1157.4	-1663.3	-6704.5	-32631.3	5971.0
	-11266.6	1178.1	-1623.9	-7053.9	-31833.2	5859.5
	-11348.6	100.7	-1741.6	-6140.3	-34046.9	13001.0
	-11318.7	121.3	-1702.1	-6489.6	-33248.9	12889.5
	-11649.0	939.5	-2128.5	-2889.2	-42061.5	7140.0
	-11619.2	960.2	-2089.1	-3238.6	-41263.4	7028.5
	-11701.2	-117.2	-2206.8	-2325.0	-43477.1	14170.1
	-11671.3	-96.5	-2167.3	-2674.3	-42679.0	14058.6
320.	-7762.0	800.5	1996.8	2524.7	-262386.5	136506.1
	-7732.2	821.2	2036.2	2175.4	-267895.0	139704.2
	-7814.2	-256.2	1918.5	3089.0	-251281.1	-25541.8
	-7784.3	-235.5	1957.9	2739.7	-256789.6	-22343.7
	-8114.6	582.6	1531.6	6340.0	-197386.4	102816.5
	-8084.7	603.3	1571.0	5990.7	-202894.9	106014.6
	-8166.7	-474.1	1453.3	6904.3	-186280.9	-59231.4
	-8136.9	-453.4	1492.7	6555.0	-191789.4	-56033.2
	-10936.5	1157.4	-1663.3	-6704.5	233497.9	191155.3
	-10906.6	1178.1	-1623.9	-7053.9	227989.4	194353.4
	-10988.6	100.7	-1741.6	-6140.3	244603.3	29107.4
	-10958.7	121.3	-1702.1	-6489.6	239094.8	32305.6
	-11289.0	939.5	-2128.5	-2889.2	298498.0	157465.7
	-11259.2	960.2	-2089.1	-3238.6	292989.5	160663.8
	-11341.2	-117.2	-2206.8	-2325.0	309603.5	-4582.2
	-11311.3	-96.5	-2167.3	-2674.3	304095.0	-1384.0

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PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2343.8	508.6	1821.9	2333.6	341580.3	-84574.2
	-2313.5	526.2	1880.1	1976.0	351846.7	-87654.4
	-1921.3	-343.9	1719.4	2879.5	323464.8	67608.7
	-1891.0	-326.4	1777.7	2521.9	333731.2	64528.5
	-2701.1	324.6	1154.1	6074.6	223794.2	-52270.7
	-2670.7	342.2	1212.4	5717.0	234060.7	-55350.9
	-2278.5	-527.9	1051.7	6620.5	205678.7	99912.2
	-2248.2	-510.4	1110.0	6262.9	215945.2	96832.0
	-4986.7	834.0	-1611.5	-6408.5	-272039.9	-140825.1
	-4956.4	851.6	-1553.3	-6766.1	-261773.5	-143905.2
	-4564.2	-18.5	-1713.9	-5862.6	-290155.4	11357.8
	-4533.8	-1.0	-1655.7	-6220.2	-279889.0	8277.7
	-5343.9	650.0	-2279.2	-2667.5	-389826.0	-108521.6
	-5313.6	667.6	-2221.0	-3025.1	-379559.5	-111601.7
	-4921.4	-202.5	-2381.6	-2121.6	-407941.5	43661.4
	-4891.1	-185.0	-2323.4	-2479.2	-397675.0	40581.2
160.	-1983.8	508.6	1821.9	2333.6	50084.0	-3196.1
	-1953.5	526.2	1880.1	1976.0	51034.3	-3468.2
	-1561.3	-343.9	1719.4	2879.5	48354.2	12577.5
	-1531.0	-326.4	1777.7	2521.9	49304.6	12305.4
	-2341.1	324.6	1154.1	6074.6	39132.4	-332.1
	-2310.7	342.2	1212.4	5717.0	40082.8	-604.2
	-1918.5	-527.9	1051.7	6620.5	37402.6	15441.6
	-1888.2	-510.4	1110.0	6262.9	38353.0	15169.4
	-4626.7	834.0	-1611.5	-6408.5	-14198.8	-7381.8
	-4596.4	851.6	-1553.3	-6766.1	-13248.4	-7653.9
	-4204.2	-18.5	-1713.9	-5862.6	-15928.6	8391.9
	-4173.8	-1.0	-1655.7	-6220.2	-14978.2	8119.7
	-4983.9	650.0	-2279.2	-2667.5	-25150.4	-4517.7

	-4953.6	667.6	-2221.0	-3025.1	-24200.0	-4789.8
	-4561.4	-202.5	-2381.6	-2121.6	-26880.1	11255.9
	-4531.1	-185.0	-2323.4	-2479.2	-25929.8	10983.8
320.	-1623.8	508.6	1821.9	2333.6	-241412.8	78181.3
	-1593.5	526.2	1880.1	1976.0	-249778.5	80717.2
	-1201.3	-343.9	1719.4	2879.5	-226756.9	-42454.4
	-1171.0	-326.4	1777.7	2521.9	-235122.6	-39918.5
	-1981.1	324.6	1154.1	6074.6	-145529.9	51605.9
	-1950.7	342.2	1212.4	5717.0	-153895.6	54141.8
	-1558.5	-527.9	1051.7	6620.5	-130874.0	-69029.8
	-1528.2	-510.4	1110.0	6262.9	-139239.7	-66493.9
	-4266.7	834.0	-1611.5	-6408.5	243642.8	126062.3
	-4236.4	851.6	-1553.3	-6766.1	235277.1	128598.2
	-3844.2	-18.5	-1713.9	-5862.6	258298.8	5426.6
	-3813.8	-1.0	-1655.7	-6220.2	249933.1	7962.5
	-4623.9	650.0	-2279.2	-2667.5	339525.7	99486.9
	-4593.6	667.6	-2221.0	-3025.1	331160.0	102022.8
	-4201.4	-202.5	-2381.6	-2121.6	354181.6	-21148.8
	-4171.1	-185.0	-2323.4	-2479.2	345815.9	-18612.9

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-7905.1	177.1	1867.1	57.9	306192.8	-33583.1
	-7898.1	178.0	1815.2	-202.8	297786.6	-33730.8
	-8443.3	-409.1	1952.4	480.4	320032.3	64868.8
	-8436.4	-408.2	1900.5	219.7	311626.1	64721.0
	-7984.3	167.9	2462.8	2791.4	402740.5	-32039.2
	-7977.4	168.8	2410.9	2530.7	394334.3	-32187.0
	-8522.5	-418.4	2548.1	3213.8	416580.0	66412.6
	-8515.6	-417.5	2496.2	2953.1	408173.8	66264.9
	-7306.3	196.6	-2747.8	-3055.1	-440520.2	-36848.0
	-7299.4	197.5	-2799.7	-3315.8	-448926.4	-36995.7
	-7844.6	-389.6	-2662.5	-2632.7	-426680.7	61603.8
	-7837.6	-388.7	-2714.4	-2893.4	-435086.9	61456.1
	-7385.6	187.4	-2152.1	-321.7	-343972.5	-35304.2
	-7378.7	188.3	-2203.9	-582.4	-352378.7	-35451.9
	-7923.8	-398.9	-2066.8	100.8	-330133.0	63147.7
	-7916.9	-398.0	-2118.6	-159.9	-338539.2	62999.9
160.	-7622.3	177.1	1867.1	57.9	7461.9	-5242.6
	-7615.4	178.0	1815.2	-202.8	7354.1	-5248.5
	-8160.5	-409.1	1952.4	480.4	7653.1	-588.4
	-8153.6	-408.2	1900.5	219.7	7545.3	-594.3
	-7701.6	167.9	2462.8	2791.4	8693.4	-5180.8
	-7694.6	168.8	2410.9	2530.7	8585.6	-5186.6
	-8239.8	-418.4	2548.1	3213.8	8884.6	-526.6
	-8232.9	-417.5	2496.2	2953.1	8776.8	-532.4
	-7023.6	196.6	-2747.8	-3055.1	-870.7	-5385.6
	-7016.7	197.5	-2799.7	-3315.8	-978.5	-5391.5
	-7561.8	-389.6	-2662.5	-2632.7	-679.5	-731.4
	-7554.9	-388.7	-2714.4	-2893.4	-787.3	-737.3
	-7102.8	187.4	-2152.1	-321.7	360.9	-5323.8
	-7095.9	188.3	-2203.9	-582.4	253.1	-5329.6
	-7641.1	-398.9	-2066.8	100.8	552.0	-669.6
	-7634.1	-398.0	-2118.6	-159.9	444.3	-675.4
320.	-7339.6	177.1	1867.1	57.9	-291269.1	23097.8
	-7332.6	178.0	1815.2	-202.8	-283078.5	23233.8
	-7877.8	-409.1	1952.4	480.4	-304726.2	-66045.6
	-7870.9	-408.2	1900.5	219.7	-296535.6	-65909.6
	-7418.8	167.9	2462.8	2791.4	-385353.7	21677.7
	-7411.9	168.8	2410.9	2530.7	-377163.1	21813.7
	-7957.1	-418.4	2548.1	3213.8	-398810.8	-67465.7
	-7950.1	-417.5	2496.2	2953.1	-390620.2	-67329.7
	-6740.9	196.6	-2747.8	-3055.1	438778.8	26076.7
	-6733.9	197.5	-2799.7	-3315.8	446969.5	26212.7
	-7279.1	-389.6	-2662.5	-2632.7	425321.7	-63066.7
	-7272.2	-388.7	-2714.4	-2893.4	433512.4	-62930.7
	-6820.1	187.4	-2152.1	-321.7	344694.2	24656.6
	-6813.2	188.3	-2203.9	-582.4	352884.9	24792.7
	-7358.3	-398.9	-2066.8	100.8	331237.1	-64486.8
	-7351.4	-398.0	-2118.6	-159.9	339427.8	-64350.8

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8882.3	331.7	3136.6	181.3	518561.5	-58300.0
	-8874.9	333.0	3072.2	-193.3	507995.5	-58533.3
	-8405.0	-565.7	3242.7	792.4	535945.2	98557.8
	-8397.6	-564.3	3178.3	417.7	525379.3	98324.6
	-8970.8	317.6	3892.9	4087.8	642519.2	-55861.0
	-8963.3	318.9	3828.5	3713.1	631953.2	-56094.3
	-8493.5	-579.8	3999.0	4698.9	659902.9	100996.8
	-8486.0	-578.4	3934.6	4324.2	649337.0	100763.6
	-7908.5	362.0	-4267.7	-4468.9	-690626.5	-63495.6
	-7901.0	363.4	-4332.2	-4843.5	-701192.5	-63728.9
	-7431.2	-535.3	-4161.6	-3857.8	-673242.8	93362.2
	-7423.7	-534.0	-4226.0	-4232.4	-683808.7	93128.9
	-7996.9	347.9	-3511.4	-562.4	-566668.8	-61056.6
	-7989.4	349.3	-3575.8	-937.1	-577234.8	-61289.9
	-7519.6	-549.4	-3405.3	48.7	-549285.1	95801.2
	-7512.2	-548.1	-3469.7	-326.0	-559851.0	95567.9
160.	-8522.3	331.7	3136.6	181.3	16700.6	-5234.3
	-8514.9	333.0	3072.2	-193.3	16448.4	-5252.1
	-8045.0	-565.7	3242.7	792.4	17107.7	8047.0
	-8037.6	-564.3	3178.3	417.7	16855.5	8029.2
	-8610.8	317.6	3892.9	4087.8	19648.4	-5049.7
	-8603.3	318.9	3828.5	3713.1	19396.2	-5067.5
	-8133.5	-579.8	3999.0	4698.9	20055.5	8231.6
	-8126.0	-578.4	3934.6	4324.2	19803.3	8213.7
	-7548.5	362.0	-4267.7	-4468.9	-7796.2	-5573.4
	-7541.0	363.4	-4332.2	-4843.5	-8048.4	-5591.2
	-7071.2	-535.3	-4161.6	-3857.8	-7389.1	7707.9
	-7063.7	-534.0	-4226.0	-4232.4	-7641.3	7690.1
	-7636.9	347.9	-3511.4	-562.4	-4848.4	-5388.8
	-7629.4	349.3	-3575.8	-937.1	-5100.6	-5406.6
	-7159.6	-549.4	-3405.3	48.7	-4441.3	7892.5
	-7152.2	-548.1	-3469.7	-326.0	-4693.5	7874.7
320.	-8162.3	331.7	3136.6	181.3	-485160.4	47831.4
	-8154.9	333.0	3072.2	-193.3	-475098.9	48029.0
	-7685.0	-565.7	3242.7	792.4	-501730.0	-82463.9
	-7677.6	-564.3	3178.3	417.7	-491668.4	-82266.3
	-8250.8	317.6	3892.9	4087.8	-603222.4	45761.5
	-8243.3	318.9	3828.5	3713.1	-593160.9	45959.2
	-7773.5	-579.8	3999.0	4698.9	-619792.0	-84533.7
	-7766.0	-578.4	3934.6	4324.2	-609730.4	-84336.1
	-7188.5	362.0	-4267.7	-4468.9	675034.2	52348.9
	-7181.0	363.4	-4332.2	-4843.5	685095.7	52546.5
	-6711.2	-535.3	-4161.6	-3857.8	658464.6	-77946.4
	-6703.7	-534.0	-4226.0	-4232.4	668526.2	-77748.7
	-7276.9	347.9	-3511.4	-562.4	556972.2	50279.0
	-7269.4	349.3	-3575.8	-937.1	567033.7	50476.7
	-6799.6	-549.4	-3405.3	48.7	540402.6	-80016.2
	-6792.2	-548.1	-3469.7	-326.0	550464.2	-79818.6

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8609.6	475.2	2707.0	2176.0	448049.1	-86743.7
	-8615.7	476.5	2758.2	1811.2	456435.5	-86961.2
	-9129.0	-440.6	2622.5	2753.0	434203.0	71509.6
	-9135.1	-439.3	2673.6	2388.1	442589.4	71292.1
	-8537.1	461.2	2103.3	5976.9	349090.0	-84335.7
	-8543.1	462.5	2154.4	5612.0	357476.4	-84553.1
	-9056.4	-454.6	2018.7	6553.9	335243.9	73917.7
	-9062.5	-453.3	2069.9	6189.0	343630.3	73700.2

	-7865.4	492.5	-2410.1	-6320.4	-385465.2	-89777.2
	-7871.5	493.7	-2359.0	-6685.3	-377078.8	-89994.7
	-8384.8	-423.3	-2494.7	-5743.4	-399311.3	68476.1
	-8390.9	-422.1	-2443.5	-6108.3	-390924.9	68258.6
	-7792.8	478.4	-3013.9	-2519.6	-484424.3	-87369.1
	-7798.9	479.7	-2962.7	-2884.4	-476037.9	-87586.6
	-8312.2	-437.4	-3098.4	-1942.6	-498270.4	70884.2
	-8318.3	-436.1	-3047.3	-2307.4	-489884.0	70666.7
160.	-8249.6	475.2	2707.0	2176.0	14929.0	-10705.3
	-8255.7	476.5	2758.2	1811.2	15130.4	-10719.9
	-8769.0	-440.6	2622.5	2753.0	14608.8	1019.2
	-8775.1	-439.3	2673.6	2388.1	14810.1	1004.6
	-8177.1	461.2	2103.3	5976.9	12566.5	-10544.1
	-8183.1	462.5	2154.4	5612.0	12767.9	-10558.8
	-8696.4	-454.6	2018.7	6553.9	12246.3	1180.4
	-8702.5	-453.3	2069.9	6189.0	12447.6	1165.7
	-7505.4	492.5	-2410.1	-6320.4	157.4	-10980.3
	-7511.5	493.7	-2359.0	-6685.3	358.8	-10994.9
	-8024.8	-423.3	-2494.7	-5743.4	-162.9	744.2
	-8030.9	-422.1	-2443.5	-6108.3	38.5	729.6
	-7432.8	478.4	-3013.9	-2519.6	-2205.1	-10819.1
	-7438.9	479.7	-2962.7	-2884.4	-2003.7	-10833.8
	-7952.2	-437.4	-3098.4	-1942.6	-2525.4	905.4
	-7958.3	-436.1	-3047.3	-2307.4	-2324.0	890.7
320.	-7889.6	475.2	2707.0	2176.0	-418191.4	65333.0
	-7895.7	476.5	2758.2	1811.2	-426175.1	65521.2
	-8409.0	-440.6	2622.5	2753.0	-404985.8	-69471.4
	-8415.1	-439.3	2673.6	2388.1	-412969.5	-69283.2
	-7817.1	461.2	2103.3	5976.9	-323957.3	63247.2
	-7823.1	462.5	2154.4	5612.0	-331941.0	63435.4
	-8336.4	-454.6	2018.7	6553.9	-310751.7	-71557.1
	-8342.5	-453.3	2069.9	6189.0	-318735.4	-71368.9
	-7145.4	492.5	-2410.1	-6320.4	385780.3	67816.8
	-7151.5	493.7	-2359.0	-6685.3	377796.6	68005.0
	-7664.8	-423.3	-2494.7	-5743.4	398985.9	-66987.5
	-7670.9	-422.1	-2443.5	-6108.3	391002.2	-66799.3
	-7072.8	478.4	-3013.9	-2519.6	480014.4	65731.1
	-7078.9	479.7	-2962.7	-2884.4	472030.7	65919.3
	-7592.2	-437.4	-3098.4	-1942.6	493220.0	-69073.3
	-7598.3	-436.1	-3047.3	-2307.4	485236.3	-68885.1

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9022.7	588.8	2428.3	2323.3	404989.6	-94687.7
	-9031.6	590.0	2499.4	1961.5	416674.1	-94898.4
	-8432.5	-253.3	2312.0	2888.9	385835.5	54696.9
	-8441.4	-252.1	2383.1	2527.0	397520.0	54486.2
	-8920.0	575.4	1612.3	6121.4	270837.5	-92348.9
	-8928.9	576.6	1683.4	5759.6	282522.0	-92559.6
	-8329.8	-266.7	1495.9	6687.0	251683.4	57035.8
	-8338.7	-265.5	1567.0	6325.2	263367.9	56825.0
	-8496.7	605.6	-1948.4	-6457.9	-312656.5	-97590.9
	-8505.7	606.8	-1877.3	-6819.7	-300972.0	-97801.6
	-7906.5	-236.5	-2064.8	-5892.3	-331810.6	51793.7
	-7915.5	-235.3	-1993.7	-6254.1	-320126.1	51583.0
	-8394.0	592.2	-2764.5	-2659.8	-446808.6	-95252.0
	-8403.0	593.5	-2693.4	-3021.6	-435124.1	-95462.7
	-7803.8	-249.9	-2880.8	-2094.2	-465962.7	54132.6
	-7812.8	-248.7	-2809.7	-2456.0	-454278.2	53921.9
160.	-8662.7	588.8	2428.3	2323.3	16455.2	-485.5
	-8671.6	590.0	2499.4	1961.5	16768.0	-503.2
	-8072.5	-253.3	2312.0	2888.9	15916.3	14161.6
	-8081.4	-252.1	2383.1	2527.0	16229.1	14144.0
	-8560.0	575.4	1612.3	6121.4	12871.3	-285.4
	-8568.9	576.6	1683.4	5759.6	13184.1	-303.1
	-7969.8	-266.7	1495.9	6687.0	12332.3	14361.7
	-7978.7	-265.5	1567.0	6325.2	12645.2	14344.0
	-8136.7	605.6	-1948.4	-6457.9	-911.6	-693.0
	-8145.7	606.8	-1877.3	-6819.7	-598.7	-710.7
	-7546.5	-236.5	-2064.8	-5892.3	-1450.5	13954.1
	-7555.5	-235.3	-1993.7	-6254.1	-1137.6	13936.5
	-8034.0	592.2	-2764.5	-2659.8	-4495.5	-492.9
	-8043.0	593.5	-2693.4	-3021.6	-4182.7	-510.6
	-7443.8	-249.9	-2880.8	-2094.2	-5034.4	14154.2
	-7452.8	-248.7	-2809.7	-2456.0	-4721.6	14136.5
320.	-8302.7	588.8	2428.3	2323.3	-372079.2	93716.7
	-8311.6	590.0	2499.4	1961.5	-383138.1	93892.0
	-7712.5	-253.3	2312.0	2888.9	-354003.0	-26373.7
	-7721.4	-252.1	2383.1	2527.0	-365061.8	-26198.3
	-8200.0	575.4	1612.3	6121.4	-245095.0	91777.9
	-8208.9	576.6	1683.4	5759.6	-256153.9	91953.3
	-7609.8	-266.7	1495.9	6687.0	-227018.8	-28312.4
	-7618.7	-265.5	1567.0	6325.2	-238077.6	-28137.0
	-7776.7	605.6	-1948.4	-6457.9	310833.5	96205.0
	-7785.7	606.8	-1877.3	-6819.7	299774.6	96380.4
	-7186.5	-236.5	-2064.8	-5892.3	328909.7	-23885.4
	-7195.5	-235.3	-1993.7	-6254.1	317850.9	-23710.0
	-7674.0	592.2	-2764.5	-2659.8	437817.7	94266.2
	-7683.0	593.5	-2693.4	-3021.6	426758.9	94441.6
	-7083.8	-249.9	-2880.8	-2094.2	455894.0	-25824.1
	-7092.8	-248.7	-2809.7	-2456.0	444835.1	-25648.7

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4346.8	240.4	1839.9	59.7	300323.6	-41935.9
	-4329.4	228.1	1796.7	-198.9	292850.6	-39870.8
	-4792.5	-310.2	1905.9	484.6	311703.9	51498.5
	-4775.1	-322.5	1862.8	226.0	304230.8	53563.6
	-4554.9	367.8	2334.8	2769.4	386075.1	-63425.4
	-4537.6	355.6	2291.7	2510.8	378602.1	-61360.3
	-5000.6	-182.8	2400.9	3194.3	397455.4	30009.0
	-4983.3	-195.0	2357.7	2935.7	389982.4	32074.1
	-2150.2	57.7	-1903.1	-3037.3	-352959.5	-10817.5
	-2132.8	45.5	-1946.2	-3295.9	-360432.6	-8752.4
	-2595.9	-492.9	-1837.0	-2612.4	-341579.3	82616.9
	-2578.5	-505.1	-1880.2	-2871.0	-349052.3	84682.0
	-2358.3	185.2	-1408.1	-327.6	-267208.0	-32307.0
	-2340.9	172.9	-1451.3	-586.2	-274681.0	-30241.9
	-2804.0	-365.4	-1342.1	97.3	-255827.7	61127.4
	-2786.6	-377.7	-1385.2	-161.3	-263300.8	63192.5
160.	-4064.1	240.4	1839.9	59.7	5944.6	-3477.7
	-4046.7	228.1	1796.7	-198.9	5376.0	-3372.6
	-4509.8	-310.2	1905.9	484.6	6755.3	1860.7
	-4492.4	-322.5	1862.8	226.0	6186.8	1965.9
	-4272.2	367.8	2334.8	2769.4	12502.7	-4573.8
	-4254.8	355.6	2291.7	2510.8	11934.1	-4468.7
	-4717.9	-182.8	2400.9	3194.3	13313.4	764.7
	-4700.5	-195.0	2357.7	2935.7	12744.9	869.8
	-1867.4	57.7	-1903.1	-3037.3	-48467.3	-1584.7
	-1850.1	45.5	-1946.2	-3295.9	-49035.9	-1479.5
	-2313.1	-492.9	-1837.0	-2612.4	-47656.5	3753.8
	-2295.8	-505.1	-1880.2	-2871.0	-48225.1	3858.9
	-2075.5	185.2	-1408.1	-327.6	-41909.2	-2680.8
	-2058.2	172.9	-1451.3	-586.2	-42477.8	-2575.6
	-2521.2	-365.4	-1342.1	97.3	-41098.4	2657.7
	-2503.9	-377.7	-1385.2	-161.3	-41667.0	2762.8
320.	-3781.3	240.4	1839.9	59.7	-288434.6	34980.9
	-3764.0	228.1	1796.7	-198.9	-282098.7	33126.0
	-4227.0	-310.2	1905.9	484.6	-298193.3	-47776.7
	-4209.7	-322.5	1862.8	226.0	-291857.4	-49631.6
	-3989.4	367.8	2334.8	2769.4	-361069.9	54278.2
	-3972.1	355.6	2291.7	2510.8	-354734.0	52423.3

	-4435.1	-182.8	2400.9	3194.3	-370828.6	-28479.3
	-4417.8	-195.0	2357.7	2935.7	-364492.7	-30334.2
	-1584.7	57.7	-1903.1	-3037.3	256025.0	7647.8
	-1567.3	45.5	-1946.2	-3295.9	262360.9	5793.0
	-2030.4	-492.9	-1837.0	-2612.4	246266.3	-75109.7
	-2013.0	-505.1	-1880.2	-2871.0	252602.2	-76964.6
	-1792.8	185.2	-1408.1	-327.6	183389.7	26945.2
	-1775.4	172.9	-1451.3	-586.2	189725.6	25090.3
	-2238.5	-365.4	-1342.1	97.3	173631.0	-55812.3
	-2221.1	-377.7	-1385.2	-161.3	179966.9	-57667.2

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11028.8	91.7	2682.9	-23.8	462635.8	-38830.6
	-10999.3	70.5	2633.6	-386.7	453682.5	-35284.6
	-10999.8	-867.6	2750.3	562.2	474979.2	123563.8
	-10970.3	-888.8	2701.0	199.2	466025.9	127109.8
	-11373.0	313.6	3261.0	3885.7	567643.4	-76014.7
	-11343.5	292.5	3211.7	3522.8	558690.1	-72468.7
	-11344.1	-645.7	3328.5	4471.6	579986.8	86379.7
	-11314.5	-666.8	3279.2	4108.7	571033.4	89925.8
	-7650.8	-256.7	-2729.3	-4257.3	-534271.0	19376.3
	-7621.3	-277.9	-2778.6	-4620.2	-543224.3	22922.4
	-7621.9	-1216.0	-2661.9	-3671.3	-521927.6	181770.8
	-7592.4	-1237.2	-2711.2	-4034.2	-530881.0	185316.8
	-7995.1	-34.8	-2151.1	-347.8	-429263.4	-17807.7
	-7965.6	-55.9	-2200.4	-710.7	-438216.8	-14261.7
	-7966.1	-994.1	-2083.7	238.1	-416920.1	144586.7
	-7936.6	-1015.2	-2133.0	-124.8	-425873.4	148132.7
160.	-10668.8	91.7	2682.9	-23.8	33379.3	-24163.6
	-10639.3	70.5	2633.6	-386.7	32314.3	-24004.2
	-10639.8	-867.6	2750.3	562.2	34933.8	-15257.1
	-10610.3	-888.8	2701.0	199.2	33868.8	-15097.7
	-11013.0	313.6	3261.0	3885.7	45879.5	-25831.6
	-10983.5	292.5	3211.7	3522.8	44814.5	-25672.3
	-10984.1	-645.7	3328.5	4471.6	47434.0	-16925.1
	-10954.5	-666.8	3279.2	4108.7	46369.0	-16765.8
	-7290.8	-256.7	-2729.3	-4257.3	-97581.4	-21702.8
	-7261.3	-277.9	-2778.6	-4620.2	-98646.4	-21543.4
	-7261.9	-1216.0	-2661.9	-3671.3	-96026.8	-12796.3
	-7232.4	-1237.2	-2711.2	-4034.2	-97091.9	-12636.9
	-7635.1	-34.8	-2151.1	-347.8	-85081.2	-23370.9
	-7605.6	-55.9	-2200.4	-710.7	-86146.2	-23211.5
	-7606.1	-994.1	-2083.7	238.1	-83526.7	-14464.4
	-7576.6	-1015.2	-2133.0	-124.8	-84591.7	-14305.0
320.	-10308.8	91.7	2682.9	-23.8	-395877.4	-9496.5
	-10279.3	70.5	2633.6	-386.7	-389054.1	-12723.8
	-10279.8	-867.6	2750.3	562.2	-405111.7	-154077.9
	-10250.3	-888.8	2701.0	199.2	-398288.4	-157305.2
	-10653.0	313.6	3261.0	3885.7	-475884.6	24351.4
	-10623.5	292.5	3211.7	3522.8	-469061.4	21124.2
	-10624.1	-645.7	3328.5	4471.6	-485118.9	-120230.0
	-10594.5	-666.8	3279.2	4108.7	-478295.7	-123457.3
	-6930.8	-256.7	-2729.3	-4257.3	339108.5	-62782.0
	-6901.3	-277.9	-2778.6	-4620.2	345931.7	-66009.3
	-6901.9	-1216.0	-2661.9	-3671.3	329874.2	-207363.4
	-6872.4	-1237.2	-2711.2	-4034.2	336697.5	-210590.7
	-7275.1	-34.8	-2151.1	-347.8	259101.2	-28934.1
	-7245.6	-55.9	-2200.4	-710.7	265924.5	-32161.3
	-7246.1	-994.1	-2083.7	238.1	249867.0	-173515.5
	-7216.6	-1015.2	-2133.0	-124.8	256690.2	-176742.8

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10995.8	655.5	1257.1	-121.4	309800.1	-102420.8
	-10996.6	634.9	1238.1	-458.8	305264.9	-98936.4
	-11035.3	-339.9	1285.4	429.9	316642.6	65678.4
	-11036.1	-360.5	1266.4	92.4	312107.3	69162.8
	-10987.1	874.7	1484.5	3822.1	363959.4	-139455.1
	-10987.9	854.0	1465.5	3484.7	359424.1	-135970.7
	-11026.6	-120.7	1512.7	4373.4	370801.8	28644.1
	-11027.4	-141.3	1493.7	4035.9	366266.5	32128.5
	-10973.6	285.8	-1487.4	-4197.3	-395151.8	-40304.2
	-10974.4	265.2	-1506.4	-4534.7	-399687.1	-36819.9
	-11013.1	-709.6	-1459.2	-3646.1	-388309.3	127795.0
	-11013.9	-730.2	-1478.2	-3983.5	-392844.6	131279.3
	-10964.9	504.9	-1260.1	-253.8	-340992.6	-77338.5
	-10965.6	484.3	-1279.1	-591.2	-345527.9	-73854.2
	-11004.3	-490.4	-1231.8	297.4	-334150.1	90760.7
	-11005.1	-511.0	-1250.8	-40.0	-338685.4	94245.0
160.	-10635.8	655.5	1257.1	-121.4	108659.5	2458.7
	-10636.6	634.9	1238.1	-458.8	107165.4	2644.3
	-10675.3	-339.9	1285.4	429.9	110983.1	11301.4
	-10676.1	-360.5	1266.4	92.4	109489.0	11486.9
	-10627.1	874.7	1484.5	3822.1	126439.5	491.2
	-10627.9	854.0	1465.5	3484.7	124945.4	676.7
	-10666.6	-120.7	1512.7	4373.4	128763.1	9333.8
	-10667.4	-141.3	1493.7	4035.9	127269.0	9519.4
	-10613.6	285.8	-1487.4	-4197.3	-157161.8	5419.3
	-10614.4	265.2	-1506.4	-4534.7	-158655.9	5604.9
	-10653.1	-709.6	-1459.2	-3646.1	-154838.2	14262.0
	-10653.9	-730.2	-1478.2	-3983.5	-156332.4	14447.5
	-10604.9	504.9	-1260.1	-253.8	-139381.8	3451.8
	-10605.6	484.3	-1279.1	-591.2	-140875.9	3637.4
	-10644.3	-490.4	-1231.8	297.4	-137058.2	12294.5
	-10645.1	-511.0	-1250.8	-40.0	-138552.4	12480.0
320.	-10275.8	655.5	1257.1	-121.4	-92482.4	107338.4
	-10276.6	634.9	1238.1	-458.8	-90935.3	104225.2
	-10315.3	-339.9	1285.4	429.9	-94677.7	-43075.5
	-10316.1	-360.5	1266.4	92.4	-93130.7	-46188.8
	-10267.1	874.7	1484.5	3822.1	-111081.6	140437.7
	-10267.9	854.0	1465.5	3484.7	-109534.5	137324.4
	-10306.6	-120.7	1512.7	4373.4	-113277.0	-9976.3
	-10307.4	-141.3	1493.7	4035.9	-111729.9	-13089.5
	-10253.6	285.8	-1487.4	-4197.3	80829.5	51142.7
	-10254.4	265.2	-1506.4	-4534.7	82376.6	48029.5
	-10293.1	-709.6	-1459.2	-3646.1	78634.1	-99271.2
	-10293.9	-730.2	-1478.2	-3983.5	80181.2	-102384.5
	-10244.9	504.9	-1260.1	-253.8	62230.3	84242.0
	-10245.6	484.3	-1279.1	-591.2	63777.3	81128.7
	-10284.3	-490.4	-1231.8	297.4	60034.9	-66172.0
	-10285.1	-511.0	-1250.8	-40.0	61582.0	-69285.2

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10113.6	543.2	943.6	492.1	276006.8	-92479.3
	-10113.0	523.1	935.3	155.8	273702.1	-89085.9
	-10098.1	-461.8	956.5	1041.2	279628.4	76893.7
	-10097.5	-482.0	948.2	704.9	277323.7	80287.1
	-10118.8	759.6	1044.4	4516.6	303804.9	-128926.7
	-10118.3	739.4	1036.1	4180.3	301500.2	-125533.3
	-10103.4	-245.5	1057.4	5065.7	307426.5	40446.3
	-10102.8	-265.6	1049.0	4729.4	305121.8	43839.7
	-10114.4	193.7	-1165.7	-4880.4	-349819.9	-33625.6
	-10113.8	173.6	-1174.0	-5216.7	-352124.6	-30232.3
	-10098.9	-811.3	-1152.7	-4331.3	-346198.3	135747.3
	-10098.4	-831.5	-1161.0	-4667.6	-348503.0	139140.7
	-10119.7	410.0	-1064.9	-855.9	-322021.8	-70073.0
	-10119.1	389.9	-1073.2	-1192.2	-324326.5	-66679.7
	-10104.2	-595.0	-1051.9	-306.8	-318400.2	99299.9
	-10103.6	-615.1	-1060.2	-643.1	-320704.9	102693.3
160.	-9753.6	543.2	943.6	492.1	125034.3	-5563.0

	-9753.0	523.1	935.3	155.8	124057.9	-5392.7
	-9738.1	-461.8	956.5	1041.2	126580.5	3004.7
	-9737.5	-482.0	948.2	704.9	125604.1	3175.0
	-9758.8	759.6	1044.4	4516.6	136704.3	-7394.9
	-9758.3	739.4	1036.1	4180.3	135727.9	-7224.6
	-9743.4	-245.5	1057.4	5065.7	138250.4	1172.8
	-9742.8	-265.6	1049.0	4729.4	137274.0	1343.1
	-9754.4	193.7	-1165.7	-4880.4	-163311.4	-2634.2
	-9753.8	173.6	-1174.0	-5216.7	-164287.8	-2463.9
	-9738.9	-811.3	-1152.7	-4331.3	-161765.3	5933.5
	-9738.4	-831.5	-1161.0	-4667.6	-162741.7	6103.8
	-9759.7	410.0	-1064.9	-855.9	-151641.5	-4466.1
	-9759.1	389.9	-1073.2	-1192.2	-152617.9	-4295.8
	-9744.2	-595.0	-1051.9	-306.8	-150095.3	4101.6
	-9743.6	-615.1	-1060.2	-643.1	-151071.7	4271.9
320.	-9393.6	543.2	943.6	492.1	-25938.9	81353.2
	-9393.0	523.1	935.3	155.8	-25587.0	78300.4
	-9378.1	-461.8	956.5	1041.2	-26468.2	-70884.3
	-9377.5	-482.0	948.2	704.9	-26116.2	-73937.1
	-9398.8	759.6	1044.4	4516.6	-30397.1	114136.8
	-9398.3	739.4	1036.1	4180.3	-30045.2	111084.1
	-9383.4	-245.5	1057.4	5065.7	-30926.4	-38100.7
	-9382.8	-265.6	1049.0	4729.4	-30574.4	-41153.4
	-9394.4	193.7	-1165.7	-4880.4	23197.7	28357.2
	-9393.8	173.6	-1174.0	-5216.7	23549.7	25304.4
	-9378.9	-811.3	-1152.7	-4331.3	22668.5	-123880.3
	-9378.4	-831.5	-1161.0	-4667.6	23020.4	-126933.1
	-9399.7	410.0	-1064.9	-855.9	18739.5	61140.8
	-9399.1	389.9	-1073.2	-1192.2	19091.5	58088.1
	-9384.2	-595.0	-1051.9	-306.8	18210.3	-91096.7
	-9383.6	-615.1	-1060.2	-643.1	18562.2	-94149.4

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12288.0	288.7	874.0	1161.8	265986.8	-67575.9
	-12286.0	269.3	872.7	831.2	265568.1	-64268.1
	-12184.0	-696.5	875.8	1698.0	266584.4	99986.3
	-12181.9	-715.9	874.5	1367.4	266165.7	103294.1
	-12310.3	498.5	889.2	5186.1	270831.2	-103254.5
	-12308.2	479.1	887.9	4855.5	270412.4	-99946.7
	-12206.2	-486.7	891.1	5722.4	271428.8	64307.7
	-12204.2	-506.1	889.8	5391.7	271010.0	67615.5
	-12255.7	-63.6	-1027.1	-5532.0	-318263.5	-7590.1
	-12253.6	-83.1	-1028.4	-5862.6	-318682.2	-4282.4
	-12151.6	-1048.8	-1025.2	-4995.7	-317665.9	159972.1
	-12149.5	-1068.2	-1026.5	-5326.4	-318084.6	163279.9
	-12277.9	146.2	-1011.9	-1507.6	-313419.1	-43268.7
	-12275.8	126.8	-1013.2	-1838.3	-313837.8	-39961.0
	-12173.8	-839.0	-1010.0	-971.4	-312821.5	124293.5
	-12171.8	-858.4	-1011.3	-1302.0	-313240.3	127601.3
160.	-11928.0	288.7	874.0	1161.8	126150.9	-21382.7
	-11926.0	269.3	872.7	831.2	125943.4	-21187.5
	-11824.0	-696.5	875.8	1698.0	126450.0	-11449.2
	-11821.9	-715.9	874.5	1367.4	126242.5	-11254.1
	-11950.3	498.5	889.2	5186.1	128557.9	-23491.3
	-11948.2	479.1	887.9	4855.5	128350.3	-23296.1
	-11846.2	-486.7	891.1	5722.4	128857.0	-13557.8
	-11844.2	-506.1	889.8	5391.7	128649.4	-13362.7
	-11895.7	-63.6	-1027.1	-5532.0	-153928.5	-17766.3
	-11893.6	-83.1	-1028.4	-5862.6	-154136.0	-17571.1
	-11791.6	-1048.8	-1025.2	-4995.7	-153629.4	-7832.9
	-11789.5	-1068.2	-1026.5	-5326.4	-153836.9	-7637.7
	-11917.9	146.2	-1011.9	-1507.6	-151521.5	-19874.9
	-11915.8	126.8	-1013.2	-1838.3	-151729.1	-19679.7
	-11813.8	-839.0	-1010.0	-971.4	-151222.4	-9941.5
	-11811.8	-858.4	-1011.3	-1302.0	-151430.0	-9746.3

320.	-11568.0	288.7	874.0	1161.8	-13685.1	24810.6
	-11566.0	269.3	872.7	831.2	-13681.4	21893.2
	-11464.0	-696.5	875.8	1698.0	-13684.4	-122884.8
	-11461.9	-715.9	874.5	1367.4	-13680.7	-125802.2
	-11590.3	498.5	889.2	5186.1	-13715.5	56272.0
	-11588.2	479.1	887.9	4855.5	-13711.9	53354.6
	-11486.2	-486.7	891.1	5722.4	-13714.9	-91423.4
	-11484.2	-506.1	889.8	5391.7	-13711.2	-94340.8
	-11535.7	-63.6	-1027.1	-5532.0	10406.5	-27942.5
	-11533.6	-83.1	-1028.4	-5862.6	10410.2	-30859.9
	-11431.6	-1048.8	-1025.2	-4995.7	10407.2	-175637.9
	-11429.5	-1068.2	-1026.5	-5326.4	10410.8	-178555.3
	-11557.9	146.2	-1011.9	-1507.6	10376.0	3518.9
	-11555.8	126.8	-1013.2	-1838.3	10379.7	601.5
	-11453.8	-839.0	-1010.0	-971.4	10376.7	-144176.5
	-11451.8	-858.4	-1011.3	-1302.0	10380.4	-147093.9

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11404.7	961.5	911.9	1999.2	262752.1	-137957.9
	-11408.6	941.5	918.8	1667.4	264578.3	-134581.0
	-11588.5	-34.2	900.6	2533.5	259708.7	30581.1
	-11592.4	-54.2	907.4	2201.6	261534.9	33958.0
	-11363.9	1175.1	826.7	5950.3	240298.4	-174116.6
	-11367.8	1155.2	833.6	5618.5	242124.7	-170739.7
	-11547.7	179.4	815.4	6484.6	237255.0	-5577.5
	-11551.6	159.5	822.3	6152.7	239081.3	-2200.7
	-11473.0	602.2	-919.2	-6274.3	-280334.7	-77227.3
	-11476.9	582.3	-912.3	-6606.2	-278508.5	-73850.4
	-11656.8	-393.5	-930.5	-5740.1	-283378.1	91311.7
	-11660.7	-413.4	-923.6	-6071.9	-281551.9	94688.6
	-11432.2	815.9	-1004.4	-2323.2	-302788.4	-113386.0
	-11436.1	796.0	-997.5	-2655.1	-300962.2	-110009.1
	-11616.0	-179.8	-1015.7	-1789.0	-305831.8	55153.0
	-11619.9	-199.7	-1008.8	-2120.8	-304005.6	58529.9
160.	-11044.7	961.5	911.9	1999.2	116848.4	15875.6
	-11048.6	941.5	918.8	1667.4	117573.8	16059.3
	-11228.5	-34.2	900.6	2533.5	115618.1	25101.9
	-11232.4	-54.2	907.4	2201.6	116343.5	25285.5
	-11003.9	1175.1	826.7	5950.3	108022.7	13907.0
	-11007.8	1155.2	833.6	5618.5	108748.1	14090.7
	-11187.7	179.4	815.4	6484.6	106792.3	23133.3
	-11191.6	159.5	822.3	6152.7	107517.7	23316.9
	-11113.0	602.2	-919.2	-6274.3	-133265.5	19130.5
	-11116.9	582.3	-912.3	-6606.2	-132540.1	19314.1
	-11296.8	-393.5	-930.5	-5740.1	-134495.8	28356.7
	-11300.7	-413.4	-923.6	-6071.9	-133770.4	28540.4
	-11072.2	815.9	-1004.4	-2323.2	-142091.2	17161.9
	-11076.1	796.0	-997.5	-2655.1	-141365.8	17345.5
	-11256.0	-179.8	-1015.7	-1789.0	-143321.6	26388.1
	-11259.9	-199.7	-1008.8	-2120.8	-142596.1	26571.8
320.	-10684.7	961.5	911.9	1999.2	-29056.7	169709.1
	-10688.6	941.5	918.8	1667.4	-29432.1	166699.6
	-10868.5	-34.2	900.6	2533.5	-28473.9	19622.6
	-10872.4	-54.2	907.4	2201.6	-28849.3	16613.0
	-10643.9	1175.1	826.7	5950.3	-24254.5	201930.7
	-10647.8	1155.2	833.6	5618.5	-24629.9	198921.1
	-10827.7	179.4	815.4	6484.6	-23671.8	51844.1
	-10831.6	159.5	822.3	6152.7	-24047.2	48834.5
	-10753.0	602.2	-919.2	-6274.3	13805.2	115488.2
	-10756.9	582.3	-912.3	-6606.2	13429.8	112478.7
	-10936.8	-393.5	-930.5	-5740.1	14387.9	-34598.3
	-10940.7	-413.4	-923.6	-6071.9	14012.5	-37607.9
	-10712.2	815.9	-1004.4	-2323.2	18607.3	147709.8
	-10716.1	796.0	-997.5	-2655.1	18231.9	144700.2
	-10896.0	-179.8	-1015.7	-1789.0	19190.1	-2376.8

	-10899.9	-199.7	-1008.8	-2120.8	18814.7	-5386.4

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-8688.0	572.8	1185.5	2551.2	284321.5	-99104.6
	-8688.5	551.8	1201.8	2220.3	288112.5	-95601.0
	-8708.7	-440.5	1161.9	3076.3	278690.0	70353.9
	-8709.2	-461.4	1178.2	2745.4	282481.1	73857.4
	-8683.5	794.5	989.0	6398.9	238755.1	-136206.5
	-8684.0	773.6	1005.3	6068.0	242546.2	-132702.9
	-8704.2	-218.7	965.4	6924.0	233123.7	33252.0
	-8704.7	-239.7	981.7	6593.1	236914.8	36755.5
	-8645.6	224.3	-929.1	-6705.9	-258922.4	-40375.7
	-8646.1	203.3	-912.8	-7036.8	-255131.3	-36872.1
	-8666.4	-789.0	-952.7	-6180.8	-264553.8	129082.7
	-8666.8	-809.9	-936.4	-6511.7	-260762.7	132586.3
	-8641.1	446.1	-1125.6	-2858.2	-304488.7	-77477.6
	-8641.6	425.1	-1109.3	-3189.1	-300697.6	-73974.0
	-8661.9	-567.2	-1149.2	-2333.1	-310120.2	91980.8
	-8662.4	-588.1	-1132.9	-2664.0	-306329.1	95484.4
160.	-8328.0	572.8	1185.5	2551.2	94648.1	-7463.1
	-8328.5	551.8	1201.8	2220.3	95826.3	-7310.0
	-8348.7	-440.5	1161.9	3076.3	92792.3	-127.2
	-8349.2	-461.4	1178.2	2745.4	93970.5	26.0
	-8323.5	794.5	989.0	6398.9	80520.5	-9079.0
	-8324.0	773.6	1005.3	6068.0	81698.8	-8925.8
	-8344.2	-218.7	965.4	6924.0	78664.7	-1743.0
	-8344.7	-239.7	981.7	6593.1	79843.0	-1589.9
	-8285.6	224.3	-929.1	-6705.9	-110266.2	-4491.0
	-8286.1	203.3	-912.8	-7036.8	-109087.9	-4337.8
	-8306.4	-789.0	-952.7	-6180.8	-112122.0	2845.0
	-8306.8	-809.9	-936.4	-6511.7	-110943.7	2998.1
	-8281.1	446.1	-1125.6	-2858.2	-124393.7	-6106.9
	-8281.6	425.1	-1109.3	-3189.1	-123215.5	-5953.7
	-8301.9	-567.2	-1149.2	-2333.1	-126249.5	1229.1
	-8302.4	-588.1	-1132.9	-2664.0	-125071.3	1382.3
320.	-7968.0	572.8	1185.5	2551.2	-95027.6	84178.6
	-7968.5	551.8	1201.8	2220.3	-96462.1	80981.4
	-7988.7	-440.5	1161.9	3076.3	-93107.7	-70607.9
	-7989.2	-461.4	1178.2	2745.4	-94542.2	-73805.1
	-7963.5	794.5	989.0	6398.9	-77716.3	118048.8
	-7964.0	773.6	1005.3	6068.0	-79150.8	114851.6
	-7984.2	-218.7	965.4	6924.0	-75796.5	-36737.7
	-7984.7	-239.7	981.7	6593.1	-77231.0	-39934.9
	-7925.6	224.3	-929.1	-6705.9	38392.2	31393.4
	-7926.1	203.3	-912.8	-7036.8	36957.7	28196.2
	-7946.4	-789.0	-952.7	-6180.8	40312.1	-123393.1
	-7946.8	-809.9	-936.4	-6511.7	38877.6	-126590.3
	-7921.1	446.1	-1125.6	-2858.2	55703.5	65263.6
	-7921.6	425.1	-1109.3	-3189.1	54269.0	62066.3
	-7941.9	-567.2	-1149.2	-2333.1	57623.3	-89522.9
	-7942.4	-588.1	-1132.9	-2664.0	56188.8	-92720.2

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-9778.7	799.1	2297.7	2449.0	396352.7	-124484.5
	-9801.8	777.7	2336.0	2097.6	403364.0	-120927.6
	-9736.4	-184.9	2249.6	2998.5	387372.2	40065.5
	-9759.5	-206.3	2287.8	2647.1	394383.5	43622.4
	-9506.5	1023.6	1846.8	6251.9	313652.4	-161716.2
	-9529.6	1002.1	1885.0	5900.6	320663.7	-158159.2
	-9464.2	39.6	1798.6	6801.5	304671.9	2833.8
	-9487.4	18.1	1836.8	6450.1	311683.2	6390.8
	-7327.3	419.6	-1258.0	-6570.6	-270769.8	-61130.4
	-7350.5	398.2	-1219.8	-6922.0	-263758.5	-57573.4
	-7285.1	-564.3	-1306.1	-6021.1	-279750.3	103419.6
	-7308.2	-585.8	-1267.9	-6372.5	-272739.0	106976.6
	-7055.2	644.1	-1709.0	-2767.6	-353470.1	-98362.0
	-7078.3	622.7	-1670.7	-3119.0	-346458.8	-94805.1
	-7012.9	-339.9	-1757.1	-2218.1	-362450.6	66188.0
	-7036.0	-361.3	-1718.9	-2569.5	-355439.3	69744.9
160.	-9418.7	799.1	2297.7	2449.0	28717.5	3370.8
	-9441.8	777.7	2336.0	2097.6	29611.3	3497.2
	-9376.4	-184.9	2249.6	2998.5	27440.9	10485.4
	-9399.5	-206.3	2287.8	2647.1	28334.7	10611.7
	-9146.5	1023.6	1846.8	6251.9	18172.3	2052.0
	-9169.6	1002.1	1885.0	5900.6	19066.2	2178.4
	-9104.2	39.6	1798.6	6801.5	16895.7	9166.6
	-9127.4	18.1	1836.8	6450.1	17789.6	9293.0
	-6967.3	419.6	-1258.0	-6570.6	-69492.3	6013.1
	-6990.5	398.2	-1219.8	-6922.0	-68598.4	6139.5
	-6925.1	-564.3	-1306.1	-6021.1	-70768.8	13127.7
	-6948.2	-585.8	-1267.9	-6372.5	-69875.0	13254.1
	-6695.2	644.1	-1709.0	-2767.6	-80037.4	4694.3
	-6718.3	622.7	-1670.7	-3119.0	-79143.6	4820.7
	-6652.9	-339.9	-1757.1	-2218.1	-81314.0	11808.9
	-6676.0	-361.3	-1718.9	-2569.5	-80420.1	11935.3
320.	-9058.7	799.1	2297.7	2449.0	-338918.2	131226.3
	-9081.8	777.7	2336.0	2097.6	-344141.8	127922.2
	-9016.4	-184.9	2249.6	2998.5	-332490.9	-19094.5
	-9039.5	-206.3	2287.8	2647.1	-337714.5	-22398.7
	-8786.5	1023.6	1846.8	6251.9	-277308.2	165820.5
	-8809.6	1002.1	1885.0	5900.6	-282531.8	162516.3
	-8744.2	39.6	1798.6	6801.5	-270880.9	15499.7
	-8767.4	18.1	1836.8	6450.1	-276104.5	12195.5
	-6607.3	419.6	-1258.0	-6570.6	131785.8	73156.3
	-6630.5	398.2	-1219.8	-6922.0	126562.1	69852.1
	-6565.1	-564.3	-1306.1	-6021.1	138213.1	-77164.5
	-6588.2	-585.8	-1267.9	-6372.5	132989.4	-80468.7
	-6335.2	644.1	-1709.0	-2767.6	193395.8	107750.4
	-6358.3	622.7	-1670.7	-3119.0	188172.1	104446.3
	-6292.9	-339.9	-1757.1	-2218.1	199823.1	-42570.4
	-6316.0	-361.3	-1718.9	-2569.5	194599.4	-45874.6

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5586.9	607.3	2352.4	2297.0	391585.6	-101138.7
	-5608.8	589.2	2409.0	1939.5	401719.4	-97936.1
	-5091.0	-178.1	2269.0	2871.2	376757.8	40212.5
	-5113.0	-196.2	2325.6	2513.6	386891.6	43415.2
	-5325.6	795.6	1703.8	6040.9	275332.1	-134409.1
	-5347.5	777.5	1760.4	5683.4	285466.0	-131206.4
	-4829.7	10.3	1620.4	6615.0	260504.4	6942.1
	-4851.7	-7.9	1677.0	6257.5	270638.2	10144.8
	-3475.5	266.8	-981.9	-6379.8	-214598.3	-41807.5
	-3497.4	248.7	-925.3	-6737.3	-204464.5	-38604.8
	-2979.6	-518.5	-1065.2	-5805.7	-229426.0	99543.7
	-3001.5	-536.6	-1008.7	-6163.2	-219292.2	102746.4
	-3214.2	455.2	-1630.5	-2636.0	-330851.7	-75077.8
	-3236.1	437.0	-1573.9	-2993.5	-320717.9	-71875.2
	-2718.3	-330.2	-1713.8	-2061.8	-345679.5	66273.4
	-2740.2	-348.3	-1657.3	-2419.4	-335545.7	69476.1
160.	-5226.9	607.3	2352.4	2297.0	15202.1	-3972.5
	-5248.8	589.2	2409.0	1939.5	16285.6	-3670.7
	-4731.0	-178.1	2269.0	2871.2	13713.6	11723.0
	-4753.0	-196.2	2325.6	2513.6	14797.1	12024.7
	-4965.6	795.6	1703.8	6040.9	2722.0	-7110.4
	-4987.5	777.5	1760.4	5683.4	3805.5	-6808.6
	-4469.7	10.3	1620.4	6615.0	1233.4	8585.0
	-4491.7	-7.9	1677.0	6257.5	2316.9	8886.8
	-3115.5	266.8	-981.9	-6379.8	-57498.7	887.4
	-3137.4	248.7	-925.3	-6737.3	-56415.2	1189.2

	-2619.6	-518.5	-1065.2	-5805.7	-58987.2	16582.8
	-2641.5	-536.6	-1008.7	-6163.2	-57903.7	16884.6
	-2854.2	455.2	-1630.5	-2636.0	-69978.8	-2250.6
	-2876.1	437.0	-1573.9	-2993.5	-68895.3	-1948.8
	-2358.3	-330.2	-1713.8	-2061.8	-71467.4	13444.9
	-2380.2	-348.3	-1657.3	-2419.4	-70383.9	13746.7
320.	-4866.9	607.3	2352.4	2297.0	-361181.8	93194.3
	-4888.8	589.2	2409.0	1939.5	-369148.6	90595.1
	-4371.0	-178.1	2269.0	2871.2	-349331.2	-16766.1
	-4393.0	-196.2	2325.6	2513.6	-357298.0	-19365.2
	-4605.6	795.6	1703.8	6040.9	-269888.6	120188.7
	-4627.5	777.5	1760.4	5683.4	-277855.4	117589.6
	-4109.7	10.3	1620.4	6615.0	-258038.0	10228.4
	-4131.7	-7.9	1677.0	6257.5	-266004.8	7629.3
	-2755.5	266.8	-981.9	-6379.8	99601.4	43581.8
	-2777.4	248.7	-925.3	-6737.3	91634.6	40982.7
	-2259.6	-518.5	-1065.2	-5805.7	111452.0	-66378.6
	-2281.5	-536.6	-1008.7	-6163.2	103485.2	-68977.7
	-2494.2	455.2	-1630.5	-2636.0	190894.6	70576.2
	-2516.1	437.0	-1573.9	-2993.5	182927.8	67977.1
	-1998.3	-330.2	-1713.8	-2061.8	202745.2	-39384.1
	-2020.2	-348.3	-1657.3	-2419.4	194778.4	-41983.2

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	68.3	0.0	19.3	0.0	0.0	0.0
	69.6	0.0	18.3	0.0	0.0	0.0
	73.0	0.0	20.6	0.0	0.0	0.0
	74.3	0.0	19.7	0.0	0.0	0.0
	65.8	0.0	13.3	0.0	0.0	0.0
	67.1	0.0	12.4	0.0	0.0	0.0
	70.5	0.0	14.7	0.0	0.0	0.0
	71.8	0.0	13.8	0.0	0.0	0.0
	-39.3	0.0	-15.0	0.0	0.0	0.0
	-38.0	0.0	-15.9	0.0	0.0	0.0
	-34.6	0.0	-13.6	0.0	0.0	0.0
	-33.3	0.0	-14.6	0.0	0.0	0.0
	-41.8	0.0	-20.9	0.0	0.0	0.0
	-40.5	0.0	-21.9	0.0	0.0	0.0
	-37.1	0.0	-19.6	0.0	0.0	0.0
	-35.8	0.0	-20.5	0.0	0.0	0.0
88.	68.3	-393.7	19.3	0.0	-1686.2	-17226.6
	69.6	-393.7	18.3	0.0	-1604.1	-17226.6
	73.0	-393.7	20.6	0.0	-1806.3	-17226.6
	74.3	-393.7	19.7	0.0	-1724.3	-17226.6
	65.8	-393.7	13.3	0.0	-1166.8	-17226.6
	67.1	-393.7	12.4	0.0	-1084.7	-17226.6
	70.5	-393.7	14.7	0.0	-1286.9	-17226.6
	71.8	-393.7	13.8	0.0	-1204.8	-17226.6
	-39.3	-393.8	-15.0	0.0	1312.7	-17226.6
	-38.0	-393.8	-15.9	0.0	1394.8	-17226.6
	-34.6	-393.8	-13.6	0.0	1192.6	-17226.6
	-33.3	-393.8	-14.6	0.0	1274.7	-17226.6
	-41.8	-393.8	-20.9	0.0	1832.2	-17226.6
	-40.5	-393.8	-21.9	0.0	1914.2	-17226.6
	-37.1	-393.8	-19.6	0.0	1712.0	-17226.6
	-35.8	-393.8	-20.5	0.0	1794.1	-17226.6
175.	68.3	-787.5	19.3	0.0	-3372.4	-68906.2
	69.6	-787.5	18.3	0.0	-3208.2	-68906.2
	73.0	-787.5	20.6	0.0	-3612.7	-68906.2
	74.3	-787.5	19.7	0.0	-3448.5	-68906.2
	65.8	-787.5	13.3	0.0	-2333.5	-68906.2
	67.1	-787.5	12.4	0.0	-2169.3	-68906.2
	70.5	-787.5	14.7	0.0	-2573.8	-68906.2
	71.8	-787.5	13.8	0.0	-2409.7	-68906.2
	-39.3	-787.5	-15.0	0.0	2625.5	-68906.3
	-38.0	-787.5	-15.9	0.0	2789.6	-68906.3
	-34.6	-787.5	-13.6	0.0	2385.1	-68906.3
	-33.3	-787.5	-14.6	0.0	2549.3	-68906.3
	-41.8	-787.5	-20.9	0.0	3664.3	-68906.3
	-40.5	-787.5	-21.9	0.0	3828.5	-68906.3
	-37.1	-787.5	-19.6	0.0	3424.0	-68906.3
	-35.8	-787.5	-20.5	0.0	3588.2	-68906.3

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	55.7	0.0	-32.3	0.0	0.0	0.0
	55.9	0.0	-33.8	0.0	0.0	0.0
	39.2	0.0	-32.6	0.0	0.0	0.0
	39.4	0.0	-34.1	0.0	0.0	0.0
	55.6	0.0	-41.1	0.0	0.0	0.0
	55.8	0.0	-42.6	0.0	0.0	0.0
	39.2	0.0	-41.5	0.0	0.0	0.0
	39.4	0.0	-42.9	0.0	0.0	0.0
	-16.8	0.0	43.4	0.0	0.0	0.0
	-16.6	0.0	42.0	0.0	0.0	0.0
	-33.3	0.0	43.1	0.0	0.0	0.0
	-33.1	0.0	41.7	0.0	0.0	0.0
	-16.9	0.0	34.6	0.0	0.0	0.0
	-16.7	0.0	33.2	0.0	0.0	0.0
	-33.4	0.0	34.3	0.0	0.0	0.0
	-33.2	0.0	32.9	0.0	0.0	0.0
88.	55.7	-393.7	-32.3	0.0	2828.9	-17226.6
	55.9	-393.7	-33.8	0.0	2955.0	-17226.6
	39.2	-393.7	-32.6	0.0	2856.5	-17226.6
	39.4	-393.7	-34.1	0.0	2982.6	-17226.6
	55.6	-393.7	-41.1	0.0	3599.9	-17226.6
	55.8	-393.7	-42.6	0.0	3726.0	-17226.6
	39.2	-393.7	-41.5	0.0	3627.5	-17226.6
	39.4	-393.7	-42.9	0.0	3753.6	-17226.6
	-16.8	-393.8	43.4	0.0	-3801.1	-17226.6
	-16.6	-393.8	42.0	0.0	-3675.0	-17226.6
	-33.3	-393.8	43.1	0.0	-3773.4	-17226.6
	-33.1	-393.8	41.7	0.0	-3647.3	-17226.6
	-16.9	-393.8	34.6	0.0	-3030.1	-17226.6
	-16.7	-393.8	33.2	0.0	-2904.0	-17226.6
	-33.4	-393.8	34.3	0.0	-3002.5	-17226.6
	-33.2	-393.8	32.9	0.0	-2876.4	-17226.6
175.	55.7	-787.5	-32.3	0.0	5657.8	-68906.3
	55.9	-787.5	-33.8	0.0	5910.0	-68906.3
	39.2	-787.5	-32.6	0.0	5713.1	-68906.3
	39.4	-787.5	-34.1	0.0	5965.3	-68906.3
	55.6	-787.5	-41.1	0.0	7199.8	-68906.3
	55.8	-787.5	-42.6	0.0	7452.0	-68906.3
	39.2	-787.5	-41.5	0.0	7255.0	-68906.3
	39.4	-787.5	-42.9	0.0	7507.2	-68906.3
	-16.8	-787.5	43.4	0.0	-7602.1	-68906.3
	-16.6	-787.5	42.0	0.0	-7349.9	-68906.3
	-33.3	-787.5	43.1	0.0	-7546.9	-68906.3
	-33.1	-787.5	41.7	0.0	-7294.7	-68906.3
	-16.9	-787.5	34.6	0.0	-6060.2	-68906.3
	-16.7	-787.5	33.2	0.0	-5808.0	-68906.3
	-33.4	-787.5	34.3	0.0	-6004.9	-68906.3
	-33.2	-787.5	32.9	0.0	-5752.7	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-453.2	671.7	16.9	17404.6	4718.7	12224.6
	-458.2	664.1	16.5	17231.2	4560.1	13740.3
	-570.0	1112.9	17.3	17384.8	4794.4	-75285.2
	-575.0	1105.3	16.9	17211.4	4635.8	-73769.6
	-544.1	750.7	13.1	19778.5	3689.0	-3595.0

	-549.2	743.1	12.7	19605.1	3530.3	-2079.3
	-660.9	1191.8	13.5	19758.7	3764.6	-91104.8
	-666.0	1184.3	13.1	19585.3	3606.0	-89589.2
	551.3	551.8	-15.5	-52612.1	-4105.7	37913.4
	546.3	544.2	-15.9	-52785.5	-4264.3	39429.0
	434.5	993.0	-15.1	-52631.9	-4030.0	-49596.5
	429.5	985.4	-15.5	-52805.3	-4188.6	-48080.8
	460.4	630.8	-19.2	-50238.1	-5135.5	22093.8
	455.3	623.2	-19.6	-50411.5	-5294.1	23609.4
	343.6	1071.9	-18.9	-50258.0	-5059.8	-65416.1
	338.5	1064.4	-19.3	-50431.4	-5218.4	-63900.4
195.	-453.2	-645.1	16.9	17404.6	1422.3	29091.3
	-458.2	-652.7	16.5	17231.2	1341.4	29129.9
	-570.0	-204.0	17.3	17384.8	1423.9	27604.5
	-575.0	-211.6	16.9	17211.4	1343.0	27643.1
	-544.1	-566.2	13.1	19778.5	1128.4	28671.1
	-549.2	-573.7	12.7	19605.1	1047.5	28709.7
	-660.9	-125.0	13.5	19758.7	1130.0	27184.3
	-666.0	-132.6	13.1	19585.3	1049.1	27222.9
	551.3	-765.0	-15.5	-52612.1	-1091.2	31405.7
	546.3	-772.6	-15.9	-52785.5	-1172.1	31444.3
	434.5	-323.9	-15.1	-52631.9	-1089.6	29918.9
	429.5	-331.5	-15.5	-52805.3	-1170.6	29957.5
	460.4	-686.1	-19.2	-50238.1	-1385.1	30985.6
	455.3	-693.6	-19.6	-50411.5	-1466.0	31024.2
	343.6	-244.9	-18.9	-50258.0	-1383.5	29498.8
	338.5	-252.5	-19.3	-50431.4	-1464.5	29537.4
390.	-453.2	-2840.7	16.9	17404.6	-1874.0	-296498.3
	-458.2	-2848.3	16.5	17231.2	-1877.2	-297936.8
	-570.0	-2399.6	17.3	17384.8	-1946.7	-211962.1
	-575.0	-2407.2	16.9	17211.4	-1950.0	-213400.5
	-544.1	-2761.8	13.1	19778.5	-1432.0	-281519.0
	-549.2	-2769.3	12.7	19605.1	-1435.2	-282957.5
	-660.9	-2320.6	13.5	19758.7	-1504.8	-196982.8
	-666.0	-2328.2	13.1	19585.3	-1508.0	-198421.2
	551.3	-2960.6	-15.5	-52612.1	1923.4	-317571.0
	546.3	-2968.2	-15.9	-52785.5	1920.2	-319009.5
	434.5	-2519.5	-15.1	-52631.9	1850.7	-233034.8
	429.5	-2527.1	-15.5	-52805.3	1847.4	-234473.2
	460.4	-2881.7	-19.2	-50238.1	2365.4	-302591.7
	455.3	-2889.2	-19.6	-50411.5	2362.2	-304030.2
	343.6	-2440.5	-18.9	-50258.0	2292.6	-218055.5
	338.5	-2448.1	-19.3	-50431.4	2289.4	-219493.9

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-1957.6	6792.2	26.3	113275.4	5765.5	-384016.9
	-1983.6	6785.2	26.3	112495.3	5574.4	-382529.3
	-1962.7	7169.7	26.5	114962.6	6155.0	-466919.6
	-1988.7	7162.7	26.4	114182.5	5963.9	-465432.1
	-2141.1	6866.7	21.7	122888.8	4480.1	-399725.7
	-2167.2	6859.6	21.6	122108.6	4289.0	-398238.1
	-2146.3	7244.1	21.8	124576.0	4869.6	-482628.4
	-2172.3	7237.1	21.8	123795.9	4678.6	-481140.9
	1508.3	6632.4	-22.0	-130154.4	-4739.2	-349869.6
	1482.3	6625.4	-22.1	-130934.5	-4930.3	-348382.0
	1503.2	7009.9	-21.9	-128467.2	-4349.7	-432772.3
	1477.2	7002.9	-21.9	-129247.3	-4540.8	-431284.8
	1324.8	6706.9	-26.7	-120541.0	-6024.6	-365578.4
	1298.7	6699.8	-26.7	-121321.1	-6215.7	-364090.8
	1319.6	7084.3	-26.5	-118853.8	-5635.1	-448481.1
	1293.6	7077.3	-26.5	-119633.9	-5826.1	-446993.6
215.	-1957.6	-375.9	26.3	113275.4	114.2	305745.1
	-1983.6	-382.9	26.3	112495.3	-69.1	305719.3
	-1962.7	1.6	26.5	114962.6	469.9	303995.4
	-1988.7	-5.4	26.4	114182.5	286.6	303969.6
	-2141.1	-301.4	21.7	122888.8	-176.1	306039.6
	-2167.2	-308.5	21.6	122108.6	-359.4	306013.8
	-2146.3	76.0	21.8	124576.0	179.6	304289.9
	-2172.3	69.0	21.8	123795.9	-3.7	304264.1
	1508.3	-535.7	-22.0	-130154.4	-7.1	305531.8
	1482.3	-542.7	-22.1	-130934.5	-190.4	305506.0
	1503.2	-158.2	-21.9	-128467.2	348.6	303782.1
	1477.2	-165.2	-21.9	-129247.3	165.3	303756.3
	1324.8	-461.2	-26.7	-120541.0	-297.5	305826.3
	1298.7	-468.3	-26.7	-121321.1	-480.7	305800.5
	1319.6	-83.8	-26.5	-118853.8	58.3	304076.7
	1293.6	-90.8	-26.5	-119633.9	-125.0	304050.8
430.	-1957.6	-7544.0	26.3	113275.4	-5545.7	-545636.6
	-1983.6	-7551.0	26.3	112495.3	-5721.1	-547175.8
	-1962.7	-7166.5	26.5	114962.6	-5223.8	-466233.2
	-1988.7	-7173.5	26.4	114182.5	-5399.2	-467772.4
	-2141.1	-7469.5	21.7	122888.8	-4841.0	-529338.8
	-2167.2	-7476.6	21.6	122108.6	-5016.4	-530878.0
	-2146.3	-7092.1	21.8	124576.0	-4519.0	-449935.4
	-2172.3	-7099.1	21.8	123795.9	-4694.5	-451474.6
	1508.3	-7703.8	-22.0	-130154.4	4733.5	-580206.1
	1482.3	-7710.8	-22.1	-130934.5	4558.1	-581745.3
	1503.2	-7326.3	-21.9	-128467.2	5055.4	-500802.7
	1477.2	-7333.3	-21.9	-129247.3	4880.0	-502341.9
	1324.8	-7629.3	-26.7	-120541.0	5438.2	-563908.3
	1298.7	-7636.4	-26.7	-121321.1	5262.8	-565447.5
	1319.6	-7251.9	-26.5	-118853.8	5760.2	-484504.9
	1293.6	-7258.9	-26.5	-119633.9	5584.7	-486044.1

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4125.3	6663.1	-1.0	29089.3	-5423.0	-454925.8
	-4160.7	6655.4	-0.1	30068.0	-5259.3	-453397.8
	-4039.7	7079.1	-2.4	27571.8	-5652.4	-538698.3
	-4075.1	7071.5	-1.5	28550.5	-5488.6	-537170.2
	-4326.8	6744.4	-13.4	17505.3	-8673.4	-471070.5
	-4362.3	6736.7	-12.5	18484.0	-8509.6	-469542.5
	-4241.2	7160.5	-14.8	15987.8	-8902.7	-554843.0
	-4276.6	7152.8	-13.9	16966.5	-8739.0	-553314.9
	3620.7	6537.1	14.4	-16720.6	8910.6	-432787.3
	3585.3	6529.5	15.4	-15741.9	9074.4	-431259.3
	3706.3	6953.2	13.0	-18238.0	8681.3	-516559.8
	3670.9	6945.5	13.9	-17259.3	8845.0	-515031.7
	3419.2	6618.4	2.0	-28304.6	5660.3	-448932.1
	3383.8	6610.8	3.0	-27325.9	5824.0	-447404.0
	3504.8	7034.5	0.6	-29822.1	5430.9	-532704.5
	3469.4	7026.9	1.5	-28843.4	5594.7	-531176.4
200.	-4125.3	-4.9	-1.0	29089.3	-5228.6	210893.2
	-4160.7	-12.6	-0.1	30068.0	-5253.7	210888.4
	-4039.7	411.1	-2.4	27571.8	-5172.7	210337.1
	-4075.1	403.5	-1.5	28550.5	-5197.8	210332.4
	-4326.8	76.4	-13.4	17505.3	-5997.7	211011.7
	-4362.3	68.7	-12.5	18484.0	-6022.8	211007.0
	-4241.2	492.5	-14.8	15987.8	-5941.8	210455.7
	-4276.6	484.8	-13.9	16966.5	-5966.9	210450.9
	3620.7	-130.9	14.4	-16720.6	6035.6	207830.5
	3585.3	-138.5	15.4	-15741.9	6010.5	207825.7
	3706.3	285.2	13.0	-18238.0	6091.5	207274.5
	3670.9	277.5	13.9	-17259.3	6066.4	207269.7
	3419.2	-49.6	2.0	-28304.6	5266.5	207949.1
	3383.8	-57.2	3.0	-27325.9	5241.4	207944.3
	3504.8	366.5	0.6	-29822.1	5322.4	207393.0
	3469.4	358.9	1.5	-28843.4	5297.3	207388.3
400.	-4125.3	-6672.9	-1.0	29089.3	-5040.1	-456901.6
	-4160.7	-6680.6	-0.1	30068.0	-5254.1	-458439.2
	-4039.7	-6256.9	-2.4	27571.8	-4698.9	-374241.3

	-4075.1	-6264.5	-1.5	28550.5	-4913.0	-375778.8
	-4326.8	-6591.6	-13.4	17505.3	-3327.9	-440519.8
	-4362.3	-6599.3	-12.5	18484.0	-3542.0	-442057.3
	-4241.2	-6175.5	-14.8	15987.8	-2986.8	-357859.4
	-4276.6	-6183.2	-13.9	16966.5	-3200.8	-359397.0
	3620.7	-6798.9	14.4	-16720.6	3166.6	-485137.9
	3585.3	-6806.5	15.4	-15741.9	2952.6	-486675.5
	3706.3	-6382.8	13.0	-18238.0	3507.8	-402477.5
	3670.9	-6390.5	13.9	-17259.3	3293.7	-404015.1
	3419.2	-6717.6	2.0	-28304.6	4878.7	-468756.0
	3383.8	-6725.2	3.0	-27325.9	4664.7	-470293.6
	3504.8	-6301.5	0.6	-29822.1	5219.9	-386095.7
	3469.4	-6309.1	1.5	-28843.4	5005.9	-387633.3

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5151.4	6402.8	0.8	1840.9	-5511.3	-392876.8
	-5178.9	6395.7	1.5	3252.1	-5388.9	-391419.3
	-4988.5	6802.0	-0.5	-413.0	-5715.0	-474817.4
	-5016.0	6794.9	0.2	998.2	-5592.7	-473359.9
	-5118.3	6479.1	-10.3	-15181.4	-7842.5	-408463.7
	-5145.9	6472.0	-9.5	-13770.2	-7720.2	-407006.2
	-4955.4	6878.3	-11.6	-17435.2	-8046.3	-490404.3
	-4982.9	6871.2	-10.8	-16024.1	-7923.9	-488946.9
	4275.1	6275.6	11.4	16752.6	8030.2	-368802.4
	4247.6	6268.4	12.1	18163.7	8152.6	-367344.9
	4438.1	6674.7	10.1	14498.7	7826.5	-450743.0
	4410.5	6667.6	10.8	15909.8	7948.8	-449285.5
	4308.2	6351.9	0.3	-269.7	5699.0	-384389.3
	4280.7	6344.8	1.1	1141.5	5821.3	-382931.8
	4471.2	6751.0	-1.0	-2523.6	5495.2	-466329.9
	4443.6	6743.9	-0.2	-1112.4	5617.5	-464872.4
210.	-5151.4	-598.6	0.8	1840.9	-5685.6	216574.9
	-5178.9	-605.7	1.5	3252.1	-5722.1	216536.1
	-4988.5	-199.4	-0.5	-413.0	-5616.3	218457.9
	-5016.0	-206.5	0.2	998.2	-5652.7	218419.1
	-5118.3	-522.3	-10.3	-15181.4	-5700.3	217013.7
	-5145.9	-529.4	-9.5	-13770.2	-5736.8	216974.9
	-4955.4	-123.1	-11.6	-17435.2	-5631.0	218896.7
	-4982.9	-130.2	-10.8	-16024.1	-5667.4	218857.9
	4275.1	-725.8	11.4	16752.6	5652.5	213915.6
	4247.6	-733.0	12.1	18163.7	5616.0	213876.9
	4438.1	-326.7	10.1	14498.7	5721.8	215798.6
	4410.5	-333.8	10.8	15909.8	5685.4	215759.9
	4308.2	-649.5	0.3	-269.7	5637.8	214354.5
	4280.7	-656.6	1.1	1141.5	5601.3	214315.7
	4471.2	-250.4	-1.0	-2523.6	5707.1	216237.5
	4443.6	-257.5	-0.2	-1112.4	5670.7	216198.7
420.	-5151.4	-7600.0	0.8	1840.9	-5865.9	-644273.6
	-5178.9	-7607.1	1.5	3252.1	-6061.1	-645808.6
	-4988.5	-7200.8	-0.5	-413.0	-5523.5	-558567.0
	-5016.0	-7207.9	0.2	998.2	-5718.7	-560102.0
	-5118.3	-7523.7	-10.3	-15181.4	-3564.1	-627809.0
	-5145.9	-7530.8	-9.5	-13770.2	-3759.3	-629344.1
	-4955.4	-7124.5	-11.6	-17435.2	-3221.6	-542102.4
	-4982.9	-7131.6	-10.8	-16024.1	-3416.8	-543637.4
	4275.1	-7727.2	11.4	16752.6	3280.7	-673654.2
	4247.6	-7734.4	12.1	18163.7	3085.5	-675189.3
	4438.1	-7328.1	10.1	14498.7	3623.1	-587947.6
	4410.5	-7335.2	10.8	15909.8	3427.9	-589482.6
	4308.2	-7650.9	0.3	-269.7	5582.5	-657189.7
	4280.7	-7658.0	1.1	1141.5	5387.3	-658724.7
	4471.2	-7251.8	-1.0	-2523.6	5925.0	-571483.1
	4443.6	-7258.9	-0.2	-1112.4	5729.8	-573018.1

Asta	60	nodi	29	30		

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5289.8	8480.9	-4.8	-13738.0	-7017.0	-654916.6
	-5306.2	8475.8	-4.3	-12319.6	-6880.2	-653587.5
	-4970.8	8768.1	-5.8	-15978.1	-7211.1	-729060.0
	-4987.2	8763.0	-5.2	-14559.6	-7074.3	-727731.0
	-4911.1	8535.7	-13.7	-30831.2	-8759.8	-669180.9
	-4927.6	8530.5	-13.1	-29412.7	-8623.0	-667851.8
	-4592.1	8822.9	-14.6	-33071.2	-8953.9	-743324.4
	-4608.5	8817.8	-14.1	-31652.7	-8817.1	-741995.3
	3533.8	8386.6	14.1	31867.1	8819.7	-632603.4
	3517.4	8381.5	14.6	33285.6	8956.4	-631274.4
	3852.9	8673.9	13.1	29627.1	8625.6	-706746.9
	3836.5	8668.7	13.6	31045.6	8762.4	-705417.8
	3912.5	8441.4	5.2	14774.0	7076.9	-646867.8
	3896.1	8436.3	5.7	16192.5	7213.6	-645538.7
	4231.6	8728.6	4.3	12534.0	6882.8	-721011.2
	4215.2	8723.5	4.8	13952.4	7019.6	-719682.2
255.	-5289.8	-20.8	-4.8	-13738.0	-5794.8	423748.0
	-5306.2	-25.9	-4.3	-12319.6	-5793.9	423773.5
	-4970.8	266.4	-5.8	-15978.1	-5750.0	422853.8
	-4987.2	261.3	-5.2	-14559.6	-5749.2	422879.3
	-4911.1	34.0	-13.7	-30831.2	-5282.0	423450.3
	-4927.6	28.8	-13.1	-29412.7	-5281.2	423475.9
	-4592.1	321.2	-14.6	-33071.2	-5237.3	422556.2
	-4608.5	316.1	-14.1	-31652.7	-5236.5	422581.7
	3533.8	-115.1	14.1	31867.1	5242.3	422008.0
	3517.4	-120.2	14.6	33285.6	5243.1	422033.5
	3852.9	172.2	13.1	29627.1	5287.0	421113.8
	3836.5	167.0	13.6	31045.6	5287.8	421139.3
	3912.5	-60.3	5.2	14774.0	5755.0	421710.4
	3896.1	-65.4	5.7	16192.5	5755.8	421735.9
	4231.6	226.9	4.3	12534.0	5799.7	420816.2
	4215.2	221.8	4.8	13952.4	5800.5	420841.7
510.	-5289.8	-8522.5	-4.8	-13738.0	-4580.8	-665532.8
	-5306.2	-8527.6	-4.3	-12319.6	-4715.9	-666810.9
	-4970.8	-8235.3	-5.8	-15978.1	-4297.3	-593177.7
	-4987.2	-8240.4	-5.2	-14559.6	-4432.4	-594455.8
	-4911.1	-8467.7	-13.7	-30831.2	-1812.6	-651863.7
	-4927.6	-8472.9	-13.1	-29412.7	-1947.7	-653141.8
	-4592.1	-8180.5	-14.6	-33071.2	-1529.1	-579508.6
	-4608.5	-8185.6	-14.1	-31652.7	-1664.2	-580786.7
	3533.8	-8616.8	14.1	31867.1	1673.2	-691302.2
	3517.4	-8621.9	14.6	33285.6	1538.1	-692580.2
	3852.9	-8329.5	13.1	29627.1	1956.7	-618947.1
	3836.5	-8334.7	13.6	31045.6	1821.6	-620225.1
	3912.5	-8562.0	5.2	14774.0	4441.4	-677633.1
	3896.1	-8567.1	5.7	16192.5	4306.3	-678911.1
	4231.6	-8274.8	4.3	12534.0	4724.9	-605278.0
	4215.2	-8279.9	4.8	13952.4	4589.8	-606556.0

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4105.9	6414.2	-7.6	-42333.8	-6572.2	-484407.7
	-4112.9	6405.3	-6.5	-41372.4	-6375.1	-482740.7
	-3676.7	6899.0	-8.9	-43759.2	-6818.7	-574373.3
	-3683.8	6890.2	-7.9	-42797.9	-6621.7	-572706.4
	-3516.6	6508.4	-20.6	-53605.2	-7774.1	-502211.7
	-3523.6	6499.6	-19.6	-52643.9	-7577.1	-500544.7
	-3087.4	6993.3	-22.0	-55030.7	-8020.7	-592177.3
	-3094.4	6984.4	-21.0	-54069.4	-7823.6	-590510.3
	2541.0	6253.4	21.3	55770.9	7972.2	-457712.3
	2534.0	6244.5	22.4	56732.3	8169.3	-456045.3
	2970.1	6738.3	19.9	54345.5	7725.7	-547677.9
	2963.1	6729.4	21.0	55306.8	7922.7	-546010.9
	3130.3	6347.7	8.2	44499.4	6770.3	-475516.3
	3123.3	6338.8	9.3	45460.8	6967.3	-473849.3

	3559.5	6832.5	6.9	43074.0	6523.7	-565481.9
	3552.4	6823.7	7.9	44035.3	6720.7	-563814.9
180.	-4105.9	413.0	-7.6	-42333.8	-5216.6	130049.9
	-4112.9	404.1	-6.5	-41372.4	-5211.3	130122.2
	-3676.7	897.8	-8.9	-43759.2	-5217.1	127358.0
	-3683.8	889.0	-7.9	-42797.9	-5211.8	127430.3
	-3516.6	507.2	-20.6	-53605.2	-4063.8	129213.6
	-3523.6	498.4	-19.6	-52643.9	-4058.5	129285.9
	-3087.4	992.1	-22.0	-55030.7	-4064.3	126521.7
	-3094.4	983.2	-21.0	-54069.4	-4059.0	126594.0
	2541.0	252.2	21.3	55770.9	4142.8	127778.6
	2534.0	243.3	22.4	56732.3	4148.1	127850.9
	2970.1	737.1	19.9	54345.5	4142.3	125086.7
	2963.1	728.2	21.0	55306.8	4147.5	125159.0
	3130.3	346.5	8.2	44499.4	5295.6	126942.3
	3123.3	337.6	9.3	45460.8	5300.9	127014.6
	3559.5	831.3	6.9	43074.0	5295.1	124250.4
	3552.4	822.5	7.9	44035.3	5300.4	124322.7
360.	-4105.9	-5588.2	-7.6	-42333.8	-3877.8	-335733.4
	-4112.9	-5597.1	-6.5	-41372.4	-4064.3	-337255.7
	-3676.7	-5103.4	-8.9	-43759.2	-3631.8	-251151.5
	-3683.8	-5112.2	-7.9	-42797.9	-3818.3	-252673.9
	-3516.6	-5494.0	-20.6	-53605.2	-370.2	-319602.0
	-3523.6	-5502.8	-19.6	-52643.9	-556.7	-321124.3
	-3087.4	-5009.1	-22.0	-55030.7	-124.3	-235020.1
	-3094.4	-5018.0	-21.0	-54069.4	-310.7	-236542.5
	2541.0	-5749.0	21.3	55770.9	329.7	-366921.7
	2534.0	-5757.9	22.4	56732.3	143.2	-368444.1
	2970.1	-5264.1	19.9	54345.5	575.6	-282339.9
	2963.1	-5273.0	21.0	55306.8	389.2	-283862.2
	3130.3	-5654.7	8.2	44499.4	3837.3	-350790.3
	3123.3	-5663.6	9.3	45460.8	3650.8	-352312.7
	3559.5	-5169.9	6.9	43074.0	4083.2	-266208.5
	3552.4	-5178.7	7.9	44035.3	3896.7	-267730.8

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-2180.9	5448.3	-40.1	-123630.9	-6395.2	-262347.7
	-2185.2	5438.8	-40.3	-124295.6	-6249.0	-260749.2
	-1837.2	5957.8	-39.6	-121947.3	-6679.4	-344937.0
	-1841.5	5948.4	-39.8	-122612.1	-6533.2	-343338.6
	-1761.2	5548.5	-44.6	-115237.3	-6739.5	-279341.5
	-1765.5	5539.1	-44.8	-115902.0	-6593.2	-277743.0
	-1417.5	6058.1	-44.1	-113553.7	-7023.6	-361930.8
	-1421.8	6048.7	-44.3	-114218.5	-6877.4	-360332.4
	951.0	5340.7	45.2	126127.7	7044.5	-243588.5
	946.7	5331.2	45.1	125462.9	7190.8	-241990.0
	1294.7	5850.2	45.7	127811.3	6760.4	-326177.8
	1290.4	5840.8	45.5	127146.5	6906.6	-324579.4
	1370.8	5440.9	40.7	134521.3	6700.3	-260582.3
	1366.4	5431.5	40.5	133856.6	6846.5	-258983.8
	1714.4	5950.5	41.2	136204.9	6416.1	-343171.6
	1710.1	5941.1	41.0	135540.1	6562.4	-341573.2
165.	-2180.9	-52.8	-40.1	-123630.9	220.3	182772.9
	-2185.2	-62.3	-40.3	-124295.6	395.9	182814.7
	-1837.2	456.7	-39.6	-121947.3	-140.2	184263.5
	-1841.5	447.3	-39.8	-122612.1	35.5	184305.3
	-1761.2	47.4	-44.6	-115237.3	619.6	182322.4
	-1765.5	38.0	-44.8	-115902.0	795.3	182364.2
	-1417.5	557.0	-44.1	-113553.7	259.2	183813.0
	-1421.8	547.6	-44.3	-114218.5	434.8	183854.8
	951.0	-160.4	45.2	126127.7	-420.5	183781.2
	946.7	-169.9	45.1	125462.9	-244.8	183823.0
	1294.7	349.1	45.7	127811.3	-780.9	185271.8
	1290.4	339.7	45.5	127146.5	-605.2	185313.6
	1370.8	-60.2	40.7	134521.3	-21.1	183330.7
	1366.4	-69.6	40.5	133856.6	154.5	183372.5
	1714.4	449.4	41.2	136204.9	-381.6	184821.3
	1710.1	440.0	41.0	135540.1	-205.9	184863.1
330.	-2180.9	-5553.9	-40.1	-123630.9	6833.2	-279785.2
	-2185.2	-5563.4	-40.3	-124295.6	7038.3	-281300.1
	-1837.2	-5044.4	-39.6	-121947.3	6396.5	-194214.6
	-1841.5	-5053.8	-39.8	-122612.1	6601.6	-195729.5
	-1761.2	-5453.7	-44.6	-115237.3	7976.1	-263692.4
	-1765.5	-5463.1	-44.8	-115902.0	8181.2	-265207.3
	-1417.5	-4944.1	-44.1	-113553.7	7539.4	-178121.8
	-1421.8	-4953.5	-44.3	-114218.5	7744.6	-179636.7
	951.0	-5661.5	45.2	126127.7	-7883.0	-296533.4
	946.7	-5671.0	45.1	125462.9	-7677.9	-298048.4
	1294.7	-5152.0	45.7	127811.3	-8319.7	-210962.9
	1290.4	-5161.4	45.5	127146.5	-8114.5	-212477.8
	1370.8	-5561.3	40.7	134521.3	-6740.1	-280440.6
	1366.4	-5570.7	40.5	133856.6	-6535.0	-281955.5
	1714.4	-5051.7	41.2	136204.9	-7176.7	-194870.1
	1710.1	-5061.1	41.0	135540.1	-6971.6	-196385.0

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-933.6	988.7	-26.1	-5926.1	-3905.6	-96107.5
	-943.6	980.2	-26.6	-5576.2	-3923.2	-94575.8
	-591.6	1479.7	-25.6	-6811.4	-3633.9	-184151.6
	-601.6	1471.3	-26.0	-6461.5	-3651.4	-182619.9
	-682.4	1078.0	-25.1	-9546.1	-3090.5	-112218.8
	-692.4	1069.5	-25.5	-9196.1	-3108.0	-110687.2
	-340.4	1569.0	-24.6	-10431.4	-2818.7	-200263.0
	-350.4	1560.6	-25.0	-10081.4	-2836.3	-198731.3
	193.5	841.4	28.5	35838.4	3536.2	-68069.0
	183.5	832.9	28.0	36188.4	3518.6	-66537.4
	535.5	1332.5	29.0	34953.1	3808.0	-156113.2
	525.5	1324.0	28.6	35303.1	3790.4	-154581.5
	444.7	930.7	29.5	32218.5	4351.4	-84180.4
	434.7	922.2	29.1	32568.5	4333.8	-82648.7
	786.7	1421.8	30.0	31333.2	4623.1	-172224.5
	776.7	1413.3	29.6	31683.2	4605.6	-170692.9
210.	-933.6	43.7	-26.1	-5926.1	1584.1	12290.1
	-943.6	35.2	-26.6	-5576.2	1654.5	12039.6
	-591.6	534.7	-25.6	-6811.4	1735.2	27370.4
	-601.6	526.3	-26.0	-6461.5	1805.7	27119.9
	-682.4	133.0	-25.1	-9546.1	2187.6	14932.4
	-692.4	124.5	-25.5	-9196.1	2258.1	14681.9
	-340.4	624.0	-24.6	-10431.4	2338.7	30012.8
	-350.4	615.6	-25.0	-10081.4	2409.2	29762.3
	193.5	-103.6	28.5	35838.4	-2441.9	9395.1
	183.5	-112.1	28.0	36188.4	-2371.4	9144.6
	535.5	387.5	29.0	34953.1	-2290.8	24475.5
	525.5	379.0	28.6	35303.1	-2220.3	24224.9
	444.7	-14.3	29.5	32218.5	-1838.3	12037.5
	434.7	-22.8	29.1	32568.5	-1767.8	11787.0
	786.7	476.8	30.0	31333.2	-1687.2	27117.8
	776.7	468.3	29.6	31683.2	-1616.7	26867.3
420.	-933.6	-901.3	-26.1	-5926.1	7072.2	-77765.7
	-943.6	-909.8	-26.6	-5576.2	7230.7	-79798.4
	-591.6	-410.3	-25.6	-6811.4	7102.7	40439.2
	-601.6	-418.7	-26.0	-6461.5	7261.2	38406.5
	-682.4	-812.0	-25.1	-9546.1	7464.1	-56369.6
	-692.4	-820.5	-25.5	-9196.1	7622.7	-58402.3
	-340.4	-321.0	-24.6	-10431.4	7494.6	61835.3
	-350.4	-329.4	-25.0	-10081.4	7653.2	59802.6
	193.5	-1048.6	28.5	35838.4	-8418.4	-111587.4
	183.5	-1057.1	28.0	36188.4	-8259.9	-113620.1
	535.5	-557.5	29.0	34953.1	-8387.9	6617.4
	525.5	-566.0	28.6	35303.1	-8229.4	4584.7

	444.7	-959.3	29.5	32218.5	-8026.4	-90191.3
	434.7	-967.8	29.1	32568.5	-7867.9	-92224.0
	786.7	-468.2	30.0	31333.2	-7995.9	28013.5
	776.7	-476.7	29.6	31683.2	-7837.4	25980.8

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	205.7	767.6	-26.2	3674.3	-4750.9	227015.1
	193.5	799.0	-24.0	3968.0	-4333.8	220280.8
	227.3	713.5	-28.4	1349.3	-5241.6	238321.0
	215.1	744.8	-26.2	1643.1	-4824.4	231586.7
	245.4	406.8	-33.9	670.0	-6431.2	304651.5
	233.1	438.2	-31.7	963.8	-6014.0	297917.2
	267.0	352.7	-36.1	-1654.9	-6921.8	315957.4
	254.7	384.0	-33.9	-1361.1	-6504.7	309223.1
	-427.2	3667.4	36.9	5441.1	7101.1	-407675.2
	-439.4	3698.7	39.1	5734.8	7518.2	-414409.5
	-405.6	3613.2	34.7	3116.2	6610.4	-396369.2
	-417.8	3644.6	36.9	3409.9	7027.6	-403103.5
	-387.5	3306.5	29.1	2436.9	5420.8	-330038.8
	-399.8	3337.9	31.3	2730.6	5838.0	-336773.1
	-365.9	3252.4	26.9	111.9	4930.2	-318732.9
	-378.2	3283.7	29.1	405.7	5347.3	-325467.2
175.	205.7	-1777.3	-26.2	3674.3	-171.9	138671.5
	193.5	-1746.0	-24.0	3968.0	-142.0	137419.7
	227.3	-1831.4	-28.4	1349.3	-277.2	140503.1
	215.1	-1800.1	-26.2	1643.1	-247.3	139251.2
	245.4	-2138.1	-33.9	670.0	-496.1	153164.1
	233.1	-2106.8	-31.7	963.8	-466.2	151912.3
	267.0	-2192.3	-36.1	-1654.9	-601.4	154995.7
	254.7	-2160.9	-33.9	-1361.1	-571.5	153743.8
	-427.2	1122.4	36.9	5441.1	647.4	11432.4
	-439.4	1153.8	39.1	5734.8	677.3	10180.5
	-405.6	1068.3	34.7	3116.2	542.1	13263.9
	-417.8	1099.6	36.9	3409.9	572.0	12012.1
	-387.5	761.6	29.1	2436.9	323.2	25925.0
	-399.8	792.9	31.3	2730.6	353.1	24673.1
	-365.9	707.5	26.9	111.9	217.9	27756.5
	-378.2	738.8	29.1	405.7	247.8	26504.7
350.	205.7	-4322.2	-26.2	3674.3	4407.8	-395036.3
	193.5	-4290.9	-24.0	3968.0	4050.5	-390805.7
	227.3	-4376.4	-28.4	1349.3	4687.9	-402679.1
	215.1	-4345.0	-26.2	1643.1	4330.5	-398448.6
	245.4	-4683.0	-33.9	670.0	5439.7	-443687.5
	233.1	-4651.7	-31.7	963.8	5082.3	-439456.9
	267.0	-4737.2	-36.1	-1654.9	5719.7	-451330.3
	254.7	-4705.9	-33.9	-1361.1	5362.4	-447099.7
	-427.2	-1422.5	36.9	5441.1	-5807.1	-14824.0
	-439.4	-1391.2	39.1	5734.8	-6164.5	-10593.4
	-405.6	-1476.6	34.7	3116.2	-5527.1	-22466.8
	-417.8	-1445.3	36.9	3409.9	-5884.4	-18236.2
	-387.5	-1783.3	29.1	2436.9	-4775.3	-63475.1
	-399.8	-1752.0	31.3	2730.6	-5132.6	-59244.6
	-365.9	-1837.5	26.9	111.9	-4495.2	-71118.0
	-378.2	-1806.1	29.1	405.7	-4852.6	-66887.4

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-158.9	128.5	-46.6	46824.4	-10896.4	350778.4
	-155.5	165.4	-43.2	47049.5	-10182.5	342987.8
	-160.8	50.2	-53.1	57698.1	-12194.2	366138.6
	-157.4	87.2	-49.7	57923.1	-11480.3	358348.0
	-272.2	-305.6	-54.0	44555.0	-12051.0	442261.9
	-268.8	-268.6	-50.6	44780.1	-11337.1	434471.3
	-274.1	-383.8	-60.5	55428.7	-13348.8	457622.2
	-270.7	-346.8	-57.1	55653.7	-12634.9	449831.6
	244.1	4526.8	61.2	45166.2	13460.8	-596290.0
	247.5	4563.7	64.6	45391.3	14174.7	-604080.6
	242.2	4448.5	54.7	56039.8	12163.0	-580929.7
	245.6	4485.5	58.1	56264.9	12876.9	-588720.3
	130.8	4092.7	53.8	42896.8	12306.2	-504806.5
	134.2	4129.7	57.2	43121.9	13020.1	-512597.1
	128.8	4014.5	47.3	53770.4	11008.4	-489446.2
	132.2	4051.5	50.7	53995.5	11722.3	-497236.8
175.	-158.9	-2416.5	-46.6	46824.4	-2748.5	150576.7
	-155.5	-2379.5	-43.2	47049.5	-2620.4	149257.7
	-160.8	-2494.7	-53.1	57698.1	-2907.9	152246.7
	-157.4	-2457.7	-49.7	57923.1	-2779.8	150927.6
	-272.2	-2850.5	-54.0	44555.0	-2609.1	166103.7
	-268.8	-2813.5	-50.6	44780.1	-2481.0	164784.6
	-274.1	-2928.7	-60.5	55428.7	-2768.5	167773.7
	-270.7	-2891.8	-57.1	55653.7	-2640.4	166454.6
	244.1	1981.8	61.2	45166.2	2746.8	-26788.1
	247.5	2018.8	64.6	45391.3	2874.9	-28107.1
	242.2	1903.6	54.7	56039.8	2587.4	-25118.1
	245.6	1940.6	58.1	56264.9	2715.5	-26437.2
	130.8	1547.8	53.8	42896.8	2886.2	-11261.1
	134.2	1584.8	57.2	43121.9	3014.3	-12580.2
	128.8	1469.6	47.3	53770.4	2726.8	-9591.1
	132.2	1506.5	50.7	53995.5	2854.9	-10910.2
350.	-158.9	-4961.4	-46.6	46824.4	5400.0	-494989.2
	-155.5	-4924.4	-43.2	47049.5	4942.3	-489836.8
	-160.8	-5039.6	-53.1	57698.1	6379.0	-507009.6
	-157.4	-5002.7	-49.7	57923.1	5921.3	-501857.1
	-272.2	-5395.5	-54.0	44555.0	6833.4	-555418.8
	-268.8	-5358.5	-50.6	44780.1	6375.7	-550266.3
	-274.1	-5473.7	-60.5	55428.7	7812.4	-567439.1
	-270.7	-5436.7	-57.1	55653.7	7354.7	-562286.7
	244.1	-563.1	61.2	45166.2	-7967.9	97350.1
	247.5	-526.1	64.6	45391.3	-8425.5	102502.6
	242.2	-641.3	54.7	56039.8	-6988.9	85329.8
	245.6	-604.4	58.1	56264.9	-7446.6	90482.2
	130.8	-997.1	53.8	42896.8	-6534.5	36920.5
	134.2	-960.2	57.2	43121.9	-6992.2	42073.0
	128.8	-1075.4	47.3	53770.4	-5555.5	24900.2
	132.2	-1038.4	50.7	53995.5	-6013.2	30052.7

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-63.6	431.7	59.4	-47196.8	13880.2	311184.6
	-61.3	400.8	63.2	-47045.3	14704.4	317707.9
	-82.9	502.3	53.2	-35630.0	12662.7	297510.3
	-80.6	471.5	57.0	-35478.4	13486.9	304033.6
	6.1	795.2	47.5	-48682.3	11934.6	234171.0
	8.4	764.4	51.3	-48530.7	12758.8	240694.2
	-13.2	865.8	41.2	-37115.4	10717.1	220496.7
	-10.9	835.0	45.1	-36963.9	11541.3	227019.9
	-37.5	3646.3	-48.5	-37283.9	-12325.0	-392693.1
	-35.2	3615.5	-44.7	-37132.3	-11500.8	-386169.8
	-56.9	3716.9	-54.7	-25717.1	-13542.5	-406367.4
	-54.6	3686.1	-50.9	-25565.5	-12718.2	-399844.1
	32.1	4009.8	-60.4	-38769.3	-14270.6	-469706.7
	34.5	3979.0	-56.6	-38617.8	-13446.4	-463183.5
	12.8	4080.5	-66.6	-27202.5	-15488.1	-483381.0
	15.1	4049.6	-62.8	-27050.9	-14663.8	-476857.8
175.	-63.6	-2248.5	59.4	-47196.8	3489.1	152213.5
	-61.3	-2279.3	63.2	-47045.3	3644.5	153344.9
	-82.9	-2177.8	53.2	-35630.0	3361.3	150902.8
	-80.6	-2208.6	57.0	-35478.4	3516.7	152034.3
	6.1	-1885.0	47.5	-48682.3	3627.2	138815.4
	8.4	-1915.8	51.3	-48530.7	3782.7	139946.9
	-13.2	-1814.3	41.2	-37115.4	3499.4	137504.8

	-10.9	-1845.1	45.1	-36963.9	3654.8	138636.2
	-37.5	966.2	-48.5	-37283.9	-3836.1	10897.0
	-35.2	935.4	-44.7	-37132.3	-3680.7	12028.4
	-56.9	1036.8	-54.7	-25717.1	-3963.9	9586.4
	-54.6	1006.0	-50.9	-25565.5	-3808.5	10717.8
	32.1	1329.7	-60.4	-38769.3	-3698.0	-2501.1
	34.5	1298.9	-56.6	-38617.8	-3542.5	-1369.6
	12.8	1400.3	-66.6	-27202.5	-3825.8	-3811.7
	15.1	1369.5	-62.8	-27050.9	-3670.4	-2680.2
350.	-63.6	-4928.6	59.4	-47196.8	-6903.8	-475780.2
	-61.3	-4959.4	63.2	-47045.3	-7417.1	-480040.6
	-82.9	-4857.9	53.2	-35630.0	-5941.9	-464727.1
	-80.6	-4888.8	57.0	-35478.4	-6455.2	-468987.5
	6.1	-4565.1	47.5	-48682.3	-4681.9	-425562.7
	8.4	-4595.9	51.3	-48530.7	-5195.3	-429823.0
	-13.2	-4494.4	41.2	-37115.4	-3720.1	-414509.6
	-10.9	-4525.2	45.1	-36963.9	-4233.4	-418769.9
	-37.5	-1714.0	-48.5	-37283.9	4654.5	-54534.3
	-35.2	-1744.8	-44.7	-37132.3	4141.2	-58794.6
	-56.9	-1643.3	-54.7	-25717.1	5616.4	-43481.2
	-54.6	-1674.1	-50.9	-25565.5	5103.0	-47741.5
	32.1	-1350.4	-60.4	-38769.3	6876.4	-4316.8
	34.5	-1381.3	-56.6	-38617.8	6363.0	-8577.1
	12.8	-1279.8	-66.6	-27202.5	7838.2	6736.3
	15.1	-1310.6	-62.8	-27050.9	7324.9	2476.0

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	221.4	722.0	26.5	411.5	4758.2	247320.4
	232.9	683.2	29.2	914.7	5274.3	255336.2
	179.0	790.5	24.7	-2019.4	4242.8	233549.8
	190.5	751.7	27.4	-1516.1	4758.9	241565.5
	113.2	1168.5	10.5	-4767.9	1409.1	155057.5
	124.7	1129.7	13.2	-4264.6	1925.3	163073.2
	70.9	1237.1	8.7	-7198.7	893.7	141286.9
	82.3	1198.2	11.4	-6695.5	1409.9	149302.6
	-367.3	3218.6	-14.2	14479.0	-2029.5	-279462.7
	-355.8	3179.8	-11.5	14982.2	-1513.4	-271447.0
	-409.7	3287.1	-16.0	12048.2	-2544.9	-293233.4
	-398.2	3248.3	-13.3	12551.4	-2028.8	-285217.6
	-475.5	3665.1	-30.2	9299.7	-5378.6	-371725.7
	-464.0	3626.3	-27.5	9802.9	-4862.4	-363710.0
	-517.9	3733.7	-32.0	6868.8	-5894.0	-385496.3
	-506.4	3694.9	-29.3	7372.1	-5377.8	-377480.6
175.	221.4	-1958.1	26.5	411.5	111.5	139158.4
	232.9	-1997.0	29.2	914.7	151.5	140380.4
	179.0	-1889.6	24.7	-2019.4	-82.9	137383.6
	190.5	-1928.4	27.4	-1516.1	-42.8	138605.5
	113.2	-1511.6	10.5	-4767.9	-441.0	125038.5
	124.7	-1550.4	13.2	-4264.6	-400.9	126260.4
	70.9	-1443.1	8.7	-7198.7	-635.3	123263.6
	82.3	-1481.9	11.4	-6695.5	-595.3	124485.6
	-367.3	538.5	-14.2	14479.0	465.9	49280.0
	-355.8	499.6	-11.5	14982.2	506.0	50501.9
	-409.7	607.0	-16.0	12048.2	271.6	47505.1
	-398.2	568.2	-13.3	12551.4	311.6	48727.1
	-475.5	985.0	-30.2	9299.7	-86.5	35160.0
	-464.0	946.2	-27.5	9802.9	-46.5	36382.0
	-517.9	1053.5	-32.0	6868.8	-280.9	33385.2
	-506.4	1014.7	-29.3	7372.1	-240.8	34607.1
350.	221.4	-4638.3	26.5	411.5	-4518.8	-438026.0
	232.9	-4677.1	29.2	914.7	-4954.9	-443597.8
	179.0	-4569.7	24.7	-2019.4	-4392.1	-427805.1
	190.5	-4608.5	27.4	-1516.1	-4828.1	-433376.9
	113.2	-4191.7	10.5	-4767.9	-2274.7	-374003.0
	124.7	-4230.5	13.2	-4264.6	-2710.8	-379574.8
	70.9	-4123.2	8.7	-7198.7	-2147.9	-363782.0
	82.3	-4162.0	11.4	-6695.5	-2584.0	-369353.9
	-367.3	-2141.7	-14.2	14479.0	2945.0	-90998.6
	-355.8	-2180.5	-11.5	14982.2	2508.9	-96570.5
	-409.7	-2073.1	-16.0	12048.2	3071.7	-80777.7
	-398.2	-2111.9	-13.3	12551.4	2635.7	-86349.5
	-475.5	-1695.1	-30.2	9299.7	5189.1	-26975.6
	-464.0	-1733.9	-27.5	9802.9	4753.0	-32547.4
	-517.9	-1626.6	-32.0	6868.8	5315.9	-16754.7
	-506.4	-1665.4	-29.3	7372.1	4879.8	-22326.5

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-89.6	509.0	47.5	4686.9	8365.8	19329.2
	-89.1	508.3	45.3	4585.3	7956.9	19450.7
	-37.7	1031.8	50.8	4839.7	8970.3	-74142.2
	-37.2	1031.1	48.7	4738.1	8561.4	-74020.7
	-92.0	516.3	43.0	5956.0	7624.4	18052.4
	-91.5	515.6	40.9	5854.4	7215.6	18173.9
	-40.1	1039.0	46.4	6108.8	8228.9	-75419.0
	-39.6	1038.3	44.2	6007.2	7820.1	-75297.5
	-79.5	490.9	-46.0	-11787.2	-8185.8	22664.6
	-79.0	490.2	-48.2	-11888.8	-8594.6	22786.1
	-27.5	1013.7	-42.7	-11634.4	-7581.3	-70806.8
	-27.0	1013.0	-44.8	-11736.0	-7990.1	-70685.4
	-81.9	498.2	-50.5	-10518.1	-8927.1	21387.8
	-81.4	497.5	-52.6	-10619.7	-9336.0	21509.3
	-30.0	1020.9	-47.1	-10365.3	-8322.7	-72083.6
	-29.5	1020.2	-49.3	-10466.9	-8731.5	-71962.1
195.	-89.6	-368.5	47.5	4686.9	-890.9	33033.3
	-89.1	-369.2	45.3	4585.3	-883.7	33020.1
	-37.7	154.3	50.8	4839.7	-938.0	41498.8
	-37.2	153.6	48.7	4738.1	-930.8	41485.6
	-92.0	-361.2	43.0	5956.0	-768.7	33167.3
	-91.5	-361.9	40.9	5854.4	-761.5	33154.1
	-40.1	161.5	46.4	6108.8	-815.8	41632.8
	-39.6	160.8	44.2	6007.2	-808.6	41619.6
	-79.5	-386.6	-46.0	-11787.2	793.9	32838.4
	-79.0	-387.3	-48.2	-11888.8	801.1	32825.2
	-27.5	136.2	-42.7	-11634.4	746.8	41303.9
	-27.0	135.5	-44.8	-11736.0	754.0	41290.7
	-81.9	-379.3	-50.5	-10518.1	916.1	32972.4
	-81.4	-380.0	-52.6	-10619.7	923.3	32959.2
	-30.0	143.4	-47.1	-10365.3	869.0	41437.8
	-29.5	142.7	-49.3	-10466.9	876.2	41424.6
390.	-89.6	-1246.0	47.5	4686.9	-10147.6	-124375.2
	-89.1	-1246.7	45.3	4585.3	-9724.3	-124523.1
	-37.7	-723.2	50.8	4839.7	-10846.3	-13972.9
	-37.2	-723.9	48.7	4738.1	-10423.0	-14120.7
	-92.0	-1238.7	43.0	5956.0	-9161.9	-122830.6
	-91.5	-1239.4	40.9	5854.4	-8738.6	-122978.4
	-40.1	-716.0	46.4	6108.8	-9860.6	-12428.2
	-39.6	-716.7	44.2	6007.2	-9437.3	-12576.1
	-79.5	-1264.1	-46.0	-11787.2	9773.6	-128100.1
	-79.0	-1264.8	-48.2	-11888.8	10196.9	-128247.9
	-27.5	-741.3	-42.7	-11634.4	9074.9	-17697.7
	-27.0	-742.0	-44.8	-11736.0	9498.2	-17845.6
	-81.9	-1256.8	-50.5	-10518.1	10759.3	-126555.4
	-81.4	-1257.5	-52.6	-10619.7	11182.5	-126703.3
	-30.0	-734.1	-47.1	-10365.3	10060.6	-16153.0
	-29.5	-734.8	-49.3	-10466.9	10483.9	-16300.9

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-132.3	707.1	-62.2	7034.8	-14288.5	-3656.9
	-134.7	706.5	-64.7	7295.0	-14833.8	-3519.6

	-68.9	1274.2	-58.4	6609.9	-13387.8	-117454.4
	-71.3	1273.5	-60.8	6870.2	-13933.1	-117317.1
	-124.7	714.7	-59.4	4130.9	-13669.6	-5187.6
	-127.1	714.0	-61.9	4391.1	-14215.0	-5050.3
	-61.3	1281.7	-55.6	3706.0	-12768.9	-118985.1
	-63.7	1281.1	-58.0	3966.2	-13314.2	-118847.8
	-100.0	698.8	61.2	-2243.0	13992.9	-1887.2
	-102.4	698.2	58.7	-1982.7	13447.6	-1749.9
	-36.6	1265.9	65.0	-2667.8	14893.7	-115684.7
	-39.0	1265.2	62.6	-2407.6	14348.3	-115547.4
	-92.4	706.4	64.0	-5146.9	14611.8	-3417.9
	-94.7	705.7	61.5	-4886.7	14066.5	-3280.6
	-29.0	1273.4	67.9	-5571.8	15512.5	-117215.4
	-31.4	1272.8	65.4	-5311.5	14967.2	-117078.1
210.	-132.3	-237.9	-62.2	7034.8	-1226.8	45616.5
	-134.7	-238.5	-64.7	7295.0	-1252.5	45612.2
	-68.9	329.2	-58.4	6609.9	-1131.1	50896.0
	-71.3	328.5	-60.8	6870.2	-1156.8	50891.7
	-124.7	-230.3	-59.4	4130.9	-1198.7	45672.5
	-127.1	-231.0	-61.9	4391.1	-1224.4	45668.2
	-61.3	336.7	-55.6	3706.0	-1103.0	50951.9
	-63.7	336.1	-58.0	3966.2	-1128.7	50947.6
	-100.0	-246.2	61.2	-2243.0	1139.3	45646.6
	-102.4	-246.8	58.7	-1982.7	1113.6	45642.3
	-36.6	320.9	65.0	-2667.8	1235.0	50926.1
	-39.0	320.2	62.6	-2407.6	1209.3	50921.8
	-92.4	-238.6	64.0	-5146.9	1167.4	45702.6
	-94.7	-239.3	61.5	-4886.7	1141.7	45698.3
	-29.0	328.4	67.9	-5571.8	1263.1	50982.0
	-31.4	327.8	65.4	-5311.5	1237.4	50977.7
420.	-132.3	-1182.9	-62.2	7034.8	11834.9	-103557.3
	-134.7	-1183.5	-64.7	7295.0	12328.9	-103703.1
	-68.9	-615.8	-58.4	6609.9	11125.6	20799.1
	-71.3	-616.5	-60.8	6870.2	11619.5	20653.2
	-124.7	-1175.3	-59.4	4130.9	11272.3	-101914.6
	-127.1	-1176.0	-61.9	4391.1	11766.2	-102060.5
	-61.3	-608.3	-55.6	3706.0	10562.9	22441.7
	-63.7	-608.9	-58.0	3966.2	11056.8	22295.9
	-100.0	-1191.2	61.2	-2243.0	-11714.3	-105272.3
	-102.4	-1191.8	58.7	-1982.7	-11220.4	-105418.2
	-36.6	-624.1	65.0	-2667.8	-12423.7	19084.0
	-39.0	-624.8	62.6	-2407.6	-11929.8	18938.2
	-92.4	-1183.6	64.0	-5146.9	-12277.0	-103629.7
	-94.7	-1184.3	61.5	-4886.7	-11783.0	-103775.5
	-29.0	-616.6	67.9	-5571.8	-12986.4	20726.7
	-31.4	-617.2	65.4	-5311.5	-12492.4	20580.8

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-265.0	2508.3	-18.9	7432.4	-4002.4	-99080.6
	-262.2	2533.4	-17.3	7740.7	-3690.2	-103142.2
	-265.9	2469.7	-22.4	9435.4	-4749.3	-93113.5
	-263.2	2494.7	-20.8	9743.7	-4437.1	-97175.1
	-316.9	2219.5	-24.8	4284.9	-4962.7	-52378.0
	-314.2	2244.6	-23.2	4593.1	-4650.5	-56439.7
	-317.9	2180.9	-28.2	6287.9	-5709.6	-46411.0
	-315.1	2205.9	-26.6	6596.2	-5397.4	-50472.6
	18.2	4827.4	26.8	8863.7	5420.3	-465389.7
	20.9	4852.5	28.4	9172.0	5732.5	-469451.4
	17.2	4788.8	23.3	10866.7	4673.5	-459422.6
	20.0	4813.8	25.0	11175.0	4985.7	-463484.3
	-33.8	4538.6	20.9	5716.1	4460.1	-418687.2
	-31.1	4563.7	22.5	6024.4	4772.3	-422748.9
	-34.8	4500.0	17.5	7719.2	3713.2	-412720.1
	-32.0	4525.0	19.1	8027.5	4025.4	-416781.8
210.	-265.0	-545.6	-18.9	7432.4	-21.7	107003.9
	-262.2	-520.5	-17.3	7740.7	-46.1	108210.4
	-265.9	-584.3	-22.4	9435.4	-52.7	104852.8
	-263.2	-559.2	-20.8	9743.7	-77.0	106059.4
	-316.9	-834.4	-24.8	4284.9	251.5	93057.6
	-314.2	-809.3	-23.2	4593.1	227.2	94264.1
	-317.9	-873.1	-28.2	6287.9	220.5	90906.6
	-315.1	-848.0	-26.6	6596.2	196.2	92113.1
	18.2	1773.5	26.8	8863.7	-200.8	227705.1
	20.9	1798.6	28.4	9172.0	-225.1	228911.6
	17.2	1734.8	23.3	10866.7	-231.8	225554.0
	20.0	1759.9	25.0	11175.0	-256.1	226760.6
	-33.8	1484.7	20.9	5716.1	72.5	213758.8
	-31.1	1509.8	22.5	6024.4	48.1	214965.3
	-34.8	1446.0	17.5	7719.2	41.5	211607.8
	-32.0	1471.1	19.1	8027.5	17.1	212814.3
420.	-265.0	-3599.5	-18.9	7432.4	3954.7	-328235.9
	-262.2	-3574.4	-17.3	7740.7	3593.8	-321761.1
	-265.9	-3638.2	-22.4	9435.4	4639.6	-338505.0
	-263.2	-3613.1	-20.8	9743.7	4278.7	-332030.3
	-316.9	-3888.3	-24.8	4284.9	5461.4	-402830.9
	-314.2	-3863.2	-23.2	4593.1	5100.5	-396356.1
	-317.9	-3927.0	-28.2	6287.9	6146.3	-413100.0
	-315.1	-3901.9	-26.6	6596.2	5785.4	-406625.3
	18.2	-1280.4	26.8	8863.7	-5817.6	279475.5
	20.9	-1255.3	28.4	9172.0	-6178.4	285950.2
	17.2	-1319.1	23.3	10866.7	-5132.7	269206.3
	20.0	-1294.0	25.0	11175.0	-5493.5	275681.1
	-33.8	-1569.2	20.9	5716.1	-4310.9	204880.4
	-31.1	-1544.2	22.5	6024.4	-4671.7	211355.2
	-34.8	-1607.9	17.5	7719.2	-3626.0	194611.3
	-32.0	-1582.8	19.1	8027.5	-3986.8	201086.0

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-277.6	1954.9	-31.6	-29683.5	-4910.9	-14515.6
	-278.1	1983.8	-29.5	-29408.7	-4570.7	-19323.1
	-275.4	1922.2	-34.2	-38702.8	-5241.7	-10119.2
	-275.9	1951.0	-32.1	-38428.0	-4901.5	-14926.7
	-271.4	1616.6	-38.6	-32478.1	-6398.3	41847.7
	-271.9	1645.4	-36.5	-32203.3	-6058.1	37040.2
	-269.2	1583.8	-41.1	-41497.4	-6729.2	46244.1
	-269.7	1612.6	-39.1	-41222.6	-6388.9	41436.6
	79.8	5361.3	38.3	-30620.9	6256.6	-565897.0
	79.3	5390.1	40.4	-30346.0	6596.9	-570704.5
	82.0	5328.5	35.7	-39640.1	5925.8	-561500.5
	81.5	5357.4	37.8	-39365.3	6266.1	-566308.0
	86.0	5022.9	31.3	-33415.5	4769.2	-509533.7
	85.5	5051.8	33.4	-33140.6	5109.5	-514341.2
	88.2	4990.1	28.7	-42434.7	4438.4	-505137.2
	87.7	5019.0	30.8	-42159.9	4778.7	-509944.7
210.	-277.6	-1099.0	-31.6	-29683.5	1725.0	75356.6
	-278.1	-1070.2	-29.5	-29408.7	1626.9	76607.0
	-275.4	-1131.8	-34.2	-38702.8	1934.9	72872.1
	-275.9	-1102.9	-32.1	-38428.0	1836.8	74122.5
	-271.4	-1437.4	-38.6	-32478.1	1702.5	60662.3
	-271.9	-1408.5	-36.5	-32203.3	1604.3	61912.7
	-269.2	-1470.1	-41.1	-41497.4	1912.3	58177.8
	-269.7	-1441.3	-39.1	-41222.6	1814.2	59428.2
	79.8	2307.4	38.3	-30620.9	-1782.0	239310.0
	79.3	2336.2	40.4	-30346.0	-1880.1	240560.4
	82.0	2274.6	35.7	-39640.1	-1572.1	236825.5
	81.5	2303.4	37.8	-39365.3	-1670.2	238075.9
	86.0	1969.0	31.3	-33415.5	-1804.5	224615.7
	85.5	1997.8	33.4	-33140.6	-1902.7	225866.1
	88.2	1936.2	28.7	-42434.7	-1594.7	222131.2
	87.7	1965.1	30.8	-42159.9	-1692.8	223381.5

420.	-277.6	-4152.9	-31.6	-29683.5	8360.5	-476095.2
	-278.1	-4124.1	-29.5	-29408.7	7824.0	-468786.9
	-275.4	-4185.7	-34.2	-38702.8	9111.1	-485460.7
	-275.9	-4156.8	-32.1	-38428.0	8574.6	-478152.4
	-271.4	-4491.3	-38.6	-32478.1	9802.8	-561847.1
	-271.9	-4462.4	-36.5	-32203.3	9266.2	-554538.8
	-269.2	-4524.1	-41.1	-41497.4	10553.3	-571212.6
	-269.7	-4495.2	-39.1	-41222.6	10016.8	-563904.3
	79.8	-746.6	38.3	-30620.9	-9820.0	403192.5
	79.3	-717.7	40.4	-30346.0	-10356.6	410500.8
	82.0	-779.3	35.7	-39640.1	-9069.5	393827.0
	81.5	-750.5	37.8	-39365.3	-9606.0	401135.3
	86.0	-1084.9	31.3	-33415.5	-8377.8	317440.6
	85.5	-1056.1	33.4	-33140.6	-8914.3	324748.9
	88.2	-1117.7	28.7	-42434.7	-7627.2	308075.1
	87.7	-1088.9	30.8	-42159.9	-8163.8	315383.4

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-228.0	2253.9	35.7	21794.5	5225.0	-50556.1
	-228.4	2229.9	38.1	21997.1	5621.8	-46572.5
	-237.9	2276.9	32.2	12354.6	4709.2	-53133.5
	-238.3	2252.9	34.6	12557.1	5106.0	-49149.9
	-210.9	2537.3	25.3	19754.1	3027.2	-97476.6
	-211.3	2513.3	27.7	19956.6	3424.0	-93493.0
	-220.8	2560.3	21.8	10314.1	2511.3	-100054.0
	-221.2	2536.2	24.2	10516.6	2908.2	-96070.4
	6.0	4732.6	-24.4	32418.5	-3034.3	-442555.4
	5.6	4708.5	-21.9	32621.0	-2637.5	-438571.8
	-3.9	4755.5	-27.9	22978.5	-3550.1	-445132.9
	-4.3	4731.5	-25.5	23181.0	-3153.3	-441149.3
	23.1	5015.9	-34.8	30378.1	-5232.2	-489475.9
	22.6	4991.9	-32.3	30580.6	-4835.3	-485492.3
	13.2	5038.9	-38.3	20938.1	-5748.0	-492053.4
	12.7	5014.9	-35.9	21140.6	-5351.2	-488069.8
210.	-228.0	-962.2	35.7	21794.5	-2275.3	85076.9
	-228.4	-986.2	38.1	21997.1	-2387.9	84011.5
	-237.9	-939.2	32.2	12354.6	-2046.0	87322.4
	-238.3	-963.3	34.6	12557.1	-2158.6	86257.0
	-210.9	-678.8	25.3	19754.1	-2288.4	97665.7
	-211.3	-702.9	27.7	19956.6	-2401.0	96600.3
	-220.8	-655.9	21.8	10314.1	-2059.0	99911.3
	-221.2	-679.9	24.2	10516.6	-2171.6	98845.9
	6.0	1516.4	-24.4	32418.5	2081.0	213587.9
	5.6	1492.4	-21.9	32621.0	1968.4	212522.6
	-3.9	1539.4	-27.9	22978.5	2310.3	215833.5
	-4.3	1515.3	-25.5	23181.0	2197.7	214768.1
	23.1	1799.8	-34.8	30378.1	2068.0	226176.8
	22.6	1775.8	-32.3	30580.6	1955.4	225111.4
	13.2	1822.8	-38.3	20938.1	2297.3	228422.3
	12.7	1798.7	-35.9	21140.6	2184.7	227356.9
420.	-228.0	-4178.4	35.7	21794.5	-9773.8	-454681.2
	-228.4	-4202.4	38.1	21997.1	-10395.8	-460795.6
	-237.9	-4155.4	32.2	12354.6	-8799.3	-447612.8
	-238.3	-4179.4	34.6	12557.1	-9421.3	-453727.1
	-210.9	-3895.0	25.3	19754.1	-7602.0	-382583.0
	-211.3	-3919.0	27.7	19956.6	-8224.0	-388697.3
	-220.8	-3872.0	21.8	10314.1	-6627.5	-375514.5
	-221.2	-3896.1	24.2	10516.6	-7249.5	-381628.9
	6.0	-1699.7	-24.4	32418.5	7194.4	194339.4
	5.6	-1723.8	-21.9	32621.0	6572.4	188225.0
	-3.9	-1676.8	-27.9	22978.5	8168.9	201407.9
	-4.3	-1700.8	-25.5	23181.0	7546.9	195293.5
	23.1	-1416.4	-34.8	30378.1	9366.2	266437.6
	22.6	-1440.4	-32.3	30580.6	8744.2	260323.3
	13.2	-1393.4	-38.3	20938.1	10340.7	273506.1
	12.7	-1417.4	-35.9	21140.6	9718.7	267391.7

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-331.9	2481.5	22.9	-9430.2	5010.5	-72980.7
	-335.7	2450.9	25.0	-8897.4	5430.2	-67753.9
	-347.0	2526.9	17.8	-7595.1	3862.2	-80411.1
	-350.8	2496.3	19.9	-7062.3	4281.9	-75184.3
	-289.6	2832.9	10.7	-14905.6	2893.8	-133037.9
	-293.4	2802.3	12.9	-14372.9	3313.5	-127811.1
	-304.7	2878.3	5.6	-13070.5	1745.6	-140468.4
	-308.5	2847.7	7.8	-12537.7	2165.3	-135241.6
	-155.0	4444.0	-8.2	5412.7	-2329.0	-399590.1
	-158.8	4413.4	-6.0	5945.5	-1909.3	-394363.3
	-170.1	4489.3	-13.3	7247.9	-3477.3	-407020.5
	-173.9	4458.8	-11.1	7780.7	-3057.6	-401793.8
	-112.7	4795.4	-20.3	-62.7	-4445.7	-459647.3
	-116.6	4764.8	-18.1	470.1	-4026.0	-454420.5
	-127.8	4840.8	-25.4	1772.5	-5593.9	-467077.8
	-131.7	4810.2	-23.3	2305.3	-5174.2	-461851.0
210.	-331.9	-734.7	22.9	-9430.2	208.6	110436.4
	-335.7	-765.2	25.0	-8897.4	174.2	109246.2
	-347.0	-689.3	17.8	-7595.1	134.6	112536.0
	-350.8	-719.8	19.9	-7062.3	100.3	111345.8
	-289.6	-383.2	10.7	-14905.6	643.2	124175.2
	-293.4	-413.8	12.9	-14372.9	608.8	122985.0
	-304.7	-337.9	5.6	-13070.5	569.2	126274.8
	-308.5	-368.4	7.8	-12537.7	534.9	125084.6
	-155.0	1227.8	-8.2	5412.7	-620.8	195946.8
	-158.8	1197.3	-6.0	5945.5	-655.1	194756.6
	-170.1	1273.2	-13.3	7247.9	-694.8	198046.4
	-173.9	1242.6	-11.1	7780.7	-729.1	196856.2
	-112.7	1579.2	-20.3	-62.7	-186.2	209685.6
	-116.6	1548.7	-18.1	470.1	-220.5	208495.4
	-127.8	1624.6	-25.4	1772.5	-260.2	211785.2
	-131.7	1594.0	-23.3	2305.3	-294.5	210595.0
420.	-331.9	-3950.8	22.9	-9430.2	-4601.9	-381537.7
	-335.7	-3981.4	25.0	-8897.4	-5090.2	-389144.9
	-347.0	-3905.4	17.8	-7595.1	-3601.5	-369908.0
	-350.8	-3936.0	19.9	-7062.3	-4089.9	-377515.2
	-289.6	-3599.4	10.7	-14905.6	-1616.0	-294002.8
	-293.4	-3630.0	12.9	-14372.9	-2104.4	-301610.0
	-304.7	-3554.0	5.6	-13070.5	-615.7	-282373.1
	-308.5	-3584.6	7.8	-12537.7	-1104.0	-289980.3
	-155.0	-1988.3	-8.2	5412.7	1095.9	116091.8
	-158.8	-2018.9	-6.0	5945.5	607.6	108484.7
	-170.1	-1943.0	-13.3	7247.9	2096.3	127721.5
	-173.9	-1973.5	-11.1	7780.7	1607.9	120114.3
	-112.7	-1636.9	-20.3	-62.7	4081.8	203626.7
	-116.6	-1667.5	-18.1	470.1	3593.4	196019.5
	-127.8	-1591.5	-25.4	1772.5	5082.1	215256.4
	-131.7	-1622.1	-23.3	2305.3	4593.8	207649.2

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	499.0	181.6	16.1	39804.8	3909.2	42434.5
	516.4	189.3	15.9	39666.0	3806.9	40887.9
	398.0	588.6	16.6	40315.3	4169.2	-38320.0
	415.4	596.3	16.4	40176.4	4066.9	-39866.6
	600.7	100.9	10.7	41764.5	2706.2	58584.3
	618.2	108.6	10.5	41625.7	2603.9	57037.7
	499.7	507.9	11.2	42275.0	2966.2	-22170.2
	517.1	515.6	11.0	42136.2	2863.9	-23716.8
	-586.1	304.5	-10.7	-23454.0	-2794.5	16490.3
	-568.7	312.2	-11.0	-23592.9	-2896.7	14943.7
	-687.1	711.5	-10.2	-22943.6	-2534.5	-64264.2

	-669.7	719.2	-10.5	-23082.4	-2636.7	-65810.8
	-484.4	223.8	-16.1	-21494.3	-3997.4	32640.1
	-467.0	231.5	-16.4	-21633.1	-4099.7	31093.5
	-585.4	630.8	-15.6	-20983.9	-3737.4	-48114.4
	-568.0	638.5	-15.9	-21122.7	-3839.7	-49661.0
195.	499.0	-622.8	16.1	39804.8	765.0	-584.4
	516.4	-615.1	15.9	39666.0	709.3	-624.2
	398.0	-215.8	16.6	40315.3	928.5	-1966.8
	415.4	-208.0	16.4	40176.4	872.8	-2006.6
	600.7	-703.5	10.7	41764.5	613.7	-168.8
	618.2	-695.8	10.5	41625.7	558.0	-208.7
	499.7	-296.5	11.2	42275.0	777.2	-1551.3
	517.1	-288.7	11.0	42136.2	721.6	-1591.1
	-586.1	-499.9	-10.7	-23454.0	-702.3	-2569.2
	-568.7	-492.2	-11.0	-23592.9	-758.0	-2609.0
	-687.1	-92.9	-10.2	-22943.6	-538.8	-3951.6
	-669.7	-85.2	-10.5	-23082.4	-594.5	-3991.4
	-484.4	-580.6	-16.1	-21494.3	-853.6	-2153.7
	-467.0	-572.9	-16.4	-21633.1	-909.3	-2193.5
	-585.4	-173.6	-15.6	-20983.9	-690.1	-3536.1
	-568.0	-165.8	-15.9	-21122.7	-745.8	-3575.9
390.	499.0	-1427.2	16.1	39804.8	-2379.3	-200461.1
	516.4	-1419.5	15.9	39666.0	-2388.4	-198994.2
	398.0	-1020.1	16.6	40315.3	-2312.3	-122471.5
	415.4	-1012.4	16.4	40176.4	-2321.4	-121004.5
	600.7	-1507.9	10.7	41764.5	-1478.9	-215779.9
	618.2	-1500.1	10.5	41625.7	-1488.0	-214313.0
	499.7	-1100.8	11.2	42275.0	-1411.9	-137790.3
	517.1	-1093.1	11.0	42136.2	-1421.0	-136323.4
	-586.1	-1304.3	-10.7	-23454.0	1390.0	-178477.0
	-568.7	-1296.6	-11.0	-23592.9	1380.9	-177010.1
	-687.1	-897.3	-10.2	-22943.6	1457.0	-100487.3
	-669.7	-889.5	-10.5	-23082.4	1448.0	-99020.4
	-484.4	-1385.0	-16.1	-21494.3	2290.4	-193795.8
	-467.0	-1377.3	-16.4	-21633.1	2281.3	-192328.9
	-585.4	-977.9	-15.6	-20983.9	2357.4	-115806.1
	-568.0	-970.2	-15.9	-21122.7	2348.3	-114339.2

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	1456.3	4728.8	25.2	120026.0	6028.8	-239712.7
	1488.4	4735.8	25.0	119402.2	5846.1	-241198.2
	1370.5	5074.1	25.2	120667.6	6260.4	-315323.7
	1402.6	5081.1	25.1	120043.8	6077.8	-316809.3
	1650.6	4653.9	18.9	127730.4	4461.9	-223978.2
	1682.7	4661.0	18.8	127106.6	4279.3	-225463.7
	1564.8	4999.2	19.0	128372.0	4693.6	-299589.2
	1596.9	5006.3	18.9	127748.2	4510.9	-301074.7
	-2199.7	4879.9	-17.8	-87541.5	-4196.6	-271808.3
	-2167.6	4887.0	-17.9	-88165.3	-4379.3	-273293.8
	-2285.6	5225.2	-17.7	-86899.9	-3965.0	-347419.3
	-2253.5	5232.3	-17.8	-87523.7	-4147.6	-348904.9
	-2005.4	4805.1	-24.0	-79837.1	-5763.5	-256073.8
	-1973.3	4812.1	-24.1	-80460.9	-5946.1	-257559.3
	-2091.2	5150.4	-24.0	-79195.5	-5531.8	-331684.8
	-2059.2	5157.4	-24.1	-79819.3	-5714.5	-333170.3
215.	1456.3	-421.0	25.2	120026.0	620.7	223367.8
	1488.4	-414.0	25.0	119402.2	461.6	223398.6
	1370.5	-75.7	25.2	120667.6	836.7	222000.7
	1402.6	-68.7	25.1	120043.8	677.7	222031.5
	1650.6	-495.9	18.9	127730.4	399.1	223013.4
	1682.7	-488.8	18.8	127106.6	240.1	223044.2
	1564.8	-150.5	19.0	128372.0	615.2	221646.3
	1596.9	-143.5	18.9	127748.2	456.2	221677.1
	-2199.7	-269.9	-17.8	-87541.5	-375.5	223768.6
	-2167.6	-262.8	-17.9	-88165.3	-534.5	223799.4
	-2285.6	75.4	-17.7	-86899.9	-159.4	222401.5
	-2253.5	82.5	-17.8	-87523.7	-318.4	222432.3
	-2005.4	-344.7	-24.0	-79837.1	-597.0	223414.1
	-1973.3	-337.7	-24.1	-80460.9	-756.0	223444.9
	-2091.2	0.6	-24.0	-79195.5	-380.9	222047.0
	-2059.2	7.7	-24.1	-79819.3	-539.9	222077.8
430.	1456.3	-5570.8	25.2	120026.0	-4787.6	-420755.2
	1488.4	-5563.8	25.0	119402.2	-4922.9	-419208.1
	1370.5	-5225.5	25.2	120667.6	-4587.1	-347878.4
	1402.6	-5218.4	25.1	120043.8	-4722.4	-346331.3
	1650.6	-5645.6	18.9	127730.4	-3663.7	-437198.7
	1682.7	-5638.6	18.8	127106.6	-3799.1	-435651.5
	1564.8	-5300.3	19.0	128372.0	-3463.2	-364321.9
	1596.9	-5293.3	18.9	127748.2	-3598.6	-362774.7
	-2199.7	-5419.7	-17.8	-87541.5	3445.8	-387859.6
	-2167.6	-5412.6	-17.9	-88165.3	3310.4	-386312.5
	-2285.6	-5074.4	-17.7	-86899.9	3646.3	-314982.8
	-2253.5	-5067.3	-17.8	-87523.7	3510.9	-313435.6
	-2005.4	-5494.5	-24.0	-79837.1	4569.6	-404303.1
	-1973.3	-5487.5	-24.1	-80460.9	4434.2	-402755.9
	-2091.2	-5149.2	-24.0	-79195.5	4770.1	-331426.2
	-2059.2	-5142.1	-24.1	-79819.3	4634.7	-329879.1

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	3367.8	4704.9	-2.4	27574.6	-4646.1	-313413.0
	3402.9	4712.7	-1.4	28497.8	-4444.1	-314979.1
	3319.6	5089.7	-4.3	26020.9	-4996.9	-390950.1
	3354.7	5097.5	-3.2	26944.1	-4794.8	-392516.2
	3565.5	4621.3	-13.8	16679.8	-7465.8	-296757.2
	3600.6	4629.2	-12.8	17603.0	-7263.7	-298323.3
	3517.3	5006.1	-15.6	15126.0	-7816.5	-374294.3
	3552.4	5014.0	-14.6	16049.3	-7614.5	-375860.4
	-4093.0	4834.1	15.0	-6742.9	7623.0	-336720.7
	-4057.9	4841.9	16.0	-5819.7	7825.1	-338286.8
	-4141.2	5218.9	13.2	-8296.7	7272.3	-414257.8
	-4106.1	5226.7	14.2	-7373.5	7474.3	-415823.9
	-3895.3	4750.5	3.6	-17637.8	4803.4	-320064.9
	-3860.2	4758.3	4.6	-16714.5	5005.4	-321631.0
	-3943.5	5135.3	1.8	-19191.5	4452.6	-397602.0
	-3908.4	5143.1	2.8	-18268.3	4654.7	-399168.1
200.	3367.8	-85.6	-2.4	27574.6	-4166.2	148511.8
	3402.9	-77.8	-1.4	28497.8	-4174.1	148511.4
	3319.6	299.2	-4.3	26020.9	-4151.4	147933.7
	3354.7	307.0	-3.2	26944.1	-4159.3	147933.3
	3565.5	-169.2	-13.8	16679.8	-4709.4	148451.9
	3600.6	-161.3	-12.8	17603.0	-4717.2	148451.5
	3517.3	215.6	-15.6	15126.0	-4694.6	147873.9
	3552.4	223.5	-14.6	16049.3	-4702.5	147873.4
	-4093.0	43.6	15.0	-6742.9	4632.6	151049.5
	-4057.9	51.4	16.0	-5819.7	4624.8	151049.1
	-4141.2	428.4	13.2	-8296.7	4647.4	150471.5
	-4106.1	436.2	14.2	-7373.5	4639.5	150471.0
	-3895.3	-40.0	3.6	-17637.8	4089.5	150989.7
	-3860.2	-32.2	4.6	-16714.5	4081.6	150989.2
	-3943.5	344.8	1.8	-19191.5	4104.2	150411.6
	-3908.4	352.6	2.8	-18268.3	4096.3	150411.1
400.	3367.8	-4876.1	-2.4	27574.6	-3693.2	-347651.4
	3402.9	-4868.3	-1.4	28497.8	-3910.9	-346086.2
	3319.6	-4491.3	-4.3	26020.9	-3312.9	-271270.5
	3354.7	-4483.5	-3.2	26944.1	-3530.7	-269705.3
	3565.5	-4959.7	-13.8	16679.8	-1959.8	-364427.0
	3600.6	-4951.8	-12.8	17603.0	-2177.6	-362861.8
	3517.3	-4574.9	-15.6	15126.0	-1579.6	-288046.0
	3552.4	-4567.0	-14.6	16049.3	-1797.4	-286480.8
	-4093.0	-4746.9	15.0	-6742.9	1649.1	-319292.2

	-4057.9	-4739.1	16.0	-5819.7	1431.4	-317727.0
	-4141.2	-4362.1	13.2	-8296.7	2029.3	-242911.2
	-4106.1	-4354.3	14.2	-7373.5	1811.6	-241346.0
	-3895.3	-4830.5	3.6	-17637.8	3382.4	-336067.7
	-3860.2	-4822.7	4.6	-16714.5	3164.7	-334502.5
	-3943.5	-4445.7	1.8	-19191.5	3762.7	-259686.8
	-3908.4	-4437.9	2.8	-18268.3	3544.9	-258121.6

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	4246.7	4517.9	0.7	1523.1	-4166.6	-266298.0
	4268.9	4525.1	1.4	2798.2	-4048.1	-267785.5
	4267.7	4887.2	-0.5	-559.9	-4335.5	-342154.5
	4289.9	4894.5	0.2	715.2	-4217.0	-343642.1
	4217.6	4439.6	-10.2	-13829.9	-6457.8	-250289.9
	4239.8	4446.8	-9.5	-12554.8	-6339.3	-251777.4
	4238.5	4808.9	-11.4	-15913.0	-6626.7	-326146.4
	4260.7	4816.2	-10.7	-14637.8	-6508.2	-327634.0
	-4829.5	4647.0	11.0	16567.4	6510.9	-290935.3
	-4807.3	4654.3	11.8	17842.6	6629.5	-292422.8
	-4808.5	5016.4	9.8	14484.4	6342.0	-366791.8
	-4786.3	5023.7	10.6	15759.5	6460.6	-368279.4
	-4858.7	4568.7	0.1	1214.4	4219.7	-274927.2
	-4836.4	4576.0	0.9	2489.6	4338.3	-276414.7
	-4837.7	4938.1	-1.1	-868.6	4050.8	-350783.7
	-4815.5	4945.4	-0.3	406.5	4169.4	-352271.3
210.	4246.7	-512.2	0.7	1523.1	-4320.5	154297.7
	4268.9	-504.9	1.4	2798.2	-4356.5	154336.2
	4267.7	-142.8	-0.5	-559.9	-4238.2	156004.0
	4289.9	-135.5	0.2	715.2	-4274.2	156042.6
	4217.6	-590.5	-10.2	-13829.9	-4322.4	153861.9
	4239.8	-583.2	-9.5	-12554.8	-4358.5	153900.4
	4238.5	-221.1	-11.4	-15913.0	-4240.2	155568.3
	4260.7	-213.9	-10.7	-14637.8	-4276.2	155606.8
	-4829.5	-383.0	11.0	16567.4	4207.0	156795.1
	-4807.3	-375.7	11.8	17842.6	4171.0	156833.6
	-4808.5	-13.6	9.8	14484.4	4289.2	158501.5
	-4786.3	-6.4	10.6	15759.5	4253.2	158540.0
	-4858.7	-461.3	0.1	1214.4	4205.0	156359.4
	-4836.4	-454.0	0.9	2489.6	4169.0	156397.9
	-4837.7	-91.9	-1.1	-868.6	4287.2	158065.7
	-4815.5	-84.7	-0.3	406.5	4251.2	158104.3
420.	4246.7	-5542.2	0.7	1523.1	-4482.2	-481406.3
	4268.9	-5534.9	1.4	2798.2	-4672.8	-479841.7
	4267.7	-5172.8	-0.5	-559.9	-4148.9	-402137.0
	4289.9	-5165.6	0.2	715.2	-4339.4	-400572.4
	4217.6	-5620.5	-10.2	-13829.9	-2195.0	-498285.9
	4239.8	-5613.2	-9.5	-12554.8	-2385.5	-496721.3
	4238.5	-5251.1	-11.4	-15913.0	-1861.6	-419016.6
	4260.7	-5243.9	-10.7	-14637.8	-2052.2	-417452.0
	-4829.5	-5413.0	11.0	16567.4	1910.9	-451785.4
	-4807.3	-5405.7	11.8	17842.6	1720.4	-450220.8
	-4808.5	-5043.7	9.8	14484.4	2244.3	-372516.1
	-4786.3	-5036.4	10.6	15759.5	2053.8	-370951.5
	-4858.7	-5491.3	0.1	1214.4	4198.2	-468665.0
	-4836.4	-5484.0	0.9	2489.6	4007.6	-467100.4
	-4837.7	-5122.0	-1.1	-868.6	4531.6	-389395.7
	-4815.5	-5114.7	-0.3	406.5	4341.0	-387831.1

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	3936.6	6025.8	-4.7	-12103.9	-5625.9	-456595.4
	3942.3	6031.0	-4.1	-10825.1	-5485.8	-457948.2
	4110.4	6291.1	-5.5	-14186.3	-5828.7	-525021.5
	4116.1	6296.3	-5.0	-12907.5	-5688.6	-526374.4
	3572.9	5969.8	-13.0	-27487.4	-7363.0	-442013.6
	3578.6	5975.0	-12.5	-26208.6	-7222.9	-443366.4
	3746.7	6235.1	-13.8	-29569.8	-7565.8	-510439.7
	3752.4	6240.3	-13.3	-28291.0	-7425.7	-511792.6
	-4560.8	6122.7	13.7	26915.9	7424.7	-479728.1
	-4555.1	6127.9	14.2	28194.7	7564.8	-481081.0
	-4387.0	6387.9	12.9	24833.5	7221.9	-548154.3
	-4381.2	6393.2	13.4	26112.3	7362.0	-549507.1
	-4924.4	6066.6	5.4	11532.4	5687.6	-465146.3
	-4918.7	6071.8	5.9	12811.2	5827.7	-466499.2
	-4750.6	6331.9	4.5	9450.0	5484.8	-533572.5
	-4744.9	6337.1	5.0	10728.8	5624.9	-534925.3
255.	3936.6	-82.1	-4.7	-12103.9	-4441.4	301230.6
	3942.3	-76.8	-4.1	-10825.1	-4435.2	301206.8
	4110.4	183.2	-5.5	-14186.3	-4430.7	300452.4
	4116.1	188.4	-5.0	-12907.5	-4424.5	300428.6
	3572.9	-138.1	-13.0	-27487.4	-4053.0	301518.1
	3578.6	-132.9	-12.5	-26208.6	-4046.8	301494.3
	3746.7	127.2	-13.8	-29569.8	-4042.4	300739.9
	3752.4	132.4	-13.3	-28291.0	-4036.2	300716.1
	-4560.8	14.8	13.7	26915.9	3937.8	302798.6
	-4555.1	20.0	14.2	28194.7	3944.0	302774.7
	-4387.0	280.1	12.9	24833.5	3948.4	302020.4
	-4381.2	285.3	13.4	26112.3	3954.6	301996.6
	-4924.4	-41.3	5.4	11532.4	4326.1	303086.1
	-4918.7	-36.1	5.9	12811.2	4332.3	303062.3
	-4750.6	224.0	4.5	9450.0	4336.7	302307.9
	-4744.9	229.2	5.0	10728.8	4342.9	302284.1
510.	3936.6	-6189.9	-4.7	-12103.9	-3268.3	-498443.8
	3942.3	-6184.7	-4.1	-10825.1	-3396.0	-497138.6
	4110.4	-5924.7	-5.5	-14186.3	-3044.2	-431574.0
	4116.1	-5919.4	-5.0	-12907.5	-3171.9	-430268.8
	3572.9	-6246.0	-13.0	-27487.4	-754.5	-512450.5
	3578.6	-6240.8	-12.5	-26208.6	-882.2	-511145.3
	3746.7	-5980.7	-13.8	-29569.8	-530.4	-445580.7
	3752.4	-5975.5	-13.3	-28291.0	-658.1	-444275.5
	-4560.8	-6093.1	13.7	26915.9	462.2	-472197.0
	-4555.1	-6087.9	14.2	28194.7	334.6	-470891.8
	-4387.0	-5827.8	12.9	24833.5	686.3	-405327.3
	-4381.2	-5822.6	13.4	26112.3	558.6	-404022.0
	-4924.4	-6149.2	5.4	11532.4	2976.0	-486203.7
	-4918.7	-6144.0	5.9	12811.2	2848.3	-484898.5
	-4750.6	-5883.9	4.5	9450.0	3200.1	-419334.0
	-4744.9	-5878.7	5.0	10728.8	3072.4	-418028.8

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	3118.8	4494.8	-6.2	-41129.2	-5246.8	-328733.5
	3109.9	4503.9	-5.0	-40225.8	-5042.7	-330437.9
	3400.3	4943.8	-8.3	-42628.9	-5557.0	-411950.3
	3391.4	4952.9	-7.1	-41725.5	-5352.9	-413654.7
	2551.4	4397.9	-18.5	-51710.6	-6684.2	-310518.7
	2542.5	4407.0	-17.3	-50807.2	-6480.0	-312223.1
	2832.9	4847.0	-20.6	-53210.2	-6994.4	-393735.5
	2824.0	4856.1	-19.4	-52306.8	-6790.2	-395439.9
	-3288.7	4659.9	19.3	40689.8	6715.9	-356709.9
	-3297.5	4669.0	20.5	41593.2	6920.1	-358414.3
	-3007.2	5108.9	17.2	39190.1	6405.8	-439926.7
	-3016.0	5118.0	18.4	40093.5	6609.9	-441631.0
	-3856.0	4563.0	7.0	30108.4	5278.6	-338495.1
	-3864.9	4572.1	8.2	31011.8	5482.7	-340199.5
	-3574.5	5012.1	4.9	28608.8	4968.4	-421711.9
	-3583.4	5021.2	6.1	29512.2	5172.6	-423416.2
180.	3118.8	183.3	-6.2	-41129.2	-4144.4	92285.8
	3109.9	192.4	-5.0	-40225.8	-4151.6	92219.3
	3400.3	632.4	-8.3	-42628.9	-4075.7	89897.9
	3391.4	641.5	-7.1	-41725.5	-4082.9	89831.4

	2551.4	86.5	-18.5	-51710.6	-3368.4	93066.7
	2542.5	95.6	-17.3	-50807.2	-3375.6	93000.2
	2832.9	535.5	-20.6	-53210.2	-3299.6	90678.8
	2824.0	544.6	-19.4	-52306.8	-3306.8	90612.3
	-3288.7	348.4	19.3	40689.8	3240.6	94049.8
	-3297.5	357.5	20.5	41593.2	3233.4	93983.3
	-3007.2	797.5	17.2	39190.1	3309.4	91661.9
	-3016.0	806.6	18.4	40093.5	3302.2	91595.4
	-3856.0	251.6	7.0	30108.4	4016.6	94830.7
	-3864.9	260.7	8.2	31011.8	4009.4	94764.3
	-3574.5	700.6	4.9	28608.8	4085.4	92442.8
	-3583.4	709.7	6.1	29512.2	4078.2	92376.4
360.	3118.8	-4128.1	-6.2	-41129.2	-3061.1	-262733.5
	3109.9	-4119.0	-5.0	-40225.8	-3279.7	-261162.1
	3400.3	-3679.1	-8.3	-42628.9	-2613.5	-184292.6
	3391.4	-3670.0	-7.1	-41725.5	-2832.0	-182721.1
	2551.4	-4225.0	-18.5	-51710.6	-71.7	-279386.4
	2542.5	-4215.9	-17.3	-50807.2	-290.2	-277815.0
	2832.9	-3775.9	-20.6	-53210.2	376.0	-200945.5
	2824.0	-3766.8	-19.4	-52306.8	157.4	-199374.1
	-3288.7	-3963.0	19.3	40689.8	-215.6	-231273.9
	-3297.5	-3953.9	20.5	41593.2	-434.1	-229702.5
	-3007.2	-3514.0	17.2	39190.1	232.1	-152832.9
	-3016.0	-3504.9	18.4	40093.5	13.5	-151261.5
	-3856.0	-4059.9	7.0	30108.4	2773.9	-247926.8
	-3864.9	-4050.8	8.2	31011.8	2555.3	-246355.4
	-3574.5	-3610.8	4.9	28608.8	3221.5	-169485.9
	-3583.4	-3601.7	6.1	29512.2	3003.0	-167914.5

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	1527.7	3839.7	-38.9	-136136.5	-5583.9	-178549.0
	1513.5	3849.3	-39.3	-136667.6	-5471.6	-180174.8
	1771.4	4309.5	-38.2	-135716.3	-5661.4	-254894.5
	1757.2	4319.1	-38.5	-136247.4	-5549.1	-256520.3
	1086.9	3738.4	-46.4	-129406.6	-6442.2	-161331.8
	1072.7	3748.0	-46.7	-129937.7	-6329.9	-162957.5
	1330.6	4208.2	-45.7	-128986.4	-6519.7	-237677.3
	1316.4	4217.7	-46.0	-129517.5	-6407.3	-239303.1
	-1750.4	3962.8	46.0	79061.7	6461.9	-199886.4
	-1764.7	3972.3	45.6	78530.6	6574.3	-201512.2
	-1506.7	4432.6	46.7	79481.9	6384.5	-276232.0
	-1521.0	4442.1	46.4	78950.8	6496.8	-277857.7
	-2191.2	3861.4	38.5	85791.6	5603.7	-182669.2
	-2205.5	3871.0	38.2	85260.5	5716.0	-184295.0
	-1947.6	4331.2	39.2	86211.8	5526.2	-259014.7
	-1961.8	4340.8	38.9	85680.7	5638.6	-260640.5
165.	1527.7	-112.5	-38.9	-136136.5	841.7	128950.5
	1513.5	-102.9	-39.3	-136667.6	1008.3	128905.7
	1771.4	357.3	-38.2	-135716.3	643.7	130119.2
	1757.2	366.9	-38.5	-136247.4	810.3	130074.4
	1086.9	-213.8	-46.4	-129406.6	1215.6	129447.5
	1072.7	-204.2	-46.7	-129937.7	1382.2	129402.7
	1330.6	256.0	-45.7	-128986.4	1017.6	130616.2
	1316.4	265.6	-46.0	-129517.5	1184.1	130571.4
	-1750.4	10.6	46.0	79061.7	-1120.7	127916.2
	-1764.7	20.2	45.6	78530.6	-954.1	127871.4
	-1506.7	480.4	46.7	79481.9	-1318.7	129084.8
	-1521.0	490.0	46.4	78950.8	-1152.1	129040.0
	-2191.2	-90.7	38.5	85791.6	-746.8	128413.2
	-2205.5	-81.1	38.2	85260.5	-580.2	128368.3
	-1947.6	379.1	39.2	86211.8	-944.9	129581.8
	-1961.8	388.6	38.9	85680.7	-778.3	129537.0
330.	1527.7	-4064.6	-38.9	-136136.5	7267.2	-215658.2
	1513.5	-4055.0	-39.3	-136667.6	7488.0	-214122.0
	1771.4	-3594.8	-38.2	-135716.3	6948.5	-136975.3
	1757.2	-3585.2	-38.5	-136247.4	7169.4	-135439.2
	1086.9	-4165.9	-46.4	-129406.6	8873.2	-231881.5
	1072.7	-4156.4	-46.7	-129937.7	9094.0	-230345.3
	1330.6	-3696.2	-45.7	-128986.4	8554.5	-153198.6
	1316.4	-3686.6	-46.0	-129517.5	8775.4	-151662.4
	-1750.4	-3941.6	46.0	79061.7	-8703.0	-196386.6
	-1764.7	-3932.0	45.6	78530.6	-8482.2	-194850.4
	-1506.7	-3471.8	46.7	79481.9	-9021.7	-117703.7
	-1521.0	-3462.2	46.4	78950.8	-8800.8	-116167.5
	-2191.2	-4042.9	38.5	85791.6	-7097.0	-212609.9
	-2205.5	-4033.3	38.2	85260.5	-6876.2	-211073.7
	-1947.6	-3573.1	39.2	86211.8	-7415.7	-133927.0
	-1961.8	-3563.5	38.9	85680.7	-7194.8	-132390.8

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	470.0	815.9	-28.2	-20374.1	-4945.2	-62619.9
	463.0	824.5	-28.6	-20014.6	-4995.0	-64185.4
	674.3	1266.4	-26.9	-20595.1	-4838.8	-143697.8
	667.3	1275.0	-27.3	-20235.5	-4888.6	-145263.3
	236.5	725.8	-30.0	-24132.5	-4970.4	-46289.4
	229.6	734.4	-30.4	-23772.9	-5020.2	-47854.9
	440.8	1176.3	-28.8	-24353.4	-4864.0	-127367.4
	433.9	1184.9	-29.2	-23993.8	-4913.8	-128932.9
	-591.0	965.9	29.8	16508.8	5051.6	-90829.2
	-597.9	974.5	29.4	16868.4	5001.8	-92394.7
	-386.7	1416.3	31.0	16287.8	5158.0	-171907.2
	-393.6	1425.0	30.6	16647.4	5108.2	-173472.7
	-824.5	875.7	27.9	12750.5	5026.4	-74498.8
	-831.4	884.4	27.5	13110.1	4976.6	-76064.3
	-620.1	1326.2	29.2	12529.5	5132.8	-155576.7
	-627.1	1334.9	28.8	12889.1	5083.0	-157142.2
210.	470.0	-50.4	-28.2	-20374.1	967.6	17761.6
	463.0	-41.7	-28.6	-20014.6	1008.1	18012.1
	674.3	400.1	-26.9	-20595.1	807.7	31285.2
	667.3	408.8	-27.3	-20235.5	848.2	31535.7
	236.5	-140.5	-30.0	-24132.5	1334.0	15167.3
	229.6	-131.8	-30.4	-23772.9	1374.5	15417.8
	440.8	310.0	-28.8	-24353.4	1174.1	28690.9
	433.9	318.7	-29.2	-23993.8	1214.6	28941.4
	-591.0	99.6	29.8	16508.8	-1202.8	21047.1
	-597.9	108.3	29.4	16868.4	-1162.3	21297.5
	-386.7	550.1	31.0	16287.8	-1362.7	34570.7
	-393.6	558.7	30.6	16647.4	-1322.2	34821.1
	-824.5	9.5	27.9	12750.5	-836.4	18452.7
	-831.4	18.1	27.5	13110.1	-795.9	18703.2
	-620.1	460.0	29.2	12529.5	-996.3	31976.4
	-627.1	468.6	28.8	12889.1	-955.8	32226.8
420.	470.0	-916.6	-28.2	-20374.1	6879.9	-83767.9
	463.0	-908.0	-28.6	-20014.6	7010.7	-81701.6
	674.3	-466.1	-26.9	-20595.1	6453.7	24357.2
	667.3	-457.5	-27.3	-20235.5	6584.5	26423.6
	236.5	-1006.7	-30.0	-24132.5	7637.9	-105287.0
	229.6	-998.1	-30.4	-23772.9	7768.8	-103220.6
	440.8	-556.2	-28.8	-24353.4	7211.7	2838.2
	433.9	-547.6	-29.2	-23993.8	7342.6	4904.5
	-591.0	-766.6	29.8	16508.8	-7456.8	-48990.6
	-597.9	-758.0	29.4	16868.4	-7326.0	-46924.2
	-386.7	-316.2	31.0	16287.8	-7883.0	59134.6
	-393.6	-307.5	30.6	16647.4	-7752.2	61200.9
	-824.5	-856.8	27.9	12750.5	-6698.8	-70509.6
	-831.4	-848.1	27.5	13110.1	-6567.9	-68443.3
	-620.1	-406.3	29.2	12529.5	-7125.0	37615.5
	-627.1	-397.6	28.8	12889.1	-6994.1	39681.9

SOLLECITAZIONI ASTE

CASO DI CARICO : 10 SLUGeo COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+	1.00
2	Permanente_____	+	1.30
3	Var_copertura	+	1.30
4	Neve_(<1000m_slm)__	+	1.30

1) +1.00*c001 +1.30*c002 +1.30*c003 +1.30*c004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN] MZZ,MYY,TORS [daNcm]

Asta 1 nodi 1 2

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2230.0	-0.2	-252468.0	-41.9	-203588.8
195.	0.0	2428.8	-0.2	-256017.5	-2.5	-200365.2
390.	0.0	8114.2	-0.2	-260451.6	36.8	811112.1

Asta 2 nodi 2 3

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6415.2	-0.2	-380108.6	-38.4	606897.5
215.	0.0	930.7	-0.2	-386296.4	4.8	-1601.5
430.	0.0	9234.3	-0.2	-394106.2	48.3	1076211.5

Asta 3 nodi 3 4

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9284.5	-0.3	-165398.7	-58.1	1069418.5
200.	0.0	-969.4	-0.3	-173733.9	-0.6	37166.0
400.	0.0	7645.4	-0.3	-182700.6	57.0	701317.1

Asta 4 nodi 4 5

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8449.8	-0.3	-25259.8	-56.6	687546.2
210.	0.0	770.9	-0.3	-35076.6	1.5	-121245.5
420.	0.0	10068.8	-0.3	-45034.0	59.8	1017057.3

Asta 5 nodi 5 6

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-10968.1	-0.2	98188.0	-52.2	957474.1
255.	0.0	191.7	-0.2	86266.1	-0.8	-412032.8
510.	0.0	11106.8	-0.2	74853.4	50.4	1034626.6

Asta 6 nodi 6 7

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8398.4	-0.4	261071.2	-63.1	1141056.5
180.	0.0	-941.3	-0.3	253568.2	-0.1	305440.0
360.	0.0	6056.9	-0.4	246812.1	63.0	774455.3

Asta 7 nodi 7 8

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7579.8	-0.3	482217.4	-57.7	816381.9
165.	0.0	-1749.1	-0.3	476956.9	-6.2	55545.7
330.	0.0	3395.6	-0.3	472877.0	45.1	201199.8

Asta 8 nodi 8 9

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6879.1	-0.2	278432.4	-42.2	449211.0
210.	0.0	-1361.0	-0.2	274541.1	7.0	-395868.4
420.	0.0	3071.2	-0.2	271749.8	56.6	-199048.2

Asta 9 nodi 1 10

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2434.9	-0.2	176537.1	-41.3	-279726.1
175.	0.0	1057.3	-0.2	173468.2	-5.4	-393134.8
350.	0.0	4130.4	-0.2	170882.2	30.3	66057.1

Asta 10 nodi 2 11

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5724.2	-0.2	85065.4	-39.2	-129658.4
175.	0.0	-610.5	-0.2	81721.6	2.7	-671890.8
350.	0.0	3786.9	-0.2	78605.4	44.7	-385246.5

Asta 11 nodi 8 12

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4859.5	-0.2	-158337.8	-37.3	-208155.2
175.	0.0	-135.8	-0.2	-154782.1	1.5	-635402.5
350.	0.0	4020.5	-0.2	-151657.3	40.3	-288820.4

Asta 12 nodi 9 13

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1654.0	-0.3	-167909.8	-62.9	-316726.2
175.	0.0	1489.0	-0.3	-165458.8	-9.5	-326883.1
350.	0.0	4398.4	-0.3	-163468.4	43.5	191052.6

Asta 13 nodi 10 11

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3964.0	-0.2	-98627.8	-28.2	167370.3
195.	0.0	-420.4	-0.2	-100553.5	4.7	-270464.0
390.	0.0	3800.3	-0.2	-102826.8	37.9	47326.9

Asta 14 nodi 12 13

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3811.0	-0.2	112596.2	-34.1	-42065.9
210.	0.0	524.2	-0.2	110859.6	-2.1	-373809.1
420.	0.0	4187.6	-0.2	109567.1	29.7	131259.2

Asta 15 nodi 3 16

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6282.4	0.0	11817.4	-4.9	250660.6
385.	0.0	98.7	0.0	11299.2	0.0	-862108.3
770.	0.0	5222.9	0.0	10874.4	6.0	165129.5

Asta 16 nodi 4 17

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6649.5	0.0	3890.1	-4.6	190291.9
385.	0.0	127.8	0.0	3751.5	0.0	-976943.9
770.	0.0	5540.0	0.0	3644.0	4.8	113458.0

Asta 17 nodi 5 18

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6730.5	0.0	-2963.8	-5.3	178765.5
385.	0.0	122.7	0.0	-2855.6	0.0	-1002705.7
770.	0.0	5588.3	0.0	-2770.9	5.4	95050.9

Asta 18 nodi 6 19

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6528.6	0.0	-8106.3	-4.8	216952.6
385.	0.0	78.3	0.0	-7925.1	0.0	-941164.6
770.	0.0	5395.0	0.0	-7809.3	4.2	111278.1

Asta 19 nodi 7 20

PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5866.3	0.0	-22626.0	-4.7	252894.1
385.	0.0	62.0	0.0	-21898.3	0.0	-796471.2
770.	0.0	4930.1	0.0	-21351.7	3.6	164211.6

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3393.8	-0.2	-16796.9	-28.6	-56970.1
210.	0.0	-118.3	-0.2	-19649.6	5.5	-419266.0
420.	0.0	2900.6	-0.2	-22581.1	39.9	-124669.1

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4310.6	-0.2	82252.1	-40.9	-311535.3
210.	0.0	379.3	-0.2	78807.0	-1.2	-716710.1
420.	0.0	4845.5	-0.2	75677.6	38.3	-167735.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4515.6	-0.2	-81247.7	-33.8	-206361.0
210.	0.0	37.6	-0.1	-77912.7	-2.3	-671282.8
420.	0.0	4481.1	-0.1	-74889.7	28.9	-198233.5

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3638.9	-0.2	-4442.2	-36.7	43746.5
210.	0.0	-371.4	-0.2	-2334.8	6.5	-373895.9
420.	0.0	2792.0	-0.2	-236.7	50.2	-119688.4

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1882.3	-0.2	95357.1	-47.4	-36551.8
195.	0.0	1219.9	-0.2	95463.0	-2.5	-112630.1
390.	0.0	5041.3	-0.2	95898.7	42.2	486333.4

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4432.8	-0.2	235023.7	-46.3	460663.9
215.	0.0	539.1	-0.2	236181.9	6.5	28843.1
430.	0.0	6170.8	-0.2	238331.8	59.8	740039.6

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6419.8	-0.3	95265.1	-69.5	756555.6
200.	0.0	-787.0	-0.3	97904.2	-3.0	31448.4
400.	0.0	5032.1	-0.3	100899.2	63.3	453914.6

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5695.0	-0.3	21761.7	-58.9	448466.9
210.	0.0	520.4	-0.3	25143.6	1.4	-96425.1
420.	0.0	6785.9	-0.3	28626.3	61.8	670770.7

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7425.6	-0.2	-30150.6	-51.3	618521.0
255.	0.0	110.9	-0.2	-25937.0	-2.3	-311787.5
510.	0.0	7536.6	-0.2	-21876.5	46.5	665764.0

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5655.5	-0.3	-101646.8	-52.3	725753.2
180.	0.0	-522.6	-0.3	-98980.3	-1.8	172158.8
360.	0.0	4369.4	-0.3	-96605.4	48.7	523060.0

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4695.8	-0.2	-244392.3	-43.1	507179.8
165.	0.0	-535.3	-0.2	-242649.2	-4.0	80547.4
330.	0.0	3229.6	-0.2	-241506.7	35.1	308694.3

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4784.4	-0.2	-75896.7	-36.0	291187.1
210.	0.0	-629.6	-0.2	-74975.0	6.7	-264713.8
420.	0.0	2847.9	-0.2	-74353.8	49.9	-20931.7

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4664.9	-177.4	-246.5	-83.1	-27258.1	27051.7
160.	-4382.2	-177.4	-246.5	-83.1	12185.9	-1338.8
320.	-4099.4	-177.4	-246.5	-83.1	51629.9	-29729.4

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-20253.6	-991.0	-144.7	-114.4	-10001.4	119149.2
160.	-19893.6	-991.0	-144.7	-114.4	13154.6	-39417.6
320.	-19533.6	-991.0	-144.7	-114.4	36310.7	-197984.4

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24801.2	131.4	45.9	-111.3	21953.0	-5024.5
160.	-24441.2	131.4	45.9	-111.3	14608.8	16000.2
320.	-24081.2	131.4	45.9	-111.3	7264.6	37025.0

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-22744.7	-69.9	100.0	-118.2	32851.0	9880.8
160.	-22384.7	-69.9	100.0	-118.2	16844.5	-1306.6
320.	-22024.7	-69.9	100.0	-118.2	838.0	-12493.9

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-27767.4	-608.9	111.9	-117.3	35543.5	62547.0
160.	-27407.4	-608.9	111.9	-117.3	17644.7	-34882.4
320.	-27047.4	-608.9	111.9	-117.3	-254.1	-132311.7

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-26033.7	907.1	90.1	-118.3	30734.8	-98323.5
160.	-25673.7	907.1	90.1	-118.3	16312.9	46813.3
320.	-25313.7	907.1	90.1	-118.3	1890.9	191950.1

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19503.0	67.9	20.6	-125.4	17488.7	-19300.6
160.	-19143.0	67.9	20.6	-125.4	14186.2	-8432.9
320.	-18783.0	67.9	20.6	-125.4	10883.6	2434.7

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15134.2	704.0	-175.7	-124.5	-13710.6	-89673.4
160.	-14774.2	704.0	-175.7	-124.5	14406.3	22965.2
320.	-14414.2	704.0	-175.7	-124.5	42523.3	135603.9

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4725.2	193.6	-401.5	-119.5	-44976.4	-31138.3
160.	-4365.2	193.6	-401.5	-119.5	19260.1	-163.6
320.	-4005.2	193.6	-401.5	-119.5	83496.6	30811.0

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11488.2	-134.9	-189.9	-87.1	-24399.4	20308.8
160.	-11205.5	-134.9	-189.9	-87.1	5985.9	-1272.4
320.	-10922.7	-134.9	-189.9	-87.1	36371.1	-22853.6

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11897.7	-289.9	-236.3	-123.4	-29115.6	43680.1
160.	-11537.7	-289.9	-236.3	-123.4	8686.3	-2701.8
320.	-11177.7	-289.9	-236.3	-123.4	46488.2	-49083.7

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12347.1	160.5	-246.3	-108.2	-30136.9	-28343.6
160.	-11987.1	160.5	-246.3	-108.2	9270.7	-2665.7
320.	-11627.1	160.5	-246.3	-108.2	48678.2	23012.3

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12225.0	202.6	-292.0	-109.9	-37739.0	-27767.0
160.	-11865.0	202.6	-292.0	-109.9	8987.8	4652.5
320.	-11505.0	202.6	-292.0	-109.9	55714.6	37072.0

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4782.9	-69.3	355.0	-87.3	29311.9	13970.7
160.	-4500.2	-69.3	355.0	-87.3	-27495.2	2887.4
320.	-4217.4	-69.3	355.0	-87.3	-84302.3	-8195.8

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14319.5	-854.7	424.6	-126.8	28610.8	101347.1
160.	-13959.5	-854.7	424.6	-126.8	-39332.6	-35400.1
320.	-13599.5	-854.7	424.6	-126.8	-107276.0	-172147.2

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17813.6	117.1	5.5	-135.3	-22062.8	-5641.5
160.	-17453.6	117.1	5.5	-135.3	-22938.6	13091.0
320.	-17093.6	117.1	5.5	-135.3	-23814.4	31823.5

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16267.2	-64.1	-89.5	-126.9	-34320.4	9091.7
160.	-15907.2	-64.1	-89.5	-126.9	-19998.0	-1166.4
320.	-15547.2	-64.1	-89.5	-126.9	-5675.6	-11424.5

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19799.8	-470.5	-105.4	-118.5	-36274.0	49478.8
160.	-19439.8	-470.5	-105.4	-118.5	-19413.7	-25796.6
320.	-19079.8	-470.5	-105.4	-118.5	-2553.4	-101071.9

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-18587.1	643.8	-73.5	-103.1	-31507.8	-67798.6
160.	-18227.1	643.8	-73.5	-103.1	-19749.5	35203.1
320.	-17867.1	643.8	-73.5	-103.1	-7991.3	138204.9

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13995.2	-2.5	43.4	-95.3	-16424.7	-5471.5
160.	-13635.2	-2.5	43.4	-95.3	-23372.2	-5872.7
320.	-13275.2	-2.5	43.4	-95.3	-30319.8	-6273.9

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12495.0	461.0	453.8	-100.0	32623.5	-57382.5
160.	-12135.0	461.0	453.8	-100.0	-39989.2	16380.6
320.	-11775.0	461.0	453.8	-100.0	-112601.9	90143.8

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5639.9	144.2	550.3	-100.1	45334.6	-21168.4
160.	-5279.9	144.2	550.3	-100.1	-42720.8	1896.2
320.	-4919.9	144.2	550.3	-100.1	-130776.2	24960.9

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	27.9	0.0	-1.0	0.0	0.0	0.0
88.	27.9	-393.7	-1.0	0.0	86.5	-17226.6
175.	27.9	-787.5	-1.0	0.0	173.0	-68906.2

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	20.2	0.0	0.8	0.0	0.0	0.0
88.	20.2	-393.8	0.8	0.0	-73.2	-17226.6
175.	20.2	-787.5	0.8	0.0	-146.4	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-75.0	972.4	-1.6	-21441.2	-358.8	-34535.6
195.	-75.0	-693.4	-1.6	-21441.2	-43.6	18278.0
390.	-75.0	-3935.8	-1.6	-21441.2	271.7	-407453.0

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-590.7	11664.0	-0.3	-7573.1	-84.9	-687490.8
215.	-590.7	-428.5	-0.3	-7573.1	-24.7	520326.9
430.	-590.7	-12520.9	-0.3	-7573.1	35.6	-871734.3

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-595.5	11560.2	0.4	-308.5	146.9	-834709.4
200.	-595.5	311.4	0.4	-308.5	60.2	352455.1
400.	-595.5	-10937.4	0.4	-308.5	-26.5	-710140.3

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-640.4	11087.3	0.5	529.5	91.7	-722634.3
210.	-640.4	-723.9	0.5	529.5	-7.7	365526.1
420.	-640.4	-12535.1	0.5	529.5	-107.2	-1026673.8

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-951.1	14512.2	0.0	275.4	10.1	-1158985.5
255.	-951.1	170.0	0.0	275.4	7.3	712994.8
510.	-951.1	-14172.2	0.0	275.4	4.5	-1072290.9

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-505.9	11141.5	0.3	2166.4	122.9	-880340.8
180.	-505.9	1017.6	0.3	2166.4	68.3	213976.7
360.	-505.9	-9106.3	0.3	2166.4	13.8	-514011.5

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-421.7	9676.6	0.9	13050.0	139.2	-511576.7
165.	-421.7	396.4	0.9	13050.0	-9.5	319449.0
330.	-421.7	-8883.9	0.9	13050.0	-158.2	-380768.2

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-84.5	1327.5	2.4	16016.4	464.6	-185314.2
210.	-84.5	382.5	2.4	16016.4	-41.0	-5772.0
420.	-84.5	-562.5	2.4	16016.4	-546.6	-24679.8

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-138.9	3127.1	2.2	4806.2	441.9	-73071.1
175.	-138.9	-813.6	2.2	4806.2	57.1	129357.6
350.	-138.9	-4754.2	2.2	4806.2	-327.7	-357827.5

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-30.6	3146.4	3.2	82053.3	644.0	-91348.9
175.	-30.6	-794.3	3.2	82053.3	90.6	114456.0
350.	-30.6	-4734.9	3.2	82053.3	-462.8	-369352.9

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-53.6	3415.4	-2.7	-59850.1	-644.6	-108463.1
175.	-53.6	-767.8	-2.7	-59850.1	-163.4	123193.3
350.	-53.6	-4951.0	-2.7	-59850.1	317.7	-377210.2

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-232.1	3442.7	-1.9	6131.2	-427.0	-99513.0
175.	-232.1	-740.5	-1.9	6131.2	-97.4	136922.4
350.	-232.1	-4923.7	-1.9	6131.2	232.2	-358702.2

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-73.6	724.0	-1.4	-5524.8	-280.6	-30338.4
195.	-73.6	-153.5	-1.4	-5524.8	-13.5	25286.9
390.	-73.6	-1031.0	-1.4	-5524.8	253.6	-90200.2

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-95.3	995.2	2.5	2399.9	533.4	-69332.8
210.	-95.3	50.2	2.5	2399.9	14.0	40426.9
420.	-95.3	-894.8	2.5	2399.9	-505.4	-48263.4

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-233.8	5444.5	0.2	12291.1	40.0	-399723.4
210.	-233.8	715.7	0.2	12291.1	2.8	247096.5
420.	-233.8	-4013.1	0.2	12291.1	-34.3	-99127.3

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-144.8	5411.8	-0.5	-57230.5	-85.7	-410316.3
210.	-144.8	683.0	-0.5	-57230.5	28.0	229636.7
420.	-144.8	-4045.8	-0.5	-57230.5	141.8	-123454.2

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-170.1	5680.9	-0.2	32495.0	-107.6	-423488.5
210.	-170.1	661.0	-0.2	32495.0	-68.2	242407.6
420.	-170.1	-4358.8	-0.2	32495.0	-28.8	-145862.6

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-369.8	5686.4	-0.4	-5060.1	-163.3	-416816.6
210.	-369.8	666.5	-0.4	-5060.1	-80.8	250241.6
420.	-369.8	-4353.3	-0.4	-5060.1	1.6	-136866.6

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-30.9	204.3	0.2	14825.1	53.0	4095.3
195.	-30.9	-600.0	0.2	14825.1	10.5	-34484.8
390.	-30.9	-1404.4	0.2	14825.1	-31.9	-229918.0

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-531.2	8149.3	0.9	31003.2	236.7	-459295.7
215.	-531.2	-386.0	0.9	31003.2	53.5	375266.4
430.	-531.2	-8921.2	0.9	31003.2	-129.7	-625257.7

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-483.2	8172.4	0.3	7188.9	5.6	-593434.2
200.	-483.2	232.6	0.3	7188.9	-56.4	247058.8
400.	-483.2	-7707.2	0.3	7188.9	-118.5	-500408.3

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-511.0	7840.0	0.3	1513.3	8.5	-511832.8
210.	-511.0	-496.8	0.3	1513.3	-54.0	259200.7
420.	-511.0	-8833.6	0.3	1513.3	-116.4	-720491.7

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-706.1	10246.2	0.3	-1040.1	2.2	-821563.6
255.	-706.1	122.9	0.3	-1040.1	-81.7	500499.6
510.	-706.1	-10000.3	0.3	-1040.1	-165.6	-758864.7

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-411.9	7866.8	0.0	-9031.4	-62.6	-620659.8
180.	-411.9	720.9	0.0	-9031.4	-57.8	152233.6
360.	-411.9	-6424.9	0.0	-9031.4	-53.0	-361120.5

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-379.3	6850.4	0.0	-39351.1	42.3	-367394.4
165.	-379.3	300.0	0.0	-39351.1	37.6	222513.3
330.	-379.3	-6250.3	0.0	-39351.1	32.8	-268384.3

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-87.6	1165.9	0.5	-6090.4	103.9	-145745.5
210.	-87.6	299.6	0.5	-6090.4	1.1	8133.1
420.	-87.6	-566.6	0.5	-6090.4	-101.7	-19900.8

SOLLECITAZIONI ASTE

CASO DI CARICO : 11 Rara COMBINAZIONE

N. 4 CONDIZIONI ANALISI STATICA

1	Peso_proprio_____	+	1.00
2	Permanente_____	+	1.00
3	Var_copertura	+	1.00
4	Neve_(<1000m_slm)__	+	1.00

1) +1.00*c001 +1.00*c002 +1.00*c003 +1.00*c004

Unità di misura: Prog e frecce [cm];NORM,TYY,TZZ [daN]
MZZ,MYY,TORS [daNcm]

Asta	1	nodi	1	2		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2038.8	-0.2	-217471.1	-36.3	-177081.8

195.	0.0	2151.6	-0.2	-220605.4	-2.2	-179845.6
390.	0.0	7218.1	-0.2	-224501.9	31.9	719645.0

Asta	2	nodi	2	3		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5755.2	-0.2	-331721.1	-33.4	548597.6
215.	0.0	746.1	-0.2	-337145.5	4.2	-5861.3
430.	0.0	8053.5	-0.2	-343985.6	42.1	927570.4

Asta	3	nodi	3	4		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-8123.2	-0.3	-142699.9	-50.7	922659.1
200.	0.0	-830.6	-0.3	-149993.9	-0.5	21556.6
400.	0.0	6711.5	-0.3	-157833.1	49.7	606791.9

Asta	4	nodi	4	5		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7386.5	-0.2	-21536.9	-49.4	595220.8
210.	0.0	678.2	-0.2	-30114.6	1.3	-111245.1
420.	0.0	8806.7	-0.2	-38812.9	52.1	884809.8

Asta	5	nodi	5	6		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-9600.8	-0.2	84413.6	-45.5	832775.7
255.	0.0	155.9	-0.2	73996.4	-0.7	-367599.2
510.	0.0	9706.6	-0.2	64016.0	43.9	894932.0

Asta	6	nodi	6	7		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-7361.8	-0.3	225352.6	-54.9	986777.7
180.	0.0	-825.6	-0.3	218783.9	-0.1	254052.2
360.	0.0	5324.6	-0.3	212859.5	54.8	666217.2

Asta	7	nodi	7	8		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6578.4	-0.3	420721.7	-50.3	701277.0
165.	0.0	-1433.0	-0.3	416101.4	-5.4	47753.2
330.	0.0	3133.0	-0.3	412511.1	39.3	196317.6

Asta	8	nodi	8	9		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6158.2	-0.2	239987.5	-36.9	404639.3
210.	0.0	-1221.4	-0.2	236547.3	6.2	-353077.0
420.	0.0	2793.5	-0.2	234054.9	49.6	-173420.7

Asta	9	nodi	1	10		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-2245.9	-0.2	152823.3	-35.8	-241620.7
175.	0.0	919.3	-0.2	150228.8	-4.7	-351370.0
350.	0.0	3713.0	-0.2	148052.6	26.3	58629.3

Asta	10	nodi	2	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5048.3	-0.2	69225.4	-34.1	-115550.8
175.	0.0	-502.1	-0.2	66380.1	2.3	-590653.1
350.	0.0	3416.8	-0.2	63719.5	38.8	-327986.6

Asta	11	nodi	8	12		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4304.6	-0.2	-132714.2	-32.6	-183940.3
175.	0.0	-94.7	-0.2	-129689.4	1.3	-560214.7
350.	0.0	3615.7	-0.2	-127025.7	35.3	-246247.6

Asta	12	nodi	9	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1582.3	-0.3	-145165.8	-55.2	-273691.8

175.	0.0	1289.6	-0.3	-143125.1	-8.4	-295416.3
350.	0.0	3949.2	-0.3	-141482.9	38.1	165515.9

Asta	13	nodi	10	11		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3553.9	-0.1	-85241.7	-24.5	143928.6
195.	0.0	-348.6	-0.1	-86939.9	4.1	-245310.6
390.	0.0	3431.3	-0.1	-88938.5	33.0	45225.6

Asta	14	nodi	12	13		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3450.1	-0.1	97262.2	-29.9	-33161.5
210.	0.0	439.8	-0.1	95722.2	-1.9	-337902.4
420.	0.0	3764.7	-0.1	94565.7	25.9	112155.3

Asta	15	nodi	3	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5522.5	0.0	9811.7	-4.3	220381.6
385.	0.0	86.6	0.0	9376.9	0.0	-758250.3
770.	0.0	4604.4	0.0	9019.7	5.2	146835.4

Asta	16	nodi	4	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5820.7	0.0	3189.4	-4.0	164716.2
385.	0.0	113.4	0.0	3074.4	0.0	-857102.1
770.	0.0	4867.3	0.0	2984.8	4.2	100543.3

Asta	17	nodi	5	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5885.5	0.0	-2551.4	-4.6	153950.5
385.	0.0	109.2	0.0	-2456.6	0.0	-879161.4
770.	0.0	4905.6	0.0	-2382.2	4.7	84189.4

Asta	18	nodi	6	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5718.7	0.0	-6743.4	-4.2	187973.0
385.	0.0	70.7	0.0	-6595.4	0.0	-826386.1
770.	0.0	4743.3	0.0	-6502.0	3.7	98753.1

Asta	19	nodi	7	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5169.9	0.0	-19095.2	-4.1	223185.8
385.	0.0	54.4	0.0	-18482.4	0.0	-701996.8
770.	0.0	4355.2	0.0	-18022.3	3.1	146286.5

Asta	20	nodi	10	14		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3093.0	-0.1	-14418.4	-24.9	-48417.2
210.	0.0	-104.7	-0.1	-16812.6	4.7	-378489.2
420.	0.0	2660.5	-0.1	-19274.2	34.7	-108047.2

Asta	21	nodi	11	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3882.5	-0.2	73164.6	-35.5	-265491.9
210.	0.0	305.0	-0.2	70223.5	-1.1	-634442.9
420.	0.0	4295.8	-0.2	67563.7	33.3	-151056.8

Asta	22	nodi	12	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4056.6	-0.1	-71924.9	-29.6	-176214.5
210.	0.0	12.1	-0.1	-69083.5	-2.1	-596210.0
420.	0.0	3983.1	-0.1	-66518.9	25.3	-177965.4

Asta	23	nodi	13	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3310.3	-0.2	-3889.5	-32.1	37341.4

210.	0.0	-320.6	-0.2	-2162.3	5.8	-340830.8
420.	0.0	2577.9	-0.2	-443.7	44.0	-103836.6

Asta	24	nodi	14	15		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-1738.8	-0.2	82141.8	-41.1	-32190.7
195.	0.0	1082.0	-0.2	82257.3	-2.2	-105942.1
390.	0.0	4512.8	-0.2	82657.1	36.6	429789.6

Asta	25	nodi	15	16		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-3985.4	-0.2	208329.6	-40.3	410734.3
215.	0.0	440.1	-0.2	209366.7	5.7	18419.6
430.	0.0	5422.4	-0.2	211282.9	52.2	640118.3

Asta	26	nodi	16	17		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5637.9	-0.3	84106.9	-60.6	654289.5
200.	0.0	-671.5	-0.3	86455.5	-2.6	19641.5
400.	0.0	4451.0	-0.3	89118.3	55.2	395888.0

Asta	27	nodi	17	18		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-5006.4	-0.3	19119.6	-51.3	391037.9
210.	0.0	460.4	-0.2	22124.9	1.2	-87607.8
420.	0.0	5969.0	-0.3	25218.9	53.8	587524.1

Asta	28	nodi	18	19		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-6537.6	-0.2	-26685.5	-44.7	541802.8
255.	0.0	88.2	-0.2	-22942.5	-2.0	-278481.2
510.	0.0	6620.6	-0.2	-19334.8	40.5	578934.2

Asta	29	nodi	19	20		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4991.8	-0.2	-90012.1	-45.6	631372.9
180.	0.0	-470.2	-0.2	-87642.4	-1.6	141821.3
360.	0.0	3848.9	-0.2	-85530.8	42.4	449861.1

Asta	30	nodi	20	21		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4113.1	-0.2	-217102.4	-37.5	436155.5
165.	0.0	-426.4	-0.2	-215551.9	-3.4	65796.8
330.	0.0	2927.2	-0.2	-214534.9	30.6	277064.1

Asta	31	nodi	21	22		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	0.0	-4295.5	-0.2	-65355.6	-31.5	258461.6
210.	0.0	-565.4	-0.2	-64530.1	5.9	-241328.6
420.	0.0	2596.4	-0.2	-63963.1	43.8	-19041.4

Asta	32	nodi	1	25		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4284.6	-162.9	-218.2	-72.2	-24149.6	24258.5
160.	-4001.9	-162.9	-218.2	-72.2	10756.9	-1800.0
320.	-3719.1	-162.9	-218.2	-72.2	45663.4	-27858.6

Asta	33	nodi	2	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-18021.5	-847.3	-121.1	-99.4	-8331.6	101822.0
160.	-17661.5	-847.3	-121.1	-99.4	11047.8	-33748.4
320.	-17301.5	-847.3	-121.1	-99.4	30427.3	-169318.9

Asta	34	nodi	3	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-21699.2	117.0	40.9	-97.1	19096.0	-4900.3
160.	-21339.2	117.0	40.9	-97.1	12555.4	13817.3
320.	-20979.2	117.0	40.9	-97.1	6014.9	32535.0

Asta	35	nodi	4	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-19918.6	-59.4	86.8	-103.1	28420.0	8381.7
160.	-19558.6	-59.4	86.8	-103.1	14534.9	-1127.8
320.	-19198.6	-59.4	86.8	-103.1	649.8	-10637.2

Asta	36	nodi	5	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-24293.0	-531.2	96.8	-102.2	30723.9	54585.5
160.	-23933.0	-531.2	96.8	-102.2	15234.5	-30401.1
320.	-23573.0	-531.2	96.8	-102.2	-255.0	-115387.7

Asta	37	nodi	6	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-22787.1	786.9	78.5	-103.0	26636.5	-85102.3
160.	-22427.1	786.9	78.5	-103.0	14082.8	40805.1
320.	-22067.1	786.9	78.5	-103.0	1529.1	166712.5

Asta	38	nodi	7	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17072.9	54.9	19.6	-109.2	15323.7	-15964.6
160.	-16712.9	54.9	19.6	-109.2	12192.2	-7184.9
320.	-16352.9	54.9	19.6	-109.2	9060.7	1594.8

Asta	39	nodi	8	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-13595.8	593.0	-147.2	-108.8	-11416.7	-75607.5
160.	-13235.8	593.0	-147.2	-108.8	12136.0	19267.7
320.	-12875.8	593.0	-147.2	-108.8	35688.8	114142.9

Asta	40	nodi	9	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4375.8	183.6	-353.9	-104.8	-39636.9	-28255.0
160.	-4015.8	183.6	-353.9	-104.8	16994.6	1116.1
320.	-3655.8	183.6	-353.9	-104.8	73626.0	30487.2

Asta	41	nodi	10	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10359.9	-127.2	-169.7	-75.7	-21804.8	18542.4
160.	-10077.2	-127.2	-169.7	-75.7	5344.7	-1804.4
320.	-9794.5	-127.2	-169.7	-75.7	32494.3	-22151.1

Asta	42	nodi	11	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-10730.6	-232.6	-214.3	-107.3	-26443.8	35780.5
160.	-10370.6	-232.6	-214.3	-107.3	7840.2	-1433.2
320.	-10010.6	-232.6	-214.3	-107.3	42124.2	-38647.0

Asta	43	nodi	12	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11122.3	116.0	-222.3	-94.8	-27229.0	-21939.3
160.	-10762.3	116.0	-222.3	-94.8	8334.5	-3372.7
320.	-10402.3	116.0	-222.3	-94.8	43898.0	15194.0

Asta	44	nodi	13	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11024.1	192.3	-260.1	-96.1	-33608.9	-25438.1
160.	-10664.1	192.3	-260.1	-96.1	8003.4	5337.9
320.	-10304.1	192.3	-260.1	-96.1	49615.7	36113.8

Asta	45	nodi	14	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-4399.3	-69.1	314.8	-75.8	25905.4	12916.5

160.	-4116.6	-69.1	314.8	-75.8	-24456.6	1864.0
320.	-3833.8	-69.1	314.8	-75.8	-74818.6	-9188.5

Asta	46	nodi	15	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12794.0	-730.8	377.4	-110.2	25384.3	86619.0
160.	-12434.0	-730.8	377.4	-110.2	-35003.3	-30301.3
320.	-12074.0	-730.8	377.4	-110.2	-95390.8	-147221.7

Asta	47	nodi	16	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-15664.7	102.9	4.7	-118.1	-19659.3	-5151.5
160.	-15304.7	102.9	4.7	-118.1	-20417.8	11317.9
320.	-14944.7	102.9	4.7	-118.1	-21176.3	27787.3

Asta	48	nodi	17	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-14324.8	-55.2	-79.7	-110.7	-30544.6	7834.9
160.	-13964.8	-55.2	-79.7	-110.7	-17796.7	-1002.1
320.	-13604.8	-55.2	-79.7	-110.7	-5048.8	-9839.2

Asta	49	nodi	18	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-17412.2	-411.9	-93.8	-103.2	-32285.0	43339.1
160.	-17052.2	-411.9	-93.8	-103.2	-17277.1	-22569.3
320.	-16692.2	-411.9	-93.8	-103.2	-2269.2	-88477.8

Asta	50	nodi	19	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-16355.7	560.8	-65.6	-89.7	-28075.9	-58940.6
160.	-15995.7	560.8	-65.6	-89.7	-17580.9	30794.0
320.	-15635.7	560.8	-65.6	-89.7	-7086.0	120528.6

Asta	51	nodi	20	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-12317.3	-4.1	38.0	-83.1	-14714.9	-4316.7
160.	-11957.3	-4.1	38.0	-83.1	-20798.3	-4979.4
320.	-11597.3	-4.1	38.0	-83.1	-26881.7	-5642.1

Asta	52	nodi	21	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-11205.7	384.7	402.0	-87.5	28786.0	-47916.4
160.	-10845.7	384.7	402.0	-87.5	-35530.1	13627.9
320.	-10485.7	384.7	402.0	-87.5	-99846.2	75172.3

Asta	53	nodi	22	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-5174.3	139.5	486.4	-87.8	39873.5	-19485.1
160.	-4814.3	139.5	486.4	-87.8	-37948.7	2839.6
320.	-4454.3	139.5	486.4	-87.8	-115771.0	25164.2

Asta	54	nodi	23	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	24.2	0.0	-0.9	0.0	0.0	0.0
88.	24.2	-393.7	-0.9	0.0	76.2	-17226.6
175.	24.2	-787.5	-0.9	0.0	152.5	-68906.2

Asta	55	nodi	24	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	17.4	0.0	0.7	0.0	0.0	0.0
88.	17.4	-393.8	0.7	0.0	-57.6	-17226.6
175.	17.4	-787.5	0.7	0.0	-115.2	-68906.3

Asta	56	nodi	25	26		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-69.5	939.4	-1.5	-19886.9	-324.4	-31792.3
195.	-69.5	-616.3	-1.5	-19886.9	-36.5	21758.9
390.	-69.5	-3528.5	-1.5	-19886.9	251.5	-360313.8

Asta	57	nodi	26	27		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-509.1	10172.4	-0.2	-6187.3	-67.7	-601705.6
215.	-509.1	-366.9	-0.2	-6187.3	-18.6	452379.9
430.	-509.1	-10906.2	-0.2	-6187.3	30.5	-759484.2

Asta	58	nodi	27	28		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-511.1	10073.0	0.4	-172.4	127.7	-726949.2
200.	-511.1	269.0	0.4	-172.4	52.1	307253.3
400.	-511.1	-9535.0	0.4	-172.4	-23.5	-619344.2

Asta	59	nodi	28	29		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-550.0	9663.6	0.4	477.4	79.5	-629981.5
210.	-550.0	-630.6	0.4	477.4	-7.7	318487.1
420.	-550.0	-10924.8	0.4	477.4	-94.9	-894826.4

Asta	60	nodi	29	30		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-820.6	12648.2	0.0	222.4	7.3	-1010214.1
255.	-820.6	148.1	0.0	222.4	5.9	621307.1
510.	-820.6	-12352.0	0.0	222.4	4.5	-934697.3

Asta	61	nodi	30	31		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-433.6	9715.1	0.3	1751.4	107.5	-767984.8
180.	-433.6	891.5	0.3	1751.4	60.0	186602.7
360.	-433.6	-7932.1	0.3	1751.4	12.5	-447057.8

Asta	62	nodi	31	32		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-362.9	8420.7	0.8	10812.1	121.7	-445463.0
165.	-362.9	332.4	0.8	10812.1	-4.2	276670.5
330.	-362.9	-7755.9	0.8	10812.1	-130.1	-335765.4

Asta	63	nodi	32	33		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-82.6	1287.6	2.2	15026.7	428.4	-168940.4
210.	-82.6	342.6	2.2	15026.7	-33.2	2223.7
420.	-82.6	-602.4	2.2	15026.7	-494.9	-25062.3

Asta	64	nodi	25	34		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-122.3	2779.7	2.0	3933.7	396.6	-65550.3
175.	-122.3	-720.8	2.0	3933.7	51.0	114606.3
350.	-122.3	-4221.2	2.0	3933.7	-294.5	-317813.6

Asta	65	nodi	26	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-25.1	2813.2	2.8	72072.9	571.1	-85633.9
175.	-25.1	-687.3	2.8	72072.9	78.8	100381.8
350.	-25.1	-4187.7	2.8	72072.9	-413.5	-326179.0

Asta	66	nodi	32	36		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-44.3	3044.8	-2.4	-52682.2	-564.9	-100380.4
175.	-44.3	-664.3	-2.4	-52682.2	-140.5	107919.4
350.	-44.3	-4373.4	-2.4	-52682.2	283.9	-332877.7

Asta	67	nodi	33	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-203.8	3053.4	-1.7	5424.9	-390.1	-88652.7

175.	-203.8	-655.7	-1.7	5424.9	-87.1	121139.7
350.	-203.8	-4364.9	-1.7	5424.9	215.9	-318164.7

Asta	68	nodi	34	35		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-69.2	736.8	-1.2	-4693.8	-249.8	-29069.9
195.	-69.2	-140.7	-1.2	-4693.8	-11.5	29053.5
390.	-69.2	-1018.2	-1.2	-4693.8	226.7	-83935.6

Asta	69	nodi	36	37		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-91.1	993.5	2.2	1914.7	472.2	-66505.1
210.	-91.1	48.5	2.2	1914.7	11.3	42909.2
420.	-91.1	-896.5	2.2	1914.7	-449.7	-46126.5

Asta	70	nodi	34	38		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-206.9	4836.4	0.1	10852.5	31.0	-355001.7
210.	-206.9	635.9	0.1	10852.5	1.2	219597.3
420.	-206.9	-3564.6	0.1	10852.5	-28.6	-87914.0

Asta	71	nodi	35	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-129.1	4804.7	-0.5	-50509.6	-79.5	-363609.4
210.	-129.1	604.2	-0.5	-50509.6	24.3	204320.0
420.	-129.1	-3596.4	-0.5	-50509.6	128.1	-109860.8

Asta	72	nodi	36	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-150.4	5035.4	-0.2	29016.9	-93.6	-374861.0
210.	-150.4	584.4	-0.2	29016.9	-61.0	215222.8
420.	-150.4	-3866.5	-0.2	29016.9	-28.4	-129392.9

Asta	73	nodi	37	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-326.3	5042.8	-0.3	-4587.7	-137.6	-369695.1
210.	-326.3	591.8	-0.3	-4587.7	-68.9	221941.7
420.	-326.3	-3859.1	-0.3	-4587.7	-0.2	-121120.9

Asta	74	nodi	38	39		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-32.0	269.2	0.2	13095.4	47.2	1664.0
195.	-32.0	-535.2	0.2	13095.4	10.2	-24264.2
390.	-32.0	-1339.5	0.2	13095.4	-26.7	-207045.6

Asta	75	nodi	39	40		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-458.7	7138.1	0.8	27565.4	211.6	-404776.9
215.	-458.7	-329.4	0.8	27565.4	49.3	327153.6
430.	-458.7	-7796.9	0.8	27565.4	-112.9	-546425.6

Asta	76	nodi	40	41		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-416.1	7147.8	0.3	6389.1	5.2	-518638.3
200.	-416.1	201.3	0.3	6389.1	-49.7	216276.2
400.	-416.1	-6745.2	0.3	6389.1	-104.5	-438109.2

Asta	77	nodi	41	42		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-439.5	6859.6	0.3	1340.3	6.2	-447948.4
210.	-439.5	-434.2	0.3	1340.3	-47.9	226714.2
420.	-439.5	-7728.1	0.3	1340.3	-101.9	-630326.4

Asta	78	nodi	42	43		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-610.9	8964.2	0.3	-928.9	1.3	-718804.2
255.	-610.9	107.4	0.3	-928.9	-71.5	437815.6
510.	-610.9	-8749.4	0.3	-928.9	-144.3	-664045.4

Asta	79	nodi	43	44		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-355.2	6886.2	0.0	-8014.9	-54.5	-543516.9
180.	-355.2	634.4	0.0	-8014.9	-50.0	133340.2
360.	-355.2	-5617.5	0.0	-8014.9	-45.5	-315135.8

Asta	80	nodi	44	45		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-328.1	5979.8	0.0	-34896.6	37.6	-320777.9
165.	-328.1	249.0	0.0	-34896.6	35.7	193095.8
330.	-328.1	-5481.9	0.0	-34896.6	33.9	-238622.9

Asta	81	nodi	45	46		
PROGR.	NORM	TYY	TZZ	TORS	MYY	MZZ
0.	-84.7	1137.3	0.4	-5349.9	92.9	-134433.7
210.	-84.7	271.1	0.4	-5349.9	2.6	13451.1
420.	-84.7	-595.2	0.4	-5349.9	-87.7	-20576.5

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

RELAZIONE SULLA QUALITA' E DOSATURA DEI MATERIALI

(PLICO A5)

BARLETTA 23/11/2020

RELAZIONE SUI MATERIALI

- Visto il D.M. del 17/01/2018 cap. 10.1
- Visto il D.M. del 17/01/2018 cap. 11
- Visto la Uni EN 206

Si riportano di seguito le seguenti prescrizioni:

PRESCRIZIONI ACCIAIO PER CALCESTRUZZO

Acciaio dolce da Carpenteria B450C qualificati secondo le procedure D.M. 17/01/2018 cap.11.3.1.2 e cap 11.3.3.5 nel seguente formato:
barre tonde ad aderenza migliorata rispondente alle seguenti caratteristiche:

- $f_{yk} \geq 450$ N/mm ^{2}
- $f_{tk} \geq 540$ N/mm ^{2}
- $f_y / f_{yk} \leq 1.15$
- $1.13 \leq (f_t / f_y)_{medio} \leq 1.37$
- $f_{yd} = 391$ N/mm ^{2}
- $E_s = 200$ KN/mm ^{2}

Le suddette caratteristiche saranno conformi alle seguenti norme:

- D.M. 2018
- UNI 1002/1
- UNI 564
- UNI 6407

Il campionamento e le prove saranno condotte secondo:

- D.M. 2018
- UNI 6407-69

I valori di calcolo adottati sono i seguenti:

f_{tk} = 5400 daN/cm^2
f_{yk} = 4500 daN/cm^2
E_s = 2000000
g_s = 1.15
f_{yd} = 3913 daN/cm^2
f_{td} =4695.7 daN/cm^2
E_{ud} = 6.75%

PRESCRIZIONI PER IL CALCESTRUZZO

Vista la relazione tecnica e la relazione di calcolo si richiedono le seguenti caratteristiche per il calcestruzzo per strutture armate preconfezionato o confezionato in opera:

- Controllo di accettazione di tipo	**A**
- Resistenza a compressione sui cubetti	**R_{ck} 370**
- Copriferro minimo Nominale	**cm^2**
- Classe di esposizione	**XC3**
- Classe di consistenza	**S4**
- Massimo rapporto A/C (max)	**0,55**
- Diametro massimo inerte	**25 mm**
- Impiego di additivi	**no**

Le suddette caratteristiche saranno conformi alle seguenti norme:

- D.M. 2018
- Conforme alla UNI 8520 parte 2ª
- UNI EN 1744/1
- UNI EN 1744/1
- UNI EN 1744/1
- UNI EN 993/8-9
- UNI EN 1367/1
- 8520 parte 22ª-2002
- UNI 8981/7
- UNI-EN 197/1
- UNI 7101

I valori di calcolo delle caratteristiche meccaniche sono i seguenti:

R_{ck}	=	350 daN/cm^2
f_{ck}	=	307.1 daN/cm^2
f_{ctk}	=	20.6 daN/cm^2
f_{ctm}	=	29.4 daN/cm^2
E_c	=	330194
g_c	=	1.5
f_{cd}	=	174.0 daN/cm^2
f_{bd}	=	30.9 daN/cm^2
f_{ctd}	=	13.7 daN/cm^2
E_{cu}	=	.35%

Il Progettista delle strutture
Arch. Silvano RIZZI

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

PIANO DI MANUTENZIONE DELLE STRUTTURE

(PLICO A7)

BARLETTA 23/11/2020

IS Pdm di CDM Dolmen e omnia IS srl**,** prodotto, distribuito ed assistito dalla CDM DOLMEN srl, con sede in Torino,
Via Drovetti 9/F. Tel.: 011 4470755, Fax: 011 4348458 www.cdmdolmen.it mail: dolmen@cdmdolmen.it

- Premessa -

"Piano di manutenzione riguardante le strutture" previsto dalle nuove **Norme Tecniche per le Costruzioni** (D.M. 17 gennaio 2018)

Il piano di manutenzione delle strutture è il documento complementare al progetto strutturale che ne prevede, pianifica e
programma tenendo conto degli elaborati progettuali esecutivi dell'intera opera l'attività di manutenzione, al fine di
mantenerne nel tempo la funzionalità, le caratteristiche di qualità l'efficienza ed il valore economico.

I manuali d'uso, e di manutenzione rappresentano gli strumenti con cui l'utente si rapporta con l' immobile: direttamente
utilizzandolo evitando comportamenti anomali che possano danneggiarne o comprometterne la durabilità e le
caratteristiche; attraverso i manutentori che utilizzeranno cosi metodologie più confacenti ad una gestione che coniughi
economicità e durabilità del bene.

A tal fine, i manuali definiscono le procedure di raccolta e di registrazione dell'informazione nonché le azioni necessarie
per impostare il piano di manutenzione e per organizzare in modo efficiente, sia sul piano tecnico che su quello
economico, il servizio di manutenzione.
Il manuale d'uso mette a punto una metodica di ispezione dei manufatti che individua sulla base dei requisiti fissati dal
progettista in fase di redazione del progetto, la serie di guasti che possono influenzare la durabilità del bene e per i quali,
un intervento manutentivo potrebbe rappresentare allungamento della vita utile e mantenimento del valore patrimoniale.
II manuale di manutenzione invece rappresenta lo strumento con cui l'esperto si rapporta con il bene in fase di gestione
di un contratto di manutenzione programmata.
Il programma infine e lo strumento con cui, chi ha il compito di gestire il bene, riesce a programmare le attività in
riferimento alla previsione del complesso di interventi inerenti la manutenzione di cui si presumono la frequenza, gli
indici di costo orientativi e le strategie di attuazione nel medio e nel lungo periodo.
II piano di manutenzione e organizzato nei tre strumenti individuati dall'art. 40 del regolamento LLPP ovvero:

a) il manuale d'uso;
b) il manuale di manutenzione;
c) il programma di manutenzione;
c1) il sottoprogramma delle prestazioni, che prende in considerazione, per classe di requisito, le
prestazioni fornite dal bene e dalle sue parti nel corso del suo ciclo di vita;
c2) il sottoprogramma dei controlli, che definisce il programma delle verifiche e dei controlli al fine
di rilevare il livello prestazionale (qualitativo e quantitativo) nei successivi

momenti della vita del
bene, individuando la dinamica della caduta delle prestazioni aventi come estremi il valore di collaudo
e quello minimo di norma;
c3) il sottoprogramma degli interventi di manutenzione, che riporta in ordine temporale i differenti
interventi di manutenzione, al fine di fornire le informazioni per una corretta conservazione del bene.

Tali strumenti devono consentire di raggiungere i seguenti obiettivi, raggruppati in base alla loro natura:

1) Obiettivi tecnico - funzionali: istituire un sistema di raccolta delle "informazioni di base" e di aggiornamento con le
"informazioni di ritorno" a seguito degli interventi, che consenta, attraverso |'implementazione e il costante
aggiornamento del "sistema informativo", di conoscere e mantenere correttamente l'immobile e le sue parti; consentire
l'individuazione delle strategie di manutenzione più adeguate in relazione alle caratteristiche del bene immobile ed alla
più generale politica di gestione del patrimonio immobiliare; istruire gli operatori tecnici sugli interventi di ispezione e
manutenzione da eseguire, favorendo la corretta ed efficiente esecuzione degli interventi; istruire gli utenti sul corretto
uso dell'immobile e delle sue parti, su eventuali interventi di piccola manutenzione che possono eseguire direttamente;
sulla corretta interpretazione degli indicatori di uno stato di guasto o di malfunzionamento e sulle procedure per la sua
segnalazione alle competenti strutture di manutenzione; definire le istruzioni e le procedure per controllare la qualità del
servizio di manutenzione.
2) Obiettivi economici: ottimizzare l'utilizzo del bene immobile e prolungarne il ciclo di vita con l'effettuazione
d'interventi manutentivi mirati; conseguire il risparmio di gestione sia con il contenimento dei consumi energetici o di
altra natura, sia con la riduzione dei guasti e del tempo di non utilizzazione del bene immobile; consentire la
pianificazione e l'organizzazione più efficiente ed economica del servizio di manutenzione.

- Indice:

----------[Elemento 1]-

- Dati generali:

- Descrizione progetto:
RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.
- Committente:
COMUNE DI BARLETTA

- Località:
Barletta
- Progettista strutture:
Arch. Silvano RIZZI
- Direttore dei lavori:

- Impresa:

----------[Elemento 2]-

- Struttura in c.a. rivestita-interna -

Dati generali

Opera :
Unità tecnologica: Strutture
Elemento tecnico: Struttura in c.a. rivestita interna
Descrizione: Elemento strutturale con superficie rivestita posto all'interno
Tipologia elemento: Struttura in C.A.

Identificazione

Identificazione tecnologica:

Componente:	Classe Materiale:	Note:
Calcestruzzo	Calcestruzzi	
Ferro tondo ad aderenza migliorata	Acciaio	
Paramento	Laterizi, pietre	

Elenco certificazioni/garanzie:

Tipo:	Descrizione:	Rilasciata da:
Certificazione	Certificato di conformità	Centrale di betonaggio
Certificazione	Certificato di conformità	Ferriera
Certificazione	Scheda tecnica	Ditta produttrice
Certificazione	Collaudo statico della struttura	tecnico terzo rispetto al progetto

1-Istruzioni:

[1.1] Installazione e Gestione

Modalità d'uso corretto:
La parete dovrà essere tratta con prodotti a base di acidi dopo la sua posa in opera al fine di prevenire
le eventuali efflorescenze di calcare.
Modalità di esecuzione:
Predisporre elementi di aggrappaggio, tipo zanche o similari.

[1.2] Istruzioni per la dismissione e lo smantellamento

Istruzione per la dismissione e lo smantellamento:
Separare la le macerie di cls. e muratura dal ferro, e riutilizzare le macerie come riempimento o come
sottofondo per la viabilità di cantiere. Il ferro tondo, va portato in apposite discariche.
Norme di sicurezza per gli interventi di dismissione:
Durante le fasi di demolizione necessita far si che l'operatore sia munito dei dovuti sistemi di
protezione individuale, dell'uso di ponteggi fissi o mobili a seconda delle esigenze.

[1.3] Gestioni emergenze

Danni possibili:

1) Distaccamento del singolo elemento
2) Presenza sulla superficie di efflorescenze
3) Presenza di muffa o di bagnato

Modalità di intervento:

1) Ripristino attraverso uso di malte specifiche aventi forte potere adesivo
2) Trattamento attraverso soluzioni acide
3) Necessita valutare il gradiente termico e quindi attuare una adeguata soluzione di isolamento termico.

2-Prestazioni e anomalie

[2.1] Prestazioni

- **Classe di requisito:** Benessere termoigrometrico

  Descrizione:

  Capacità del materiale o del componente di garantire il mantenimento delle condizioni apprezzate dagli occupanti gli ambienti, nei limiti dei parametri statistici di accettabilità.

  Livello minimo di prestazioni:

  Stabilito dagli occupanti gli ambienti.

- **Classe di requisito:** Estetici

  Descrizione:

  Capacità del materiale o del componente di mantenere inalterato l'aspetto esteriore.

  Livello minimo di prestazioni:

  Garantire uniformità delle eventuali modificazioni dell'aspetto, senza compromettere requisiti funzionali.

- **Classe di requisito:** Resistenza meccanica

  Descrizione:

  Capacità del materiale di rimanere integro e non mostrare deformazioni rilevanti sotto l'azione di sollecitazioni superiori a quelle di progetto.

  Livello minimo di prestazioni:

  Stabilito in funzione del materiale dalle norme UNI o da prescrizioni normative riportate sul capitolato speciale d'appalto.

- **Classe di requisito:** Struttura - resistenza meccanica e stabilità

  Descrizione:

  Capacità dell'opera di sopportare i carichi prevedibili senza dar luogo a crollo totale o parziale, deformazioni inammissibili, deterioramenti di sue parti o degli impianti fissi, danneggiamenti anche conseguenti ad eventi accidentali ma comunque prevedibili.

  Livello minimo di prestazioni:

  Stabilito dal progettista in fase di progetto e dichiarato sulla relazione generale di progetto in funzione della concezione strutturale dell'opera e della vita utile stabilita per la struttura.

  Norme:

  D.M. 17/01/2018 Norme Tecniche per le costruzioni; DPR 246/93 (Regolamento di attuazione della direttiva in Italia) sui prodotti da costruzione.

- **Classe di requisito:** Struttura-durabilità

  Descrizione:

Capacità di materiali e strutture di conservare le caratteristiche fisiche e meccaniche dei materiali e delle strutture si ottiene utilizzando materiali di ridotto degrado ovvero con dimensioni strutturali maggiorate necessarie a compensare il deterioramento prevedibile dei materiali durante la vita utile di progetto ovvero mediante procedure di manutenzione programmata.

Livello minimo di prestazioni:

Stabilito dal progettista in funzione della vita utile indicata per l'edificio, delle condizioni ambientali e delle caratteristiche dei materiali messi in opera nonché delle dimensioni minime degli elementi.

Norme:

Linee guida calcestruzzo strutturale-Consiglio Superiore LLPP; DPR 246/93 (Regolamento di attuazione della direttiva in Italia) sui prodotti da costruzione.

[2.2] Anomalie riscontrabili

- **Descrizione:** Alterazione finitura superficiale

  Guasti, alterazioni ed irregolarità visibili:

  Variazione del livello qualitativo della finitura superficiale.

  Effetto ed inconvenienti:

  Incremento della porosità e rugosità della superficie, diminuzione della lucidatura, variazione cromatica, aspetto degradato.

  Cause possibili:

  Assenza di adeguato trattamento protettivo, ambiente particolarmente umido, polvere.

  Criterio di interventi:

  Lucidatura, verniciatura.

- **Descrizione:** Danneggiamento

  Guasti, alterazioni ed irregolarità visibili:

  Diminuzione più o meno grave ed evidente di efficienza e di consistenza di un elemento.

  Effetto ed inconvenienti:

  Presenza di lesioni, aspetto degradato.

  Cause possibili:

  Cause accidentali, atti di vandalismo..

  Criterio di interventi:

  Sostituzione

- **Descrizione:** Danneggiamento 1

  Guasti, alterazioni ed irregolarità visibili:

  Diminuzione più o meno grave ed evidente di efficienza e di consistenza di un elemento.

  Effetto ed inconvenienti:

  Presenza di lesioni, aspetto degradato.

  Cause possibili:

  Cause accidentali, atti di vandalismo..

  Criterio di interventi:

  Ripristino dello strato di protezione

- **Descrizione:** Lesione

  Guasti, alterazioni ed irregolarità visibili:

  Rottura che si manifesta in una qualsiasi struttura quando lo sforzo a cui è

sottoposta supera la
resistenza corrispondente del materiale.
Effetto ed inconvenienti:
Fenditure interne più o meno ramificate (es. lesione isolata, diffusa, a croce, cantonale, a martello,
verticale, a 45°, ecc.) e profonde (es. lesione capillare, macroscopica, ecc.). Scheggiatura e
sfarinatura mensola del davanzale, pericolo per l'utenza per possibili cadute di frammenti..
Cause possibili:
Assestamento differenziale delle fondazioni per cedimenti del terreno (es. traslazione verticale,
traslazione orizzontale, rotazione), schiacciamento per carico localizzato, schiacciamento dovuto al
peso proprio, ritiro dell'intonaco per granulometria troppo piccola dell'inerte o per eccesso di
legante, cicli di gelo e disgelo, penetrazione di acqua.
Criterio di interventi:
Ispezione tecnico specializzato, ripristino integrità blocchi.

- **Descrizione:** Macchia
Guasti, alterazioni ed irregolarità visibili:
Alterazione cromatica.
Effetto ed inconvenienti:
Modificazione circoscritta dell'aspetto con formazione di striature e chiazze identificabili per
variazione di lucentezza, colore ed intensità, possibile sporcamento dell'utenza, erosione
superficiale, aspetto degradato.
Cause possibili:
Apposizione di scritte e penetrazione di sostanze macchianti dovuta a: atti di vandalismo, scarsa
sorveglianza, assenza di un trattamento preventivo antiaffissione.
Criterio di interventi:
Pulizia, verniciatura della base in ghisa.

- **Descrizione:** Rottura 1
Guasti, alterazioni ed irregolarità visibili:
Menomazione dell'integrità di un elemento muratura e danneggiamento grave.
Effetto ed inconvenienti:
Perdita della capacità portante, mancato isolamento acustico, aspetto degradato.
Cause possibili:
Cause accidentali, atti di vandalismo.
Criterio di interventi:
Sostituzione parziale e ripristino

- **Descrizione:** Umidità
Guasti, alterazioni ed irregolarità visibili:
Presenza più o meno accentuata di vapore acqueo.
Effetto ed inconvenienti:
Chiazze di umidità interne. Condensa. Variazione di microclima interno. Presenza di
microrganismi o organismi (es. funghi, muffe, insetti, ecc.), diminuzione della resistenza al calore
dei locali.
Cause possibili:

Infiltrazione verticale dal tetto. Infiltrazione di acqua in risalita dalla falda freatica o da acque disperse (dispersione da fogne e tubazioni, errato smaltimento acque meteoriche).

Criterio di interventi:
Ispezione tecnico specializzato.

3-Controlli e manutenzione

[3.1] Controlli

- **Dati generali**
  Descrizione: Attraverso uso di strumenti
  Modalità di ispezione:
  Utilizzo di strumenti provvisti di sonde che determinano, l'eventuale mancanza.
  Tempistica
  Frequenza: 6 mesi
  Periodo consigliato:…
  Nota per il controllo:…
  Esecutore: Personale specializzato (Vetraio)

Prestazioni da verificare

Benessere termoigrometrico (Macchia, Umidità)

- **Dati generali**
  Descrizione: Strutturale
  Modalità di ispezione:
  Verifica integrità della struttura.
  Tempistica
  Frequenza: 10 anni
  Periodo consigliato:…
  Nota per il controllo:…
  Esecutore: Personale specializzato

Prestazioni da verificare

Struttura - resistenza meccanica e stabilità (Danneggiamento 1, Lesione, Rottura 1)

Struttura - durabilità (Danneggiamento 1, Lesione, Rottura 1)

- **Dati generali**
  Descrizione: Visiva sull'elemento tecnico
  Modalità di ispezione:
  Necessita valutare se sulla superficie via si una alterazione della finitura.
  Inoltre bisogna valutare se la superficie presenta macchie di umidità.
  Determinazione di eventuale distacco di elementi.
  Tempistica
  Frequenza: quando occorre
  Periodo consigliato:…
  Nota per il controllo:…
  Esecutore: Utente

Prestazioni da verificare

Estetici (Alterazione della finitura, Danneggiamento , Macchia)
Resistenza meccanica (Danneggiamento)
Struttura - resistenza meccanica e stabilità (Danneggiamento)
Struttura - durabilità (Danneggiamento)

[3.2] Manutenzione

- **Descrizione:** Pulizia
  Modalità di esecuzione:
  Asportazione di polvere su blocchi e giunti, eseguita attraverso lavaggio a fondo con acqua e detergenti neutri (al fine di non asportare la finitura superficiale per corrosione

del materiale)

specifici per il materiale lapideo in oggetto. Smacchiatura delle lastre, attraverso l'applicazione di

prodotti specifici e tecniche, compatibili con le caratteristiche del materiale.

Tempistica

Frequenza: 5 anni

Periodo consigliato: …

Nota per la manutenzione: Estivo

Esecutore: Personale specializzato (Impresa specializzata)

Attrezzature necessarie: D.P.I., ponteggio esterno, piattaforma idraulica, trabattello, scala,

idropulitrice.

Disturbi: Possibili interruzioni traffico veicolare e pedonale.

- **Descrizione:** Sostituzione

Modalità di esecuzione:

Rinnovo parziale dei blocchi in pietra totalmente usurati con altri dello stesso tipo (meglio se

prelevati in cave della stessa zona), usando la tecnica del scuci e cuci.

Tempistica

Frequenza: 50 anni

Periodo consigliato: …

Nota per la manutenzione: Estivo

Esecutore: Personale specializzato (Impresa specializzata)

Attrezzature necessarie: D.P.I., ponteggio esterno, piattaforma idraulica, trabattello, scala,

utensili vari.

Disturbi: Possibili interruzioni traffico veicolare e pedonale.

----------[Elemento 3]-

- Struttura in c.a. rivestita-esterna -

Dati generali

Opera :

Unità tecnologica: Strutture

Elemento tecnico: Struttura in c.a. rivestita interna

Descrizione: Elemento strutturale con superficie rivestita posto all'esterno

Tipologia elemento: Struttura in C.A.

Identificazione

Identificazione tecnologica:

Componente:	Classe Materiale:	Note:
Calcestruzzo	Calcestruzzi	
Ferro tondo ad aderenza migliorata	Acciaio	
Paramento	Laterizi, pietre	

Elenco certificazioni/garanzie:

Tipo:	Descrizione:	Rilasciata da:
Certificazione	Certificato di conformità	Centrale di betonaggio
Certificazione	Certificato di conformità	Ferriera
Certificazione	Scheda tecnica	Ditta produttrice
Certificazione	Collaudo statico della struttura	tecnico terzo rispetto al progetto

1-Istruzioni:

[1.1] Installazione e Gestione

Modalità d'uso corretto:

La parete rivestita del paramento dovrà essere opportunamente trattata con prodotti specifici, a base di acidi dopo aver rimosso tutti i distanziatori per la formazione del copriferro di progetto

Modalità di esecuzione:

Bisogna predisporre un sistema di aggrappo alla struttura al fine di poter posare il paramento; la struttura puntiforme o a setti viene gettata in opera previa formazione di casseri in legno o pannelli dotati di opportuni distanziatori al fine di garantire la formazione del copriferro di progetto.

[1.2] Istruzioni per la dismissione e lo smantellamento

Istruzione per la dismissione e lo smantellamento:

ISTRUZIONI PER LO STOCCAGGIO DELLE MATERIE

accatastare in aree di cantiere protette dalle intemperie al fine di prevenire fenomeni di ossidazione

PROCEDURE PER LO SMALTIMENTO

Secondo le procedure di legge in quanto non assimilabile ai normali RSU; accertarsi che il materiale sia ripulito da materiali di classe diversa; stoccarlo in appositi contenitori per evitarne la dispersione in ambiente.

INDICAZIONI PER IL RICICLAGGIO

Riutilizzabili quale riempimento nell'ambito del cantiere.

Norme di sicurezza per gli interventi di dismissione: …

[1.3] Gestioni emergenze

Danni possibili:

a) Distacco del singolo paramento, o lieve lesione
b) Presenza di colorazione bianca sulla parete
c) Presenza di muffa

Modalità di intervento:

a) Ripristino o sostituzione
b) Trattare la parete con acidi appositi che eliminano la presenza di calcare
c) Rimuovere la superficie per intervenire attraverso un trattamento di impermeabilizzazione

2-Prestazioni e anomalie

[2.1] Prestazioni

- **Classe di requisito:** Estetici

  Descrizione:

  Capacità del materiale o del componente di mantenere inalterato l'aspetto esteriore.

  Livello minimo di prestazioni:

  Garantire uniformità delle eventuali modificazioni dell'aspetto, senza compromettere requisiti funzionali.

- **Classe di requisito:** Resistenza agenti esogeni

  Descrizione:

  Capacità del materiale o del componente di garantire l'invariabilità del tempo delle caratteristiche fissate sul progetto.

  Livello minimo di prestazioni:

  Stabilito in funzione delle condizioni ambientali dalle norme UNI o da prescrizioni normative riportate sul capitolato speciale d'appalto.

- **Classe di requisito:** Resistenza attacchi biologici
  Descrizione:
  Capacità del materiale di resistere agli attacchi di microrganismi o organismi animali e/o vegetali
  che possano alterarne le caratteristiche.
  Livello minimo di prestazioni:
  Variabili in funzione del materiale, delle condizioni di posa nonché della localizzazione rispetto a
  fattori in grado di favorire la proliferazione degli agenti biologici (esposizione, umidità etc).

- **Classe di requisito:** Stabilità
  Descrizione:
  Capacità dell'elemento di permetterne l'uso pur in presenza di lesioni.
  Livello minimo di prestazioni:
  Stabilito in funzione del materiale dalle norme UNI o da prescrizioni normative riportate sul
  capitolato speciale d'appalto.

- **Classe di requisito:** Struttura - resistenza meccanica e stabilità
  Descrizione:
  Capacità dell'opera di sopportare i carichi prevedibili senza dar luogo a crollo totale o parziale,
  deformazioni inammissibili, deterioramenti di sue parti o degli impianti fissi, danneggiamenti
  anche conseguenti ad eventi accidentali ma comunque prevedibili.
  Livello minimo di prestazioni:
  Stabilito dal progettista in fase di progetto e dichiarato sulla relazione generale di progetto in
  funzione della concezione strutturale dell'opera e della vita utile stabilita per la struttura.
  Norme:
  D.M. 17/01/2018 Norme Tecniche per le costruzioni; DPR 246/93 (Regolamento di attuazione
  della direttiva in Italia) sui prodotti da costruzione.

- **Classe di requisito:** Struttura-durabilità
  Descrizione:
  Capacità di materiali e strutture di conservare le caratteristiche fisiche e meccaniche dei materiali e
  delle strutture si ottiene utilizzando materiali di ridotto degrado ovvero con dimensioni strutturali
  maggiorate necessarie a compensare il deterioramento prevedibile dei materiali durante la vita utile
  di progetto ovvero mediante procedure di manutenzione programmata.
  Livello minimo di prestazioni:
  Stabilito dal progettista in funzione della vita utile indicata per l'edificio, delle condizioni ambientali
  e delle caratteristiche dei materiali messi in opera nonché delle dimensioni minime degli elementi.
  Norme:
  Linee guida calcestruzzo strutturale-Consiglio Superiore LLPP; DPR 246/93 (Regolamento di
  attuazione della direttiva in Italia) sui prodotti da costruzione.

[2.2] Anomalie riscontrabili

- **Descrizione:** Alterazione finitura superficiale
  Guasti, alterazioni ed irregolarità visibili:
  Variazione del livello qualitativo della finitura superficiale.
  Effetto ed inconvenienti:
  Incremento della porosità e rugosità della superficie, diminuzione della lucidatura, variazione cromatica, aspetto degradato.
  Cause possibili:
  Irraggiamento solare diretto, assenza di adeguato trattamento protettivo.
  Criterio di interventi:
  Sostituzione

- **Descrizione:** Danneggiamento
  Guasti, alterazioni ed irregolarità visibili:
  Diminuzione più o meno grave ed evidente di efficienza e di consistenza di un elemento.
  Effetto ed inconvenienti:
  Presenza di lesioni, aspetto degradato.
  Cause possibili:
  Cause accidentali, atti di vandalismo..
  Criterio di interventi:
  Sostituzione

- **Descrizione:** Efflorescenza
  Guasti, alterazioni ed irregolarità visibili:
  Formazione cristallina di sali solubili sulla superficie dei materiali.
  Effetto ed inconvenienti:
  Distacco, disgregazione.
  Cause possibili:
  Sbalzi termici, umidità, cristallizzazione salina.
  Criterio di interventi:
  Trattamento superficiale con resine specifiche.

- **Descrizione:** Umidità da infiltrazione
  Guasti, alterazioni ed irregolarità visibili:
  Presenza più o meno accentuata di vapore acqueo.
  Effetto ed inconvenienti:
  Chiazze di umidità sull'estradosso della parete.
  Cause possibili:
  Infiltrazione di acqua nella parete.
  Criterio di intervento:
  Contattare tecnico specializzato.

3-Controlli e manutenzione

[3.1] Controlli

- **Dati generali**
  Descrizione: Valutazione attraverso il contatto
  Modalità di ispezione:
  Verificare il colore della superficie. Se il colore e simile al verde si tratta di infiltrazione, se il colore è bianco è calcare.
  Tempistica
  Frequenza: 12 mesi
  Periodo consigliato:…
  Nota per il controllo:…
  Esecutore: Personale specializzato (Operaio qualificato)

Prestazioni da verificare

Estetici (Alterazione finitura superficiale)
Resistenza attacchi biologici (Alterazione finitura superficiale)

- **Dati generali**

Descrizione: Visiva
Modalità di ispezione:
Valutazione sulla superficie esterna per valutare se bisogna intervenire attraverso una sostituzione o meno.
Tempistica
Frequenza: …
Periodo consigliato:…
Nota per il controllo:…
Esecutore: Personale specializzato

Prestazioni da verificare

Estetici (Danneggiamento)
Resistenza agenti esogeni (Efflorescenza)
Resistenza attacchi biologici (Efflorescenza)
Stabilità (Danneggiamento)
Struttura - resistenza meccanica e stabilità (Danneggiamento)
Struttura - durabilità (Danneggiamento)

[3.2] Manutenzione

- **Descrizione:** Ripristino

Modalità di esecuzione:
Nuovo montaggio del paramento.
Tempistica
Frequenza: …
Periodo consigliato: …
Nota per la manutenzione: …
Esecutore: Personale specializzato
Attrezzature necessarie: …
Disturbi: …

- **Descrizione:** Trattamento con prodotti specifici

Modalità di esecuzione:
Se si tatta di infiltrazione bisognerà adoperare prodotti che conferiscono al supporto carattere impermeabilizzante. Se si tratta di calcare bisogna utilizzare degli acidi di modo che si lava la superficie.
Tempistica
Frequenza: 24 mesi
Periodo consigliato: …
Nota per la manutenzione: …
Esecutore: Personale specializzato (Operaio qualificato)
Attrezzature necessarie: ….
Disturbi: …

----------**[Elemento 4]**-

- Struttura in c.a. fondazioni-

Dati generali

Opera :

Unità tecnologica: Strutture

Elemento tecnico: Struttura in c.a. fondazioni

Descrizione: Opere in c.a. necessarie a ripartire i carichi di progetto sul terreno di base; realizzate con elementi
gettati in opera di opportune dimensioni atte a trasmettere i carichi di progetto, verticali ed orizzontali, come
definiti dalle norme proprie dell'opera da realizzare e comunque sul progetto.

Tipologia elemento: Struttura in C.A.

Identificazione

Identificazione tecnologica:

Componente:	Classe Materiale:	Note:
Cemento, acqua, inerte	Calcestruzzi	
Ferro tondo ad aderenza migliorata	Acciaio	

Elenco certificazioni/garanzie:

Tipo:	Descrizione:	Rilasciata da:
Certificazione	Dichiarazione di conformità	Ferriera
Certificazione	Dichiarazione di conformità	Centrale di betonaggio
Certificazione	collaudo strutturale	tecnico terzo rispetto al progetto

1-Istruzioni:

[1.1] Installazione e Gestione

Modalità d'uso corretto:

E' opportuno che la struttura non venga modificata nella sua natura e nelle sue sezioni, in relazione a
quanto predisposto dal progettista. Deve essere sottoposta ai carichi per cui è stata progettata.

Modalità di esecuzione:

Assemblaggio armatura di confezionamento, realizzazione di casseratura opportunamente trattata con
disarmante. Utilizzo di legname e/o pannelli non deteriorati, e di distanziatori e quant'altro occorrente
per dare l'opera finita secondo quanto detta la buona norma. Durante il getto del cls, si richiede l'uso
del vibratore.

[1.2] Istruzioni per la dismissione e lo smantellamento

Istruzione per la dismissione e lo smantellamento:

ISTRUZIONI PER LO STOCCAGGIO DELLE MATERIE
Realizzare la separazione tra l'armatura dall'inerte.
Utilizzare l'inerte come riempimento.
INDICAZIONI PER IL RICICLAGGIO
Riutilizzabili quale riempimento nell'ambito del cantiere

Norme di sicurezza per gli interventi di dismissione:

Si richiede che l'operatore in fase di dismissione sia dotato degli opportuni DPI.

[1.3] Gestioni emergenze

Danni possibili:…

Modalità di intervento: …

2-Prestazioni e anomalie

[2.1] Prestazioni

- **Classe di requisito:** Stabilità

  Descrizione:

  Capacità dell'elemento di permetterne l'uso pur in presenza di lesioni.

Livello minimo di prestazioni:
Stabilito in funzione del materiale dalle norme UNI o da prescrizioni normative riportate sul capitolato speciale d'appalto.
Norme:
D.M. 17 gennaio 2018

- **Classe di requisito:** Struttura - resistenza meccanica e stabilità
Descrizione:
Capacità dell'opera di sopportare i carichi prevedibili senza dar luogo a crollo totale o parziale, deformazioni inammissibili, deterioramenti di sue parti o degli impianti fissi, danneggiamenti anche conseguenti ad eventi accidentali ma comunque prevedibili.
Livello minimo di prestazioni:
Stabilito dal progettista in fase di progetto e dichiarato sulla relazione generale di progetto in funzione della concezione strutturale dell'opera e della vita utile stabilita per la struttura.
Norme:
D.M. 17/01/2018 Norme Tecniche per le costruzioni; DPR 246/93 (Regolamento di attuazione della direttiva in Italia) sui prodotti da costruzione.

- **Classe di requisito:** Struttura-durabilità
Descrizione:
Capacità di materiali e strutture di conservare le caratteristiche fisiche e meccaniche dei materiali e delle strutture si ottiene utilizzando materiali di ridotto degrado ovvero con dimensioni strutturali maggiorate necessarie a compensare il deterioramento prevedibile dei materiali durante la vita utile di progetto ovvero mediante procedure di manutenzione programmata.
Livello minimo di prestazioni:
Stabilito dal progettista in funzione della vita utile indicata per l'edificio, delle condizioni ambientali e delle caratteristiche dei materiali messi in opera nonché delle dimensioni minime degli elementi.
Norme:
Linee guida calcestruzzo strutturale-Consiglio Superiore LLPP; DPR 246/93 (Regolamento di attuazione della direttiva in Italia) sui prodotti da costruzione.

[2.2] Anomalie riscontrabili

- **Descrizione:** Corrosione
Guasti, alterazioni ed irregolarità visibili:
Degradazione che implica l'evolversi di un processo chimico; rigonfiamenti del copriferro.
Effetto ed inconvenienti:
Distacco del copriferro e lesioni in corrispondenza all'attacco degli elementi verticali portanti insistenti sulla fondazione con formazione di striature di ruggine per colature, aspetto degradato.
Cause possibili:
Fattori esterni (ambientali o climatici), incompatibilità dei materiali e dei componenti,

mancata/carente/cattiva manutenzione, cause accidentali.
Criterio di intervento:
Rimozione delle parti di calcestruzzo ammalorato, rimozione della ruggine con energica spazzolatura, protezione con idoneo passivante e ricostruzione dei copriferri..

- **Descrizione:** Danneggiamento
Guasti, alterazioni ed irregolarità visibili:
Diminuzione più o meno grave ed evidente di efficienza e di consistenza di un elemento ..
Effetto ed inconvenienti:
Presenza di lesioni, aspetto degradato.
Cause possibili:
Cause accidentali, atti di vandalismo..
Criterio di intervento:
Rimozione delle parti di calcestruzzo ammalorato, rimozione della ruggine con energica spazzolatura, protezione con idoneo passivante e ricostruzione dei copriferri.

- **Descrizione:** Deformazione
Guasti, alterazioni ed irregolarità visibili:
Alterazione duratura dell'aspetto e della configurazione, misurabile dalla variazione delle distanze tra i suoi punti.
Effetto ed inconvenienti:
Inflessione visibile, rigonfiamenti, distacchi, lesioni.
Cause possibili:
Presenza di carichi superiori a quelli di calcolo, cedimenti al di sotto del piano di posa.
Criterio di intervento:
Rimozione di carichi e/o ripristino strutturale, progettazione di rinforzi, sottofondazioni locali, eliminazione delle cause delle eventuali modifiche geomorfologiche del terreno.

- **Descrizione:** Lesione
Guasti, alterazioni ed irregolarità visibili:
Rottura che si manifesta in una qualsiasi struttura quando lo sforzo a cui è sottoposta supera la resistenza corrispondente del materiale.
Effetto ed inconvenienti:
Fenditure interne più o meno ramificate (es. lesione isolata, diffusa, a croce, cantonale, a martello, verticale, a 45°, ecc.) e profonde (es. lesione capillare, macroscopica, ecc.).
Cause possibili:
Assestamento differenziale delle fondazioni per cedimenti del terreno (es. traslazione verticale, traslazione orizzontale, rotazione). Schiacciamento per carico localizzato. Schiacciamento dovuto al peso proprio. Ritiro dell'intonaco per granulometria troppo piccola dell'inerte o per eccesso di legante. Cicli di gelo e disgelo. Penetrazione di acqua.
Criterio di intervento:
Ispezione tecnico specializzato, progettazione di rinforzi, sottofondazioni locali, eliminazione delle cause delle eventuali modifiche geomorfologiche del terreno

- **Descrizione:** Rottura
  Guasti, alterazioni ed irregolarità visibili:
  Menomazione dell'integrità di un elemento e danneggiamento grave.
  Effetto ed inconvenienti:
  Perdita delle capacità portanti, aspetto degradato.
  Cause possibili:
  Cause accidentali, atti di vandalismo, superamento dei carichi di progetto, cambiamenti delle condizioni locali del terreno di fondazione - variazioni del livello di falda,delle condizioni meccaniche del terreno
  Criterio di intervento:
  progettazione di rinforzi, sottofondazioni locali, eliminazione delle cause delle eventuali modifiche geomorfologiche del terreno

3-Controlli e manutenzione

[3.1] Controlli

- **Dati generali**
  Descrizione: Controllo con strumento
  Modalità di ispezione:
  Verificare con lo strumento quale sia la classe di resistenza e confrontarla con quanto riportato in relazione di calcolo. Fare più valutazioni a campione di modo che si possa avere un valore medio.
  Tempistica
  Frequenza: quando occorre
  Periodo consigliato:…
  Nota per il controllo:…
  Esecutore: Personale specializzato (Tecnico specializzato)
  Prestazioni da verificare
  Stabilità (Danneggiamento, Rottura)
  Struttura - Resistenza Meccanica (Lesione, Danneggiamento, Corrosione, Deformazione)

- **Dati generali**
  Descrizione: Ispezione visiva
  Modalità di ispezione:
  Valutazione della lesione, in termini di dimensione e andamento o della situazione che ha messo a nudo porzioni della fondazione
  Tempistica
  Frequenza: quando occorre
  Periodo consigliato:…
  Nota per il controllo: …
  Esecutore: Utente
  Prestazioni da verificare
  Stabilità (Danneggiamento, Rottura)
  Struttura - Resistenza Meccanica (Lesione, Deformazione)

- **Dati generali**
  Descrizione: Strutturale
  Modalità di ispezione:
  Verifica integrità della struttura.
  Tempistica
  Frequenza: 10 anni
  Periodo consigliato:…

Nota per il controllo: …

Esecutore: Personale specializzato (Tecnico specializzato)

Prestazioni da verificare

Stabilità (Danneggiamento, Rottura, Deformazione)

[3.2] Manutenzione

- **Descrizione:** Resine bicomponenti

  Modalità di esecuzione:

  Utilizzo di resine bicomponenti, al fine di ripristinare l'eventuale lesione e riconferire alla struttura le caratteristiche statiche iniziali.

  Tempistica

  Frequenza: quando occorre

  Periodo consigliato: …

  Nota per la manutenzione: …

  Esecutore: Personale specializzato (Tecnico specializzato)

  Disturbi: …

- **Descrizione:** Ripristino

  Modalità di esecuzione:

  Eventuali lavori di ripristino integrità del materiale attraverso: applicazione di stucchi specifici sulle lesioni; trattamento superficiale con resine specifiche per il fenomeno dell'efflorescenza; stilatura giunti con malta cementizia.

  Tempistica

  Frequenza: quando occorre

  Periodo consigliato: …

  Nota per la manutenzione: …

  Esecutore: Personale specializzato (Impresa specializzata)

  Disturbi: Possibili interruzioni traffico veicolare e pedonale.

- **Descrizione:** Utilizzo di malte

  Modalità di esecuzione:

  Stesa di malte del tipo tixotropica, epossidica, o primer.

  Tempistica

  Frequenza: quando occorre

  Periodo consigliato: …

  Nota per la manutenzione:…

  Esecutore: Personale specializzato (Operaio specializzato)

  Disturbi: Impossibilità di transitare in adiacenza all'area d'intervento.

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

RELAZIONE GEOTECNICA E SULLE FONDAZIONI

(PLICO A9)

BARLETTA 23/11/2020

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T001_ID023).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 5							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-7 Nodo 4							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-10 Nodo 3							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-7 Nodo 4							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-10 Nodo 3							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-7 Nodo 4							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-10 Nodo 3							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	14082300	36400	SI (14082300/36400 > 100)	17635580	43680	SI (17635580/43680 > 100)
2-1	8549200	223750	SI (8549200/223750 = 38.21 >= 1.0)	10825830	268500	SI (10825830/268500 = 40.32 >= 1.0)
3-1	8783290	705550	SI (8783290/705550 = 12.45 >= 1.0)	11106730	846660	SI (11106730/846660 = 13.12 >= 1.0)
4-1	8568260	244400	SI (8568260/244400 = 35.06 >= 1.0)	10848700	293280	SI (10848700/293280 = 36.99 >= 1.0)
5-1	8849650	774400	SI (8849650/774400 = 11.43 >= 1.0)	11186360	929280	SI (11186360/929280 = 12.04 >= 1.0)

6-1	8588850	266730	SI (8588850/266730 = 32.20 >= 1.0)	10873400	320080	SI (10873400/320080 = 33.97 >= 1.0)
7-1	8921320	848780	SI (8921320/848780 = 10.51 >= 1.0)	11272370	1018530	SI (11272370/1018530 = 11.07 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	293926.4	1403625.7	SI (1403625.7/293926.4 = 4.78 >= 1.0)	293926.4	2508394.7	SI (2508394.7/293926.4 = 8.53 >= 1.0)
2-1	180430.4	1366596.6	SI (1366596.6/180430.4 = 7.57 >= 1.0)	180430.4	3108133.8	SI (3108133.8/180430.4 = 17.23 >= 1.0)
3-1	185112.1	1144124	SI (1144124/185112.1 = 6.18 >= 1.0)	185112.1	2950008.9	SI (2950008.9/185112.1 = 15.94 >= 1.0)
4-1	180811.6	1356293.8	SI (1356293.8/180811.6 = 7.50 >= 1.0)	180811.6	3101313.8	SI (3101313.8/180811.6 = 17.15 >= 1.0)
5-1	186439.4	1116785.8	SI (1116785.8/186439.4 = 5.99 >= 1.0)	186439.4	2928696.1	SI (2928696.1/186439.4 = 15.71 >= 1.0)
6-1	181223.3	1218157.5	SI (1218157.5/181223.3 = 6.72 >= 1.0)	181223.3	2443868.2	SI (2443868.2/181223.3 = 13.49 >= 1.0)
7-1	187872.8	985493.4	SI (985493.4/187872.8 = 5.25 >= 1.0)	187872.8	2295309.2	SI (2295309.2/187872.8 = 12.22 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	728	174867.2	SI (174867.2/728 = 240.20 >=	728	1033840.1	SI (1033840.1/728 = 1 420.11

			1.0)			>= 1.0)
2-1	4475	117950.3	SI (117950.3/4475 = 26.36 >= 1.0)	4475	854766.1	SI (854766.1/4475 = 191.01 >= 1.0)
3-1	14111	119648.3	SI (119648.3/14111 = 8.48 >= 1.0)	14111	840044.7	SI (840044.7/14111 = 59.53 >= 1.0)
4-1	4888	118088.6	SI (118088.6/4888 = 24.16 >= 1.0)	4888	854127.3	SI (854127.3/4888 = 174.74 >= 1.0)
5-1	15488	120129.7	SI (120129.7/15488 = 7.76 >= 1.0)	15488	838085.9	SI (838085.9/15488 = 54.11 >= 1.0)
6-1	5334.7	118237.9	SI (118237.9/5334.7 = 22.16 >= 1.0)	5334.7	853439.3	SI (853439.3/5334.7 = 159.98 >= 1.0)
7-1	16975.5	120649.6	SI (120649.6/16975.5 = 7.11 >= 1.0)	16975.5	836000.8	SI (836000.8/16975.5 = 49.25 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 3280 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-728	0	-293926.39	0	0	0	0	60
2-1	-4475	0	-180430.42	0	0	0	0	60
3-1	-14111	0	-185112.15	0	0	0	0	60
4-1	-4888	0	-180811.63	0	0	0	0	60
5-1	-15488	0	-186439.38	0	0	0	0	60
6-1	-5334.67	0	-181223.33	0	0	0	0	60
7-1	-16975.51	0	-187872.79	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								

Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-728	0	-293926.39	0	-43680	-	-	-
2-1	-4475	0	-180430.42	0	-268500	-	-	-
3-1	-14111	0	-185112.15	0	-846660	-	-	-
4-1	-4888	0	-180811.63	0	-293280	-	-	-
5-1	-15488	0	-186439.38	0	-929280	-	-	-
6-1	-5334.67	0	-181223.33	0	-320080	-	-	-
7-1	-16975.51	0	-187872.79	0	-1018531	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 5.42 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.15	0	asse X	asse Y
2-1	1.49	0	asse X	asse Y
3-1	4.57	0	asse X	asse Y
4-1	1.62	0	asse X	asse Y
5-1	4.98	0	asse X	asse Y
6-1	1.77	0	asse X	asse Y
7-1	5.42	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 903.8	131.8	generale
2-1	1 916.5	131.9	generale
3-1	1 946.4	132.1	generale
4-1	1 917.8	131.9	generale
5-1	1 950.4	132.1	generale
6-1	1 919.2	131.9	generale
7-1	1 954.7	132.1	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.01	1.00	0.99	1.00	1.00	1.00	1.00	-	2.21
2-1	-	-	29	0.001	19.34	1.01	1.00	0.93	1.00	1.00	1.00	1.00	0.76	1.53

				9										
3-1	-	-	29	0.0019	19.34	1.01	1.00	0.79	1.00	1.00	1.00	1.00	0.76	1.23
4-1	-	-	29	0.0019	19.34	1.01	1.00	0.92	1.00	1.00	1.00	1.00	0.76	1.51
5-1	-	-	29	0.0019	19.34	1.01	1.00	0.77	1.00	1.00	1.00	1.00	0.76	1.19
6-1	-	-	29	0.0019	19.34	1.01	1.00	0.92	1.00	1.00	1.00	1.00	0.93	1.83
7-1	-	-	29	0.0019	19.34	1.01	1.00	0.75	1.00	1.00	1.00	1.00	0.93	1.41

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]
1-1	1.00	0	27.86	1.02	1.28	0.99	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.02	1.28	0.95	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.02	1.29	0.85	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.02	1.28	0.94	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.02	1.29	0.83	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.02	1.29	0.94	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.02	1.30	0.82	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.01	1.26	1.00	1.00	1.00	1.00	1.00	-	5.66
2-1	0.27	16.44	1.01	1.27	0.95	1.00	1.00	1.00	1.00	0.86	4.67
3-1	0.27	16.44	1.01	1.27	0.86	1.00	1.00	1.00	1.00	0.86	4.22
4-1	0.27	16.44	1.01	1.27	0.95	1.00	1.00	1.00	1.00	0.86	4.65
5-1	0.27	16.44	1.01	1.28	0.84	1.00	1.00	1.00	1.00	0.86	4.16
6-1	0.27	16.44	1.01	1.27	0.94	1.00	1.00	1.00	1.00	0.96	5.15
7-1	0.27	16.44	1.01	1.28	0.83	1.00	1.00	1.00	1.00	0.96	4.56

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.57	392625.13	1403625.7	293926.4	SI (1403625.7/293926.4 = 4.78 >= 1.0)
2-1	1.80	3.56	383838.01	1366596.6	180430.4	SI (1366596.6/180430.4 = 7.57 >= 1.0)
3-1	1.80	3.15	363596.08	1144124	185112.1	SI (1144124/185112.1 = 6.18 >= 1.0)
4-1	1.80	3.54	382959.55	1356293.8	180811.6	SI

						(1356293.8/180811.6 = 7.50 >= 1.0)
5-1	1.80	3.09	360902.63	1116785.8	186439.4	SI (1116785.8/186439.4 = 5.99 >= 1.0)
6-1	2.30	3.19	382013.6	1218157.5	181223.3	SI (1218157.5/181223.3 = 6.72 >= 1.0)
7-1	2.30	2.75	358035.72	985493.4	187872.8	SI (985493.4/187872.8 = 5.25 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	106604.31	68262.86
2-1	-	-	29	0	21.7	0	1.10	1.30	65440.4	52509.89
3-1	-	-	29	0	21.7	0	1.10	1.30	67138.42	52509.89
4-1	-	-	29	0	21.7	0	1.10	1.30	65578.66	52509.89
5-1	-	-	29	0	21.7	0	1.10	1.30	67619.79	52509.89
6-1	-	-	29	0	21.7	0	1.10	1.30	65727.98	52509.89
7-1	-	-	29	0	21.7	0	1.10	1.30	68139.68	52509.89

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	174867.2	728	SI (174867.2/728 = 240.20 >= 1.0)
2-1	117950.3	4475	SI (117950.3/4475 = 26.36 >= 1.0)
3-1	119648.3	14111	SI (119648.3/14111 = 8.48 >= 1.0)
4-1	118088.6	4888	SI (118088.6/4888 = 24.16 >= 1.0)

5-1	120129.7	15488	SI (120129.7/15488 = 7.76 >= 1.0)
6-1	118237.9	5334.7	SI (118237.9/5334.7 = 22.16 >= 1.0)
7-1	120649.6	16975.5	SI (120649.6/16975.5 = 7.11 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-728	0	-293926.39	0	0	0	0	60
2-1	-4475	0	-180430.42	0	0	0	0	60
3-1	-14111	0	-185112.15	0	0	0	0	60
4-1	-4888	0	-180811.63	0	0	0	0	60
5-1	-15488	0	-186439.38	0	0	0	0	60
6-1	-5334.67	0	-181223.33	0	0	0	0	60
7-1	-16975.51	0	-187872.79	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-728	0	-293926.39	0	-43680	-	-	-
2-1	-4475	0	-180430.42	0	-268500	-	-	-
3-1	-14111	0	-185112.15	0	-846660	-	-	-
4-1	-4888	0	-180811.63	0	-293280	-	-	-
5-1	-15488	0	-186439.38	0	-929280	-	-	-
6-1	-5334.67	0	-181223.33	0	-320080	-	-	-
7-1	-16975.51	0	-187872.79	0	-1018531	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 5.42 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.15	0	asse X	asse Y
2-1	1.49	0	asse X	asse Y
3-1	4.57	0	asse X	asse Y
4-1	1.62	0	asse X	asse Y
5-1	4.98	0	asse X	asse Y
6-1	1.77	0	asse X	asse Y
7-1	5.42	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.01	1.36	1.00	1.00	1.00	1.00	0	14.07	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.36	1.00	1.00	1.00	1.00	0	14.09	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.01	1.37	0.99	1.00	1.00	1.00	0	14.12	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.36	1.00	1.00	1.00	1.00	0	14.09	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.01	1.38	0.99	1.00	1.00	1.00	0	14.12	0.27
6-1	-	-	2	0.0019	0.27	5.14	1.01	1.36	1.00	1.00	1.00	1.00	0	14.09	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.01	1.38	0.99	1.00	1.00	1.00	0	14.12	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.39	392625.13	2508394.7	293926.4	SI (2508394.7/293926.4 = 8.53 >= 1.0)
2-1	1.80	8.1	383838.01	3108133.8	180430.4	SI (3108133.8/180430.4 = 17.23 >= 1.0)
3-1	1.80	8.11	363596.08	2950008.9	185112.1	SI (2950008.9/185112.1 = 15.94 >= 1.0)
4-1	1.80	8.1	382959.55	3101313.8	180811.6	SI

						(3101313.8/180811.6 = 17.15 >= 1.0)
5-1	1.80	8.11	360902.63	2928696.1	186439.4	SI (2928696.1/186439.4 = 15.71 >= 1.0)
6-1	2.30	6.4	382013.6	2443868.2	181223.3	SI (2443868.2/181223.3 = 13.49 >= 1.0)
7-1	2.30	6.41	358035.72	2295309.2	187872.8	SI (2295309.2/187872.8 = 12.22 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	$\boldsymbol{R_h}$ [daN]	$\boldsymbol{R_e}$ [daN]
1-1	1.00	2	0.8	1.10	1.00	285545.55	748294.6
2-1	-	2	0.8	1.10	1.30	279154.92	575611.23
3-1	-	2	0.8	1.10	1.30	264433.51	575611.23
4-1	-	2	0.8	1.10	1.30	278516.04	575611.23
5-1	-	2	0.8	1.10	1.30	262474.64	575611.23
6-1	-	2	0.8	1.10	1.30	277828.07	575611.23
7-1	-	2	0.8	1.10	1.30	260389.61	575611.23

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	$\boldsymbol{R_d}$ [daN]	$\boldsymbol{E_d}$ [daN]	Verifica
1-1	1033840.1	728	SI (1033840.1/728 = 1420.11 >= 1.0)
2-1	854766.1	4475	SI (854766.1/4475 = 191.01 >= 1.0)
3-1	840044.7	14111	SI (840044.7/14111 = 59.53 >= 1.0)
4-1	854127.3	4888	SI (854127.3/4888 = 174.74 >= 1.0)
5-1	838085.9	15488	SI (838085.9/15488 = 54.11 >= 1.0)
6-1	853439.3	5334.7	SI (853439.3/5334.7 = 159.98 >= 1.0)
7-1	836000.8	16975.5	SI (836000.8/16975.5 = 49.25 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T002_ID024).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 11							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-7 Nodo 11							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-10 Nodo 11							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-7 Nodo 11							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-10 Nodo 11							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-7 Nodo 11							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-10 Nodo 11							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	1199320	26350	SI (1199320/26350 = 45.52 >= 1.0)	1531290	31620	SI (1531290/31620 = 48.43 >= 1.0)
2-1	801940	140550	SI (801940/140550 = 5.71 >= 1.0)	1033180	168660	SI (1033180/168660 = 6.13 >= 1.0)
3-1	795710	356600	SI (795710/356600 = 2.23 >= 1.0)	1025700	427920	SI (1025700/427920 = 2.40 >= 1.0)
4-1	803160	153150	SI (803160/153150 = 5.24 >= 1.0)	1034650	183780	SI (1034650/183780 = 5.63 >= 1.0)
5-1	796310	390800	SI (796310/390800 = 2.04 >= 1.0)	1026420	468960	SI (1026420/468960 = 2.19 >= 1.0)

6-1	804490	166740	SI (804490/166740 = 4.82 >= 1.0)	1036230	200080	SI (1036230/200080 = 5.18 >= 1.0)
7-1	796960	427720	SI (796960/427720 = 1.86 >= 1.0)	1027200	513260	SI (1027200/513260 = 2.00 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	25521.5	176946.2	SI (176946.2/25521.5 = 6.93 >= 1.0)	25521.5	322815.9	SI (322815.9/25521.5 = 12.65 >= 1.0)
2-1	17219.6	113308	SI (113308/17219.6 = 6.58 >= 1.0)	17219.6	350552.7	SI (350552.7/17219.6 = 20.36 >= 1.0)
3-1	17095	38299.1	SI (38299.1/17095 = 2.24 >= 1.0)	17095	242998.1	SI (242998.1/17095 = 14.21 >= 1.0)
4-1	17244.1	107390.7	SI (107390.7/17244.1 = 6.23 >= 1.0)	17244.1	344577.7	SI (344577.7/17244.1 = 19.98 >= 1.0)
5-1	17107	31247.7	SI (31247.7/17107 = 1.83 >= 1.0)	17107	225668.3	SI (225668.3/17107 = 13.19 >= 1.0)
6-1	17270.5	91685.9	SI (91685.9/17270.5 = 5.31 >= 1.0)	17270.5	266968.9	SI (266968.9/17270.5 = 15.46 >= 1.0)
7-1	17120	22895.2	SI (22895.2/17120 = 1.34 >= 1.0)	17120	163297.4	SI (163297.4/17120 = 9.54 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	527	17489.2	SI (17489.2/527 = 33.19 >=	527	124938	SI (124938/527 = 237.07 >=

			1.0)			1.0)
2-1	2811	12578.3	SI (12578.3/2811 = 4.47 >= 1.0)	2811	99090.7	SI (99090.7/2811 = 35.25 >= 1.0)
3-1	7132	12533.1	SI (12533.1/7132 = 1.76 >= 1.0)	7132	90003.8	SI (90003.8/7132 = 12.62 >= 1.0)
4-1	3063	12587.2	SI (12587.2/3063 = 4.11 >= 1.0)	3063	98576.1	SI (98576.1/3063 = 32.18 >= 1.0)
5-1	7816	12537.4	SI (12537.4/7816 = 1.60 >= 1.0)	7816	88583.6	SI (88583.6/7816 = 11.33 >= 1.0)
6-1	3334.7	12596.8	SI (12596.8/3334.7 = 3.78 >= 1.0)	3334.7	98022.9	SI (98022.9/3334.7 = 29.39 >= 1.0)
7-1	8554.3	12542.1	SI (12542.1/8554.3 = 1.47 >= 1.0)	8554.3	87052.7	SI (87052.7/8554.3 = 10.18 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 410 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-527	0	-25521.5	0	0	0	0	60
2-1	-2811	0	-17219.63	0	0	0	0	60
3-1	-7132	0	-17094.99	0	0	0	0	60
4-1	-3063	0	-17244.1	0	0	0	0	60
5-1	-7816	0	-17107	0	0	0	0	60
6-1	-3334.72	0	-17270.53	0	0	0	0	60
7-1	-8554.35	0	-17119.97	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-527	0	-25521.5	0	-31620	-	-	-
2-1	-2811	0	-17219.63	0	-168660	-	-	-
3-1	-7132	0	-17094.99	0	-427920	-	-	-
4-1	-3063	0	-17244.1	0	-183780	-	-	-
5-1	-7816	0	-17107	0	-468960	-	-	-

6-1	-3334.72	0	-17270.53	0	-200083	-	-	-
7-1	-8554.35	0	-17119.97	0	-513261	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 29.98 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	1.24	0	asse X	asse Y
2-1	9.79	0	asse X	asse Y
3-1	25.03	0	asse X	asse Y
4-1	10.66	0	asse X	asse Y
5-1	27.41	0	asse X	asse Y
6-1	11.59	0	asse X	asse Y
7-1	29.98	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 914.2	108.9	generale
2-1	1 999.1	112.4	generale
3-1	2 170.6	119.0	generale
4-1	2 008.1	112.8	generale
5-1	2 200.1	120.0	generale
6-1	2 017.8	113.2	generale
7-1	2 232.8	121.2	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.08	1.00	0.94	1.00	1.00	1.00	1.00	-	2.21
2-1	-	-	29	0.0019	19.34	1.07	1.00	0.61	1.00	1.00	1.00	1.00	0.76	0.91
3-1	-	-	29	0.0019	19.34	1.05	1.00	0.21	1.00	1.00	1.00	1.00	0.76	0.22
4-1	-	-	29	0.0019	19.34	1.07	1.00	0.58	1.00	1.00	1.00	1.00	0.76	0.85
5-1	-	-	29	0.0019	19.34	1.05	1.00	0.17	1.00	1.00	1.00	1.00	0.76	0.17
6-1	-	-	29	0.0019	19.34	1.07	1.00	0.55	1.00	1.00	1.00	1.00	0.93	0.96
7-1	-	-	29	0.0019	19.34	1.04	1.00	0.14	1.00	1.00	1.00	1.00	0.93	0.15

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.17	1.28	0.96	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.14	1.31	0.71	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.10	1.36	0.33	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.14	1.31	0.68	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.09	1.36	0.28	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.14	1.31	0.66	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.08	1.37	0.23	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.08	1.27	0.96	1.00	1.00	1.00	1.00	-	5.89
2-1	0.27	16.44	1.07	1.29	0.73	1.00	1.00	1.00	1.00	0.86	3.83
3-1	0.27	16.44	1.05	1.33	0.37	1.00	1.00	1.00	1.00	0.86	1.97
4-1	0.27	16.44	1.07	1.29	0.70	1.00	1.00	1.00	1.00	0.86	3.71
5-1	0.27	16.44	1.05	1.34	0.32	1.00	1.00	1.00	1.00	0.86	1.72
6-1	0.27	16.44	1.07	1.29	0.68	1.00	1.00	1.00	1.00	0.96	4
7-1	0.27	16.44	1.04	1.35	0.27	1.00	1.00	1.00	1.00	0.96	1.64

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.67	48184.06	176946.2	25521.5	SI (176946.2/25521.5 = 6.93 >= 1.0)
2-1	1.80	2.75	41168.4	113308	17219.6	SI (113308/17219.6 = 6.58 >= 1.0)
3-1	1.80	1.34	28673.85	38299.1	17095	SI (38299.1/17095 = 2.24 >= 1.0)
4-1	1.80	2.65	40460.8	107390.7	17244.1	SI (107390.7/17244.1 = 6.23 >= 1.0)
5-1	1.80	1.17	26721.06	31247.7	17107	SI (31247.7/17107 = 1.83 >= 1.0)
6-1	2.30	2.31	39700.1	91685.9	17270.5	SI (91685.9/17270.5 = 5.31 >= 1.0)
7-1	2.30	0.93	24616.19	22895.2	17120	SI (22895.2/17120 = 1.34 >=

						1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	9256.41	8232.77
2-1	-	-	29	0	21.7	0	1.10	1.30	6245.4	6332.9
3-1	-	-	29	0	21.7	0	1.10	1.30	6200.19	6332.9
4-1	-	-	29	0	21.7	0	1.10	1.30	6254.27	6332.9
5-1	-	-	29	0	21.7	0	1.10	1.30	6204.55	6332.9
6-1	-	-	29	0	21.7	0	1.10	1.30	6263.86	6332.9
7-1	-	-	29	0	21.7	0	1.10	1.30	6209.25	6332.9

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	17489.2	527	SI (17489.2/527 = 33.19 >= 1.0)
2-1	12578.3	2811	SI (12578.3/2811 = 4.47 >= 1.0)
3-1	12533.1	7132	SI (12533.1/7132 = 1.76 >= 1.0)
4-1	12587.2	3063	SI (12587.2/3063 = 4.11 >= 1.0)
5-1	12537.4	7816	SI (12537.4/7816 = 1.60 >= 1.0)
6-1	12596.8	3334.7	SI (12596.8/3334.7 = 3.78 >= 1.0)
7-1	12542.1	8554.3	SI (12542.1/8554.3 = 1.47 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-527	0	-25521.5	0	0	0	0	60
2-1	-2811	0	-17219.63	0	0	0	0	60
3-1	-7132	0	-17094.99	0	0	0	0	60
4-1	-3063	0	-17244.1	0	0	0	0	60
5-1	-7816	0	-17107	0	0	0	0	60

6-1	-3334.72	0	-17270.53	0	0	0	0	60
7-1	-8554.35	0	-17119.97	0	0	0	0	60

Rispetto al sistema di rif. locale (centro piano di posa):

Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-527	0	-25521.5	0	-31620	-	-	-
2-1	-2811	0	-17219.63	0	-168660	-	-	-
3-1	-7132	0	-17094.99	0	-427920	-	-	-
4-1	-3063	0	-17244.1	0	-183780	-	-	-
5-1	-7816	0	-17107	0	-468960	-	-	-
6-1	-3334.72	0	-17270.53	0	-200083	-	-	-
7-1	-8554.35	0	-17119.97	0	-513261	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 29.98 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	1.24	0	asse X	asse Y
2-1	9.79	0	asse X	asse Y
3-1	25.03	0	asse X	asse Y
4-1	10.66	0	asse X	asse Y
5-1	27.41	0	asse X	asse Y
6-1	11.59	0	asse X	asse Y
7-1	29.98	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.06	1.36	1.00	1.00	1.00	1.00	0	14.79	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.05	1.39	0.99	1.00	1.00	1.00	0	14.84	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.03	1.45	0.96	1.00	1.00	1.00	0	14.77	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.05	1.40	0.99	1.00	1.00	1.00	0	14.84	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.03	1.46	0.95	1.00	1.00	1.00	0	14.71	0.27
6-1	-	-	2	0.0019	0.27	5.14	1.05	1.40	0.99	1.00	1.00	1.00	0	14.84	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.03	1.48	0.94	1.00	1.00	1.00	0	14.63	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	$\boldsymbol{R_d}$ [daN]	$\boldsymbol{E_d}$ [daN]	Verifica
1-1	2.30	6.7	48184.06	322815.9	25521.5	SI

						(322815.9/25521.5 = 12.65 >= 1.0)
2-1	1.80	8.52	41168.4	350552.7	17219.6	SI (350552.7/17219.6 = 20.36 >= 1.0)
3-1	1.80	8.47	28673.85	242998.1	17095	SI (242998.1/17095 = 14.21 >= 1.0)
4-1	1.80	8.52	40460.8	344577.7	17244.1	SI (344577.7/17244.1 = 19.98 >= 1.0)
5-1	1.80	8.45	26721.06	225668.3	17107	SI (225668.3/17107 = 13.19 >= 1.0)
6-1	2.30	6.72	39700.1	266968.9	17270.5	SI (266968.9/17270.5 = 15.46 >= 1.0)
7-1	2.30	6.63	24616.19	163297.4	17120	SI (163297.4/17120 = 9.54 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	35042.95	89895.07
2-1	-	2	0.8	1.10	1.30	29940.65	69150.06
3-1	-	2	0.8	1.10	1.30	20853.71	69150.06
4-1	-	2	0.8	1.10	1.30	29426.04	69150.06
5-1	-	2	0.8	1.10	1.30	19433.5	69150.06
6-1	-	2	0.8	1.10	1.30	28872.8	69150.06
7-1	-	2	0.8	1.10	1.30	17902.69	69150.06

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	124938	527	SI (124938/527 = 237.07 >= 1.0)
2-1	99090.7	2811	SI (99090.7/2811 = 35.25 >= 1.0)
3-1	90003.8	7132	SI (90003.8/7132 = 12.62 >= 1.0)

4-1	98576.1	3063	SI (98576.1/3063 = 32.18 >= 1.0)
5-1	88583.6	7816	SI (88583.6/7816 = 11.33 >= 1.0)
6-1	98022.9	3334.7	SI (98022.9/3334.7 = 29.39 >= 1.0)
7-1	87052.7	8554.3	SI (87052.7/8554.3 = 10.18 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T003_ID025).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 12							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-12 Nodo 12							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-15 Nodo 12							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-12 Nodo 12							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-15 Nodo 12							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-4 Nodo 13							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-15 Nodo 12							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	1266150	33200	SI (1266150/33200 = 38.14 >= 1.0)	1618220	39840	SI (1618220/39840 = 40.62 >= 1.0)
2-1	854860	126800	SI (854860/126800 = 6.74 >= 1.0)	1101860	152160	SI (1101860/152160 = 7.24 >= 1.0)
3-1	845380	298950	SI (845380/298950 = 2.83 >= 1.0)	1090480	358740	SI (1090480/358740 = 3.04 >= 1.0)
4-1	856510	137700	SI (856510/137700 = 6.22 >= 1.0)	1103840	165240	SI (1103840/165240 = 6.68 >= 1.0)
5-1	846080	327050	SI (846080/327050 = 2.59 >= 1.0)	1091320	392460	SI (1091320/392460 = 2.78 >= 1.0)

6-1	863580	109000	SI (863580/109000 = 7.92 >= 1.0)	1112330	130800	SI (1112330/130800 = 8.50 >= 1.0)
7-1	846840	357390	SI (846840/357390 = 2.37 >= 1.0)	1092240	428870	SI (1092240/428870 = 2.55 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	26970.3	186440.5	SI (186440.5/26970.3 = 6.91 >= 1.0)	26970.3	343814.2	SI (343814.2/26970.3 = 12.75 >= 1.0)
2-1	18364.3	132519.7	SI (132519.7/18364.3 = 7.22 >= 1.0)	18364.3	386143.7	SI (386143.7/18364.3 = 21.03 >= 1.0)
3-1	18174.7	61778.5	SI (61778.5/18174.7 = 3.40 >= 1.0)	18174.7	300808.2	SI (300808.2/18174.7 = 16.55 >= 1.0)
4-1	18397.3	127037.8	SI (127037.8/18397.3 = 6.91 >= 1.0)	18397.3	381021.5	SI (381021.5/18397.3 = 20.71 >= 1.0)
5-1	18188.7	53779.5	SI (53779.5/18188.7 = 2.96 >= 1.0)	18188.7	286806.3	SI (286806.3/18188.7 = 15.77 >= 1.0)
6-1	18538.8	129024.9	SI (129024.9/18538.8 = 6.96 >= 1.0)	18538.8	311977.7	SI (311977.7/18538.8 = 16.83 >= 1.0)
7-1	18203.9	42053.7	SI (42053.7/18203.9 = 2.31 >= 1.0)	18203.9	214450.7	SI (214450.7/18203.9 = 11.78 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	664	18642.1	SI (18642.1/664 = 28.08 >=	664	134231.9	SI (134231.9/664 = 202.16 >=

			1.0)			1.0)
2-1	2536	13476.1	SI (13476.1/2536 = 5.31 >= 1.0)	2536	107541.3	SI (107541.3/2536 = 42.41 >= 1.0)
3-1	5979	13407.4	SI (13407.4/5979 = 2.24 >= 1.0)	5979	100211.5	SI (100211.5/5979 = 16.76 >= 1.0)
4-1	2754	13488.1	SI (13488.1/2754 = 4.90 >= 1.0)	2754	107095.8	SI (107095.8/2754 = 38.89 >= 1.0)
5-1	6541	13412.5	SI (13412.5/6541 = 2.05 >= 1.0)	6541	99034.7	SI (99034.7/6541 = 15.14 >= 1.0)
6-1	2180	13539.4	SI (13539.4/2180 = 6.21 >= 1.0)	2180	108328.5	SI (108328.5/2180 = 49.69 >= 1.0)
7-1	7147.9	13418	SI (13418/7147.9 = 1.88 >= 1.0)	7147.9	97766.1	SI (97766.1/7147.9 = 13.68 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 440 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-664	0	-26970.27	0	0	0	0	60
2-1	-2536	0	-18364.32	0	0	0	0	60
3-1	-5979	0	-18174.7	0	0	0	0	60
4-1	-2754	0	-18397.33	0	0	0	0	60
5-1	-6541	0	-18188.75	0	0	0	0	60
6-1	-2180.04	0	-18538.84	0	0	0	0	60
7-1	-7147.86	0	-18203.92	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-664	0	-26970.27	0	-39840	-	-	-
2-1	-2536	0	-18364.32	0	-152160	-	-	-
3-1	-5979	0	-18174.7	0	-358740	-	-	-
4-1	-2754	0	-18397.33	0	-165240	-	-	-
5-1	-6541	0	-18188.75	0	-392460	-	-	-

6-1	-2180.04	0	-18538.84	0	-130802	-	-	-
7-1	-7147.86	0	-18203.92	0	-428872	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 23.56 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	1.48	0	asse X	asse Y
2-1	8.29	0	asse X	asse Y
3-1	19.74	0	asse X	asse Y
4-1	8.98	0	asse X	asse Y
5-1	21.58	0	asse X	asse Y
6-1	7.06	0	asse X	asse Y
7-1	23.56	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 916.4	110.6	generale
2-1	1 983.6	113.2	generale
3-1	2 107.8	117.8	generale
4-1	1 990.7	113.5	generale
5-1	2 129.2	118.6	generale
6-1	1 971.1	112.8	generale
7-1	2 152.7	119.4	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.08	1.00	0.93	1.00	1.00	1.00	1.00	-	2.16
2-1	-	-	29	0.0019	19.34	1.07	1.00	0.66	1.00	1.00	1.00	1.00	0.76	1.01
3-1	-	-	29	0.0019	19.34	1.05	1.00	0.32	1.00	1.00	1.00	1.00	0.76	0.38
4-1	-	-	29	0.0019	19.34	1.07	1.00	0.63	1.00	1.00	1.00	1.00	0.76	0.96
5-1	-	-	29	0.0019	19.34	1.05	1.00	0.28	1.00	1.00	1.00	1.00	0.76	0.31
6-1	-	-	29	0.0019	19.34	1.07	1.00	0.70	1.00	1.00	1.00	1.00	0.93	1.35
7-1	-	-	29	0.0019	19.34	1.05	1.00	0.24	1.00	1.00	1.00	1.00	0.93	0.31

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.15	1.28	0.95	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.14	1.30	0.75	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.11	1.34	0.45	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.13	1.30	0.73	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.10	1.34	0.40	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.14	1.30	0.78	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.10	1.35	0.36	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.08	1.27	0.96	1.00	1.00	1.00	1.00	-	5.81
2-1	0.27	16.44	1.07	1.28	0.76	1.00	1.00	1.00	1.00	0.86	4.01
3-1	0.27	16.44	1.05	1.32	0.48	1.00	1.00	1.00	1.00	0.86	2.54
4-1	0.27	16.44	1.07	1.29	0.75	1.00	1.00	1.00	1.00	0.86	3.92
5-1	0.27	16.44	1.05	1.32	0.44	1.00	1.00	1.00	1.00	0.86	2.33
6-1	0.27	16.44	1.07	1.28	0.80	1.00	1.00	1.00	1.00	0.96	4.66
7-1	0.27	16.44	1.05	1.33	0.40	1.00	1.00	1.00	1.00	0.96	2.35

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'$_{lim}$ [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.62	51500.08	186440.5	26970.3	SI (186440.5/26970.3 = 6.91 >= 1.0)
2-1	1.80	2.91	45508.64	132519.7	18364.3	SI (132519.7/18364.3 = 7.22 >= 1.0)
3-1	1.80	1.74	35430.18	61778.5	18174.7	SI (61778.5/18174.7 = 3.40 >= 1.0)
4-1	1.80	2.83	44896.07	127037.8	18397.3	SI (127037.8/18397.3 = 6.91 >= 1.0)
5-1	1.80	1.59	33812.18	53779.5	18188.7	SI (53779.5/18188.7 = 2.96 >= 1.0)
6-1	2.30	2.77	46591.08	129024.9	18538.8	SI (129024.9/18538.8 = 6.96 >= 1.0)
7-1	2.30	1.31	32067.82	42053.7	18203.9	SI (42053.7/18203.9 = 2.31 >=

						1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	9781.86	8860.26
2-1	-	-	29	0	21.7	0	1.10	1.30	6660.56	6815.58
3-1	-	-	29	0	21.7	0	1.10	1.30	6591.79	6815.58
4-1	-	-	29	0	21.7	0	1.10	1.30	6672.54	6815.58
5-1	-	-	29	0	21.7	0	1.10	1.30	6596.89	6815.58
6-1	-	-	29	0	21.7	0	1.10	1.30	6723.86	6815.58
7-1	-	-	29	0	21.7	0	1.10	1.30	6602.39	6815.58

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	18642.1	664	SI (18642.1/664 = 28.08 >= 1.0)
2-1	13476.1	2536	SI (13476.1/2536 = 5.31 >= 1.0)
3-1	13407.4	5979	SI (13407.4/5979 = 2.24 >= 1.0)
4-1	13488.1	2754	SI (13488.1/2754 = 4.90 >= 1.0)
5-1	13412.5	6541	SI (13412.5/6541 = 2.05 >= 1.0)
6-1	13539.4	2180	SI (13539.4/2180 = 6.21 >= 1.0)
7-1	13418	7147.9	SI (13418/7147.9 = 1.88 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-664	0	-26970.27	0	0	0	0	60
2-1	-2536	0	-18364.32	0	0	0	0	60
3-1	-5979	0	-18174.7	0	0	0	0	60
4-1	-2754	0	-18397.33	0	0	0	0	60
5-1	-6541	0	-18188.75	0	0	0	0	60

6-1	-2180.04	0	-18538.84	0	0	0	0	60
7-1	-7147.86	0	-18203.92	0	0	0	0	60

Rispetto al sistema di rif. locale (centro piano di posa):

Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-664	0	-26970.27	0	-39840	-	-	-
2-1	-2536	0	-18364.32	0	-152160	-	-	-
3-1	-5979	0	-18174.7	0	-358740	-	-	-
4-1	-2754	0	-18397.33	0	-165240	-	-	-
5-1	-6541	0	-18188.75	0	-392460	-	-	-
6-1	-2180.04	0	-18538.84	0	-130802	-	-	-
7-1	-7147.86	0	-18203.92	0	-428872	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 23.56 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	1.48	0	asse X	asse Y
2-1	8.29	0	asse X	asse Y
3-1	19.74	0	asse X	asse Y
4-1	8.98	0	asse X	asse Y
5-1	21.58	0	asse X	asse Y
6-1	7.06	0	asse X	asse Y
7-1	23.56	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.05	1.36	1.00	1.00	1.00	1.00	0	14.73	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.05	1.39	0.99	1.00	1.00	1.00	0	14.79	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.04	1.43	0.97	1.00	1.00	1.00	0	14.79	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.05	1.39	0.99	1.00	1.00	1.00	0	14.79	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.03	1.44	0.97	1.00	1.00	1.00	0	14.78	0.27
6-1	-	-	2	0.0019	0.27	5.14	1.05	1.38	0.99	1.00	1.00	1.00	0	14.78	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.03	1.45	0.96	1.00	1.00	1.00	0	14.76	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.68	51500.08	343814.2	26970.3	SI

						(343814.2/26970.3 = 12.75 >= 1.0)
2-1	1.80	8.49	45508.64	386143.7	18364.3	SI (386143.7/18364.3 = 21.03 >= 1.0)
3-1	1.80	8.49	35430.18	300808.2	18174.7	SI (300808.2/18174.7 = 16.55 >= 1.0)
4-1	1.80	8.49	44896.07	381021.5	18397.3	SI (381021.5/18397.3 = 20.71 >= 1.0)
5-1	1.80	8.48	33812.18	286806.3	18188.7	SI (286806.3/18188.7 = 15.77 >= 1.0)
6-1	2.30	6.7	46591.08	311977.7	18538.8	SI (311977.7/18538.8 = 16.83 >= 1.0)
7-1	2.30	6.69	32067.82	214450.7	18203.9	SI (214450.7/18203.9 = 11.78 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	$\boldsymbol{R_h}$ [daN]	$\boldsymbol{R_e}$ [daN]
1-1	1.00	2	0.8	1.10	1.00	37454.6	96777.3
2-1	-	2	0.8	1.10	1.30	33097.2	74444.08
3-1	-	2	0.8	1.10	1.30	25767.41	74444.08
4-1	-	2	0.8	1.10	1.30	32651.69	74444.08
5-1	-	2	0.8	1.10	1.30	24590.67	74444.08
6-1	-	2	0.8	1.10	1.30	33884.42	74444.08
7-1	-	2	0.8	1.10	1.30	23322.05	74444.08

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	$\boldsymbol{R_d}$ [daN]	$\boldsymbol{E_d}$ [daN]	Verifica
1-1	134231.9	664	SI (134231.9/664 = 202.16 >= 1.0)
2-1	107541.3	2536	SI (107541.3/2536 = 42.41 >= 1.0)
3-1	100211.5	5979	SI (100211.5/5979 = 16.76 >= 1.0)

4-1	107095.8	2754	SI (107095.8/2754 = 38.89 >= 1.0)
5-1	99034.7	6541	SI (99034.7/6541 = 15.14 >= 1.0)
6-1	108328.5	2180	SI (108328.5/2180 = 49.69 >= 1.0)
7-1	97766.1	7147.9	SI (97766.1/7147.9 = 13.68 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T004_ID026).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 18							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-13 Nodo 19							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-5 Nodo 16							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-13 Nodo 19							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-7 Nodo 15							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-13 Nodo 19							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-7 Nodo 15							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	11234950	96000	SI (11234950/96000 > 100)	14218760	115200	SI (14218760/115200 > 100)
2-1	7225170	250550	SI (7225170/250550 = 28.84 >= 1.0)	9236980	300660	SI (9236980/300660 = 30.72 >= 1.0)
3-1	7511560	719000	SI (7511560/719000 = 10.45 >= 1.0)	9580660	862800	SI (9580660/862800 = 11.10 >= 1.0)
4-1	7248160	270650	SI (7248160/270650 = 26.78 >= 1.0)	9264570	324780	SI (9264570/324780 = 28.53 >= 1.0)
5-1	7585180	786500	SI (7585180/786500 = 9.64 >= 1.0)	9669000	943800	SI (9669000/943800 = 10.24 >= 1.0)

6-1	7272990	292360	SI (7272990/292360 = 24.88 >= 1.0)	9294370	350840	SI (9294370/350840 = 26.49 >= 1.0)
7-1	7703100	858830	SI (7703100/858830 = 8.97 >= 1.0)	9810510	1030600	SI (9810510/1030600 = 9.52 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	236979.3	1377315.2	SI (1377315.2/236979.3 = 5.81 >= 1.0)	236979.3	2494689.1	SI (2494689.1/236979.3 = 10.53 >= 1.0)
2-1	153949.7	1331090.7	SI (1331090.7/153949.7 = 8.65 >= 1.0)	153949.7	3085792.7	SI (3085792.7/153949.7 = 20.04 >= 1.0)
3-1	159677.7	1089409.6	SI (1089409.6/159677.7 = 6.82 >= 1.0)	159677.7	2910720	SI (2910720/159677.7 = 18.23 >= 1.0)
4-1	154409.5	1319759.3	SI (1319759.3/154409.5 = 8.55 >= 1.0)	154409.5	3078214.5	SI (3078214.5/154409.5 = 19.94 >= 1.0)
5-1	161150.1	1060383.9	SI (1060383.9/161150.1 = 6.58 >= 1.0)	161150.1	2887381.8	SI (2887381.8/161150.1 = 17.92 >= 1.0)
6-1	154906.1	1184099.1	SI (1184099.1/154906.1 = 7.64 >= 1.0)	154906.1	2424976.2	SI (2424976.2/154906.1 = 15.65 >= 1.0)
7-1	163508.4	934996.6	SI (934996.6/163508.4 = 5.72 >= 1.0)	163508.4	2262286.8	SI (2262286.8/163508.4 = 13.84 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	1920	154213	SI (154213/1920 = 80.32 >=	1920	1032229.9	SI (1032229.9/1920 = 537.62

			1.0)			>= 1.0)
2-1	5011	108346	SI (108346/5011 = 21.62 >= 1.0)	5011	852548.3	SI (852548.3/5011 = 170.14 >= 1.0)
3-1	14380	110423.5	SI (110423.5/14380 = 7.68 >= 1.0)	14380	836086.7	SI (836086.7/14380 = 58.14 >= 1.0)
4-1	5413	108512.8	SI (108512.8/5413 = 20.05 >= 1.0)	5413	851830.8	SI (851830.8/5413 = 157.37 >= 1.0)
5-1	15730	110957.5	SI (110957.5/15730 = 7.05 >= 1.0)	15730	833924.2	SI (833924.2/15730 = 53.01 >= 1.0)
6-1	5847.3	108692.9	SI (108692.9/5847.3 = 18.59 >= 1.0)	5847.3	851060.4	SI (851060.4/5847.3 = 145.55 >= 1.0)
7-1	17176.6	111812.8	SI (111812.8/17176.6 = 6.51 >= 1.0)	17176.6	831794.6	SI (831794.6/17176.6 = 48.43 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 3280 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1920	0	-236979.34	0	0	0	0	60
2-1	5011	0	-153949.72	0	0	0	0	60
3-1	14380	0	-159677.69	0	0	0	0	60
4-1	5413	0	-154409.54	0	0	0	0	60
5-1	15730	0	-161150.08	0	0	0	0	60
6-1	5847.29	0	-154906.15	0	0	0	0	60
7-1	17176.62	0	-163508.42	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								

Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1920	0	-236979.34	0	115200	-	-	-
2-1	5011	0	-153949.72	0	300660	-	-	-
3-1	14380	0	-159677.69	0	862800	-	-	-
4-1	5413	0	-154409.54	0	324780	-	-	-
5-1	15730	0	-161150.08	0	943800	-	-	-
6-1	5847.29	0	-154906.15	0	350837	-	-	-
7-1	17176.62	0	-163508.42	0	1030597	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 6.3 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.49	0	asse X	asse Y
2-1	1.95	0	asse X	asse Y
3-1	5.4	0	asse X	asse Y
4-1	2.1	0	asse X	asse Y
5-1	5.86	0	asse X	asse Y
6-1	2.26	0	asse X	asse Y
7-1	6.3	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 907.0	131.8	generale
2-1	1 921.0	131.9	generale
3-1	1 954.6	132.1	generale
4-1	1 922.4	131.9	generale
5-1	1 959.1	132.1	generale
6-1	1 924.0	131.9	generale
7-1	1 963.5	132.2	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.01	1.00	0.98	1.00	1.00	1.00	1.00	-	2.16
2-1	-	-	29	0.001	19.34	1.01	1.00	0.91	1.00	1.00	1.00	1.00	0.76	1.48

				9										
3-1	-	-	29	0.0019	19.34	1.01	1.00	0.76	1.00	1.00	1.00	1.00	0.76	1.16
4-1	-	-	29	0.0019	19.34	1.01	1.00	0.90	1.00	1.00	1.00	1.00	0.76	1.46
5-1	-	-	29	0.0019	19.34	1.01	1.00	0.74	1.00	1.00	1.00	1.00	0.76	1.12
6-1	-	-	29	0.0019	19.34	1.01	1.00	0.89	1.00	1.00	1.00	1.00	0.93	1.77
7-1	-	-	29	0.0019	19.34	1.01	1.00	0.72	1.00	1.00	1.00	1.00	0.93	1.33

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]
1-1	1.00	0	27.86	1.02	1.28	0.98	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.02	1.29	0.93	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.02	1.29	0.82	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.02	1.29	0.93	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.02	1.30	0.81	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.02	1.29	0.92	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.02	1.30	0.79	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.01	1.26	0.98	1.00	1.00	1.00	1.00	-	5.6
2-1	0.27	16.44	1.01	1.27	0.94	1.00	1.00	1.00	1.00	0.86	4.6
3-1	0.27	16.44	1.01	1.28	0.83	1.00	1.00	1.00	1.00	0.86	4.1
4-1	0.27	16.44	1.01	1.27	0.93	1.00	1.00	1.00	1.00	0.86	4.58
5-1	0.27	16.44	1.01	1.28	0.82	1.00	1.00	1.00	1.00	0.86	4.04
6-1	0.27	16.44	1.01	1.27	0.93	1.00	1.00	1.00	1.00	0.96	5.07
7-1	0.27	16.44	1.01	1.28	0.80	1.00	1.00	1.00	1.00	0.96	4.43

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.53	390411.06	1377315.2	236979.3	SI (1377315.2/236979.3 = 5.81 >= 1.0)
2-1	1.80	3.5	380788.48	1331090.7	153949.7	SI (1331090.7/153949.7 = 8.65 >= 1.0)
3-1	1.80	3.04	358153.8	1089409.6	159677.7	SI (1089409.6/159677.7 = 6.82 >= 1.0)
4-1	1.80	3.47	379801.91	1319759.3	154409.5	SI

						(1319759.3/154409.5 = 8.55 >= 1.0)
5-1	1.80	2.99	355180.36	1060383.9	161150.1	SI (1060383.9/161150.1 = 6.58 >= 1.0)
6-1	2.30	3.13	378742.66	1184099.1	154906.1	SI (1184099.1/154906.1 = 7.64 >= 1.0)
7-1	2.30	2.65	352252.17	934996.6	163508.4	SI (934996.6/163508.4 = 5.72 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	85950.15	68262.86
2-1	-	-	29	0	21.7	0	1.10	1.30	55836.1	52509.89
3-1	-	-	29	0	21.7	0	1.10	1.30	57913.58	52509.89
4-1	-	-	29	0	21.7	0	1.10	1.30	56002.87	52509.89
5-1	-	-	29	0	21.7	0	1.10	1.30	58447.6	52509.89
6-1	-	-	29	0	21.7	0	1.10	1.30	56182.99	52509.89
7-1	-	-	29	0	21.7	0	1.10	1.30	59302.95	52509.89

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	154213	1920	SI (154213/1920 = 80.32 >= 1.0)
2-1	108346	5011	SI (108346/5011 = 21.62 >= 1.0)
3-1	110423.5	14380	SI (110423.5/14380 = 7.68 >= 1.0)
4-1	108512.8	5413	SI (108512.8/5413 = 20.05 >= 1.0)

5-1	110957.5	15730	SI (110957.5/15730 = 7.05 >= 1.0)
6-1	108692.9	5847.3	SI (108692.9/5847.3 = 18.59 >= 1.0)
7-1	111812.8	17176.6	SI (111812.8/17176.6 = 6.51 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1920	0	-236979.34	0	0	0	0	60
2-1	5011	0	-153949.72	0	0	0	0	60
3-1	14380	0	-159677.69	0	0	0	0	60
4-1	5413	0	-154409.54	0	0	0	0	60
5-1	15730	0	-161150.08	0	0	0	0	60
6-1	5847.29	0	-154906.15	0	0	0	0	60
7-1	17176.62	0	-163508.42	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1920	0	-236979.34	0	115200	-	-	-
2-1	5011	0	-153949.72	0	300660	-	-	-
3-1	14380	0	-159677.69	0	862800	-	-	-
4-1	5413	0	-154409.54	0	324780	-	-	-
5-1	15730	0	-161150.08	0	943800	-	-	-
6-1	5847.29	0	-154906.15	0	350837	-	-	-
7-1	17176.62	0	-163508.42	0	1030597	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 6.3 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.49	0	asse X	asse Y
2-1	1.95	0	asse X	asse Y
3-1	5.4	0	asse X	asse Y
4-1	2.1	0	asse X	asse Y
5-1	5.86	0	asse X	asse Y
6-1	2.26	0	asse X	asse Y
7-1	6.3	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.01	1.36	1.00	1.00	1.00	1.00	0	14.07	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.36	1.00	1.00	1.00	1.00	0	14.1	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.01	1.38	0.99	1.00	1.00	1.00	0	14.14	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.37	1.00	1.00	1.00	1.00	0	14.1	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.01	1.38	0.99	1.00	1.00	1.00	0	14.15	0.27
6-1	-	-	2	0.0019	0.27	5.14	1.01	1.37	1.00	1.00	1.00	1.00	0	14.1	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.01	1.38	0.99	1.00	1.00	1.00	0	14.15	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.39	390411.06	2494689.1	236979.3	SI (2494689.1/236979.3 = 10.53 >= 1.0)
2-1	1.80	8.1	380788.48	3085792.7	153949.7	SI (3085792.7/153949.7 = 20.04 >= 1.0)
3-1	1.80	8.13	358153.8	2910720	159677.7	SI (2910720/159677.7 = 18.23 >= 1.0)
4-1	1.80	8.1	379801.91	3078214.5	154409.5	SI

						(3078214.5/154409.5 = 19.94 >= 1.0)
5-1	1.80	8.13	355180.36	2887381.8	161150.1	SI (2887381.8/161150.1 = 17.92 >= 1.0)
6-1	2.30	6.4	378742.66	2424976.2	154906.1	SI (2424976.2/154906.1 = 15.65 >= 1.0)
7-1	2.30	6.42	352252.17	2262286.8	163508.4	SI (2262286.8/163508.4 = 13.84 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	283935.32	748294.6
2-1	-	2	0.8	1.10	1.30	276937.08	575611.23
3-1	-	2	0.8	1.10	1.30	260475.49	575611.23
4-1	-	2	0.8	1.10	1.30	276219.57	575611.23
5-1	-	2	0.8	1.10	1.30	258312.99	575611.23
6-1	-	2	0.8	1.10	1.30	275449.21	575611.23
7-1	-	2	0.8	1.10	1.30	256183.4	575611.23

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	1032229.9	1920	SI (1032229.9/1920 = 537.62 >= 1.0)
2-1	852548.3	5011	SI (852548.3/5011 = 170.14 >= 1.0)
3-1	836086.7	14380	SI (836086.7/14380 = 58.14 >= 1.0)
4-1	851830.8	5413	SI (851830.8/5413 = 157.37 >= 1.0)
5-1	833924.2	15730	SI (833924.2/15730 = 53.01 >= 1.0)
6-1	851060.4	5847.3	SI (851060.4/5847.3 = 145.55 >= 1.0)
7-1	831794.6	17176.6	SI (831794.6/17176.6 = 48.43 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T005_ID027).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 1							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-15 Nodo 1							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-12 Nodo 1							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-15 Nodo 1							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-12 Nodo 1							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-15 Nodo 1							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-12 Nodo 1							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	2274650	24100	SI (2274650/24100 = 94.38 >= 1.0)	2907040	28920	SI (2907040/28920 > 100)
2-1	1758870	159550	SI (1758870/159550 = 11.02 >= 1.0)	2247150	191460	SI (2247150/191460 = 11.74 >= 1.0)
3-1	1903860	58150	SI (1903860/58150 = 32.74 >= 1.0)	2421150	69780	SI (2421150/69780 = 34.70 >= 1.0)
4-1	1780820	173950	SI (1780820/173950 = 10.24 >= 1.0)	2273500	208740	SI (2273500/208740 = 10.89 >= 1.0)
5-1	1940320	62400	SI (1940320/62400 = 31.09 >= 1.0)	2464890	74880	SI (2464890/74880 = 32.92 >= 1.0)

6-1	1804530	189530	SI (1804530/189530 = 9.52 >= 1.0)	2301950	227430	SI (2301950/227430 = 10.12 >= 1.0)
7-1	1979690	67030	SI (1979690/67030 = 29.54 >= 1.0)	2512140	80430	SI (2512140/80430 = 31.23 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	48450.7	340251.1	SI (340251.1/48450.7 = 7.02 >= 1.0)	48450.7	612907.9	SI (612907.9/48450.7 = 12.65 >= 1.0)
2-1	37452.6	276800.3	SI (276800.3/37452.6 = 7.39 >= 1.0)	37452.6	719263.6	SI (719263.6/37452.6 = 19.20 >= 1.0)
3-1	40352.5	335604.1	SI (335604.1/40352.5 = 8.32 >= 1.0)	40352.5	761904.6	SI (761904.6/40352.5 = 18.88 >= 1.0)
4-1	37891.6	270455.3	SI (270455.3/37891.6 = 7.14 >= 1.0)	37891.6	714161.1	SI (714161.1/37891.6 = 18.85 >= 1.0)
5-1	41081.5	333861.8	SI (333861.8/41081.5 = 8.13 >= 1.0)	41081.5	760689.5	SI (760689.5/41081.5 = 18.52 >= 1.0)
6-1	38365.8	238822.7	SI (238822.7/38365.8 = 6.22 >= 1.0)	38365.8	559710.1	SI (559710.1/38365.8 = 14.59 >= 1.0)
7-1	41868.9	300518.7	SI (300518.7/41868.9 = 7.18 >= 1.0)	41868.9	599723.6	SI (599723.6/41868.9 = 14.32 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	482	33753.6	SI (33753.6/482 = 70.03 >=	482	245329.5	SI (245329.5/482 = 508.98 >=

			1.0)			1.0)
2-1	3191	26030.6	SI (26030.6/3191 = 8.16 >= 1.0)	3191	199278.9	SI (199278.9/3191 = 62.45 >= 1.0)
3-1	1163	27082.4	SI (27082.4/1163 = 23.29 >= 1.0)	1163	203166	SI (203166/1163 = 174.69 >= 1.0)
4-1	3479	26189.9	SI (26189.9/3479 = 7.53 >= 1.0)	3479	198822.9	SI (198822.9/3479 = 57.15 >= 1.0)
5-1	1248	27346.8	SI (27346.8/1248 = 21.91 >= 1.0)	1248	203058.6	SI (203058.6/1248 = 162.71 >= 1.0)
6-1	3790.5	26361.9	SI (26361.9/3790.5 = 6.95 >= 1.0)	3790.5	198341.3	SI (198341.3/3790.5 = 52.33 >= 1.0)
7-1	1340.6	27632.4	SI (27632.4/1340.6 = 20.61 >= 1.0)	1340.6	202945.6	SI (202945.6/1340.6 = 151.39 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	482	0	-48450.68	0	0	0	0	60
2-1	3191	0	-37452.57	0	0	0	0	60
3-1	1163	0	-40352.48	0	0	0	0	60
4-1	3479	0	-37891.65	0	0	0	0	60
5-1	1248	0	-41081.55	0	0	0	0	60
6-1	3790.55	0	-38365.85	0	0	0	0	60
7-1	1340.57	0	-41868.95	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	482	0	-48450.68	0	28920	-	-	-
2-1	3191	0	-37452.57	0	191460	-	-	-
3-1	1163	0	-40352.48	0	69780	-	-	-
4-1	3479	0	-37891.65	0	208740	-	-	-
5-1	1248	0	-41081.55	0	74880	-	-	-

6-1	3790.55	0	-38365.85	0	227433	-	-	-
7-1	1340.57	0	-41868.95	0	80434	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 5.93 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.6	0	asse X	asse Y
2-1	5.11	0	asse X	asse Y
3-1	1.73	0	asse X	asse Y
4-1	5.51	0	asse X	asse Y
5-1	1.82	0	asse X	asse Y
6-1	5.93	0	asse X	asse Y
7-1	1.92	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 908.1	120.8	generale
2-1	1 951.7	121.9	generale
3-1	1 918.8	121.1	generale
4-1	1 955.6	122.0	generale
5-1	1 919.7	121.1	generale
6-1	1 959.8	122.1	generale
7-1	1 920.7	121.1	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.04	1.00	0.97	1.00	1.00	1.00	1.00	-	2.21
2-1	-	-	29	0.0019	19.34	1.04	1.00	0.77	1.00	1.00	1.00	1.00	0.76	1.23
3-1	-	-	29	0.0019	19.34	1.04	1.00	0.92	1.00	1.00	1.00	1.00	0.76	1.55
4-1	-	-	29	0.0019	19.34	1.04	1.00	0.76	1.00	1.00	1.00	1.00	0.76	1.19
5-1	-	-	29	0.0019	19.34	1.04	1.00	0.92	1.00	1.00	1.00	1.00	0.76	1.54
6-1	-	-	29	0.0019	19.34	1.04	1.00	0.74	1.00	1.00	1.00	1.00	0.93	1.42
7-1	-	-	29	0.0019	19.34	1.04	1.00	0.91	1.00	1.00	1.00	1.00	0.93	1.87

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.09	1.28	0.98	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.08	1.29	0.84	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.09	1.29	0.94	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.08	1.30	0.82	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.08	1.29	0.94	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.08	1.30	0.81	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.08	1.29	0.94	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.04	1.27	0.98	1.00	1.00	1.00	1.00	-	5.77
2-1	0.27	16.44	1.04	1.28	0.85	1.00	1.00	1.00	1.00	0.86	4.3
3-1	0.27	16.44	1.04	1.27	0.95	1.00	1.00	1.00	1.00	0.86	4.79
4-1	0.27	16.44	1.04	1.28	0.83	1.00	1.00	1.00	1.00	0.86	4.24
5-1	0.27	16.44	1.04	1.27	0.94	1.00	1.00	1.00	1.00	0.86	4.78
6-1	0.27	16.44	1.04	1.28	0.82	1.00	1.00	1.00	1.00	0.96	4.66
7-1	0.27	16.44	1.04	1.27	0.94	1.00	1.00	1.00	1.00	0.96	5.31

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.63	93856.9	340251.1	48450.7	SI (340251.1/48450.7 = 7.02 >= 1.0)
2-1	1.80	3.19	86722.94	276800.3	37452.6	SI (276800.3/37452.6 = 7.39 >= 1.0)
3-1	1.80	3.65	92067.77	335604.1	40352.5	SI (335604.1/40352.5 = 8.32 >= 1.0)
4-1	1.80	3.14	86095.99	270455.3	37891.6	SI (270455.3/37891.6 = 7.14 >= 1.0)
5-1	1.80	3.63	91920.11	333861.8	41081.5	SI (333861.8/41081.5 = 8.13 >= 1.0)
6-1	2.30	2.8	85433.75	238822.7	38365.8	SI (238822.7/38365.8 = 6.22 >= 1.0)
7-1	2.30	3.27	91764.67	300518.7	41868.9	SI (300518.7/41868.9 = 7.18

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	17572.6	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	13583.69	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	14635.46	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	13742.94	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	14899.89	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	13914.93	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	15185.47	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	33753.6	482	SI (33753.6/482 = 70.03 >= 1.0)
2-1	26030.6	3191	SI (26030.6/3191 = 8.16 >= 1.0)
3-1	27082.4	1163	SI (27082.4/1163 = 23.29 >= 1.0)
4-1	26189.9	3479	SI (26189.9/3479 = 7.53 >= 1.0)
5-1	27346.8	1248	SI (27346.8/1248 = 21.91 >= 1.0)
6-1	26361.9	3790.5	SI (26361.9/3790.5 = 6.95 >= 1.0)
7-1	27632.4	1340.6	SI (27632.4/1340.6 = 20.61 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx	My	dx [cm]	dy [cm]	dz [cm]

				[daN*cm]	[daN*cm]			
1-1	482	0	-48450.68	0	0	0	0	60
2-1	3191	0	-37452.57	0	0	0	0	60
3-1	1163	0	-40352.48	0	0	0	0	60
4-1	3479	0	-37891.65	0	0	0	0	60
5-1	1248	0	-41081.55	0	0	0	0	60
6-1	3790.55	0	-38365.85	0	0	0	0	60
7-1	1340.57	0	-41868.95	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	482	0	-48450.68	0	28920	-	-	-
2-1	3191	0	-37452.57	0	191460	-	-	-
3-1	1163	0	-40352.48	0	69780	-	-	-
4-1	3479	0	-37891.65	0	208740	-	-	-
5-1	1248	0	-41081.55	0	74880	-	-	-
6-1	3790.55	0	-38365.85	0	227433	-	-	-
7-1	1340.57	0	-41868.95	0	80434	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 5.93 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.6	0	asse X	asse Y
2-1	5.11	0	asse X	asse Y
3-1	1.73	0	asse X	asse Y
4-1	5.51	0	asse X	asse Y
5-1	1.82	0	asse X	asse Y
6-1	5.93	0	asse X	asse Y
7-1	1.92	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.44	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.41	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.44	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.41	0.27
6-1	-	-	2	0.001	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.44	0.27

				9											
7-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.41	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.53	93856.9	612907.9	48450.7	SI (612907.9/48450.7 = 12.65 >= 1.0)
2-1	1.80	8.29	86722.94	719263.6	37452.6	SI (719263.6/37452.6 = 19.20 >= 1.0)
3-1	1.80	8.28	92067.77	761904.6	40352.5	SI (761904.6/40352.5 = 18.88 >= 1.0)
4-1	1.80	8.29	86095.99	714161.1	37891.6	SI (714161.1/37891.6 = 18.85 >= 1.0)
5-1	1.80	8.28	91920.11	760689.5	41081.5	SI (760689.5/41081.5 = 18.52 >= 1.0)
6-1	2.30	6.55	85433.75	559710.1	38365.8	SI (559710.1/38365.8 = 14.59 >= 1.0)
7-1	2.30	6.54	91764.67	599723.6	41868.9	SI (599723.6/41868.9 = 14.32 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	68259.57	177069.92
2-1	-	2	0.8	1.10	1.30	63071.23	136207.63
3-1	-	2	0.8	1.10	1.30	66958.38	136207.63
4-1	-	2	0.8	1.10	1.30	62615.27	136207.63
5-1	-	2	0.8	1.10	1.30	66850.99	136207.63
6-1	-	2	0.8	1.10	1.30	62133.64	136207.63
7-1	-	2	0.8	1.10	1.30	66737.94	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica

1-1	245329.5	482	SI (245329.5/482 = 508.98 >= 1.0)
2-1	199278.9	3191	SI (199278.9/3191 = 62.45 >= 1.0)
3-1	203166	1163	SI (203166/1163 = 174.69 >= 1.0)
4-1	198822.9	3479	SI (198822.9/3479 = 57.15 >= 1.0)
5-1	203058.6	1248	SI (203058.6/1248 = 162.71 >= 1.0)
6-1	198341.3	3790.5	SI (198341.3/3790.5 = 52.33 >= 1.0)
7-1	202945.6	1340.6	SI (202945.6/1340.6 = 151.39 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T006_ID028).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 2							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-7 Nodo 2							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-10 Nodo 2							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-7 Nodo 2							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-10 Nodo 2							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-7 Nodo 2							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-10 Nodo 2							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	2750040	128500	SI (2750040/128500 = 21.40 >= 1.0)	3477520	154200	SI (3477520/154200 = 22.55 >= 1.0)
2-1	1838490	186000	SI (1838490/186000 = 9.88 >= 1.0)	2342700	223200	SI (2342700/223200 = 10.50 >= 1.0)
3-1	2011770	18000	SI (2011770/18000 > 100)	2550640	21600	SI (2550640/21600 > 100)
4-1	1847430	210100	SI (1847430/210100 = 8.79 >= 1.0)	2353430	252120	SI (2353430/252120 = 9.33 >= 1.0)
5-1	2038040	25300	SI (2038040/25300 = 80.55 >= 1.0)	2582160	30360	SI (2582160/30360 = 85.05 >= 1.0)

6-1	1857090	236170	SI (1857090/236170 = 7.86 >= 1.0)	2365020	283400	SI (2365020/283400 = 8.35 >= 1.0)
7-1	2066410	33220	SI (2066410/33220 = 62.21 >= 1.0)	2616200	39860	SI (2616200/39860 = 65.63 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	57958.6	303121.8	SI (303121.8/57958.6 = 5.23 >= 1.0)	57958.6	591482.1	SI (591482.1/57958.6 = 10.21 >= 1.0)
2-1	39045	267179.8	SI (267179.8/39045 = 6.84 >= 1.0)	39045	711355.5	SI (711355.5/39045 = 18.22 >= 1.0)
3-1	42510.6	359016.2	SI (359016.2/42510.6 = 8.45 >= 1.0)	42510.6	777305.4	SI (777305.4/42510.6 = 18.28 >= 1.0)
4-1	39223.8	256185.7	SI (256185.7/39223.8 = 6.53 >= 1.0)	39223.8	702239	SI (702239/39223.8 = 17.90 >= 1.0)
5-1	43035.9	355150.4	SI (355150.4/43035.9 = 8.25 >= 1.0)	43035.9	774796.2	SI (774796.2/43035.9 = 18.00 >= 1.0)
6-1	39416.9	221576.9	SI (221576.9/39416.9 = 5.62 >= 1.0)	39416.9	546826.9	SI (546826.9/39416.9 = 13.87 >= 1.0)
7-1	43603.3	317797.5	SI (317797.5/43603.3 = 7.29 >= 1.0)	43603.3	609779.4	SI (609779.4/43603.3 = 13.98 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	2570	37202.1	SI (37202.1/2570 = 14.48 >=	2570	242958.2	SI (242958.2/2570 = 94.54 >=

			1.0)			1.0)
2-1	3720	26608.2	SI (26608.2/3720 = 7.15 >= 1.0)	3720	198584.3	SI (198584.3/3720 = 53.38 >= 1.0)
3-1	360	27865.1	SI (27865.1/360 = 77.40 >= 1.0)	360	204569.2	SI (204569.2/360 = 568.25 >= 1.0)
4-1	4202	26673	SI (26673/4202 = 6.35 >= 1.0)	4202	197767	SI (197767/4202 = 47.06 >= 1.0)
5-1	506	28055.7	SI (28055.7/506 = 55.45 >= 1.0)	506	204342.5	SI (204342.5/506 = 403.84 >= 1.0)
6-1	4723.3	26743.1	SI (26743.1/4723.3 = 5.66 >= 1.0)	4723.3	196891.4	SI (196891.4/4723.3 = 41.68 >= 1.0)
7-1	664.4	28261.4	SI (28261.4/664.4 = 42.54 >= 1.0)	664.4	204102.6	SI (204102.6/664.4 = 307.21 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	2570	0	-57958.65	0	0	0	0	60
2-1	-3720	0	-39045.03	0	0	0	0	60
3-1	-360	0	-42510.59	0	0	0	0	60
4-1	-4202	0	-39223.83	0	0	0	0	60
5-1	-506	0	-43035.94	0	0	0	0	60
6-1	-4723.32	0	-39416.93	0	0	0	0	60
7-1	-664.37	0	-43603.32	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	2570	0	-57958.65	0	154200	-	-	-
2-1	-3720	0	-39045.03	0	-223200	-	-	-
3-1	-360	0	-42510.59	0	-21600	-	-	-
4-1	-4202	0	-39223.83	0	-252120	-	-	-
5-1	-506	0	-43035.94	0	-30360	-	-	-

6-1	-4723.32	0	-39416.93	0	-283399	-	-	-
7-1	-664.37	0	-43603.32	0	-39862	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 7.19 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	2.66	0	asse X	asse Y
2-1	5.72	0	asse X	asse Y
3-1	0.51	0	asse X	asse Y
4-1	6.43	0	asse X	asse Y
5-1	0.71	0	asse X	asse Y
6-1	7.19	0	asse X	asse Y
7-1	0.91	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 927.8	121.3	generale
2-1	1 957.7	122.0	generale
3-1	1 907.2	120.8	generale
4-1	1 964.8	122.2	generale
5-1	1 909.1	120.8	generale
6-1	1 972.4	122.4	generale
7-1	1 911.1	120.9	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.04	1.00	0.88	1.00	1.00	1.00	1.00	-	1.93
2-1	-	-	29	0.0019	19.34	1.04	1.00	0.75	1.00	1.00	1.00	1.00	0.76	1.18
3-1	-	-	29	0.0019	19.34	1.04	1.00	0.98	1.00	1.00	1.00	1.00	0.76	1.68
4-1	-	-	29	0.0019	19.34	1.04	1.00	0.72	1.00	1.00	1.00	1.00	0.76	1.12
5-1	-	-	29	0.0019	19.34	1.04	1.00	0.97	1.00	1.00	1.00	1.00	0.76	1.66
6-1	-	-	29	0.0019	19.34	1.04	1.00	0.69	1.00	1.00	1.00	1.00	0.93	1.29
7-1	-	-	29	0.0019	19.34	1.04	1.00	0.96	1.00	1.00	1.00	1.00	0.93	2

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.08	1.29	0.91	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.08	1.30	0.82	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.09	1.28	0.98	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.08	1.30	0.80	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.09	1.28	0.98	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.08	1.30	0.77	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.09	1.28	0.97	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.04	1.27	0.92	1.00	1.00	1.00	1.00	-	5.42
2-1	0.27	16.44	1.04	1.28	0.83	1.00	1.00	1.00	1.00	0.86	4.21
3-1	0.27	16.44	1.04	1.26	0.98	1.00	1.00	1.00	1.00	0.86	4.97
4-1	0.27	16.44	1.04	1.28	0.81	1.00	1.00	1.00	1.00	0.86	4.11
5-1	0.27	16.44	1.04	1.27	0.98	1.00	1.00	1.00	1.00	0.86	4.94
6-1	0.27	16.44	1.04	1.28	0.79	1.00	1.00	1.00	1.00	0.96	4.46
7-1	0.27	16.44	1.04	1.27	0.97	1.00	1.00	1.00	1.00	0.96	5.47

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.35	90596.38	303121.8	57958.6	SI (303121.8/57958.6 = 5.23 >= 1.0)
2-1	1.80	3.12	85767.97	267179.8	39045	SI (267179.8/39045 = 6.84 >= 1.0)
3-1	1.80	3.82	93997.19	359016.2	42510.6	SI (359016.2/42510.6 = 8.45 >= 1.0)
4-1	1.80	3.03	84644.19	256185.7	39223.8	SI (256185.7/39223.8 = 6.53 >= 1.0)
5-1	1.80	3.79	93685.38	355150.4	43035.9	SI (355150.4/43035.9 = 8.25 >= 1.0)
6-1	2.30	2.66	83440.14	221576.9	39416.9	SI (221576.9/39416.9 = 5.62 >= 1.0)
7-1	2.30	3.4	93355.56	317797.5	43603.3	SI (317797.5/43603.3 = 7.29

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	21021.05	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	14161.26	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	15418.19	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	14226.11	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	15608.73	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	14296.15	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	15814.51	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	37202.1	2570	SI (37202.1/2570 = 14.48 >= 1.0)
2-1	26608.2	3720	SI (26608.2/3720 = 7.15 >= 1.0)
3-1	27865.1	360	SI (27865.1/360 = 77.40 >= 1.0)
4-1	26673	4202	SI (26673/4202 = 6.35 >= 1.0)
5-1	28055.7	506	SI (28055.7/506 = 55.45 >= 1.0)
6-1	26743.1	4723.3	SI (26743.1/4723.3 = 5.66 >= 1.0)
7-1	28261.4	664.4	SI (28261.4/664.4 = 42.54 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:

Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	2570	0	-57958.65	0	0	0	0	60
2-1	-3720	0	-39045.03	0	0	0	0	60
3-1	-360	0	-42510.59	0	0	0	0	60
4-1	-4202	0	-39223.83	0	0	0	0	60
5-1	-506	0	-43035.94	0	0	0	0	60
6-1	-4723.32	0	-39416.93	0	0	0	0	60
7-1	-664.37	0	-43603.32	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	2570	0	-57958.65	0	154200	-	-	-
2-1	-3720	0	-39045.03	0	-223200	-	-	-
3-1	-360	0	-42510.59	0	-21600	-	-	-
4-1	-4202	0	-39223.83	0	-252120	-	-	-
5-1	-506	0	-43035.94	0	-30360	-	-	-
6-1	-4723.32	0	-39416.93	0	-283399	-	-	-
7-1	-664.37	0	-43603.32	0	-39862	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 7.19 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	2.66	0	asse X	asse Y
2-1	5.72	0	asse X	asse Y
3-1	0.51	0	asse X	asse Y
4-1	6.43	0	asse X	asse Y
5-1	0.71	0	asse X	asse Y
6-1	7.19	0	asse X	asse Y
7-1	0.91	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.03	1.37	0.99	1.00	1.00	1.00	0	14.39	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.44	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.45	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27

6-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.45	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.53	90596.38	591482.1	57958.6	SI (591482.1/57958.6 = 10.21 >= 1.0)
2-1	1.80	8.29	85767.97	711355.5	39045	SI (711355.5/39045 = 18.22 >= 1.0)
3-1	1.80	8.27	93997.19	777305.4	42510.6	SI (777305.4/42510.6 = 18.28 >= 1.0)
4-1	1.80	8.3	84644.19	702239	39223.8	SI (702239/39223.8 = 17.90 >= 1.0)
5-1	1.80	8.27	93685.38	774796.2	43035.9	SI (774796.2/43035.9 = 18.00 >= 1.0)
6-1	2.30	6.55	83440.14	546826.9	39416.9	SI (546826.9/39416.9 = 13.87 >= 1.0)
7-1	2.30	6.53	93355.56	609779.4	43603.3	SI (609779.4/43603.3 = 13.98 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	65888.28	177069.92
2-1	-	2	0.8	1.10	1.30	62376.7	136207.63
3-1	-	2	0.8	1.10	1.30	68361.59	136207.63
4-1	-	2	0.8	1.10	1.30	61559.41	136207.63
5-1	-	2	0.8	1.10	1.30	68134.82	136207.63
6-1	-	2	0.8	1.10	1.30	60683.74	136207.63
7-1	-	2	0.8	1.10	1.30	67894.95	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	242958.2	2570	SI (242958.2/2570 = 94.54 >= 1.0)
2-1	198584.3	3720	SI (198584.3/3720 = 53.38 >= 1.0)
3-1	204569.2	360	SI (204569.2/360 = 568.25 >= 1.0)
4-1	197767	4202	SI (197767/4202 = 47.06 >= 1.0)
5-1	204342.5	506	SI (204342.5/506 = 403.84 >= 1.0)
6-1	196891.4	4723.3	SI (196891.4/4723.3 = 41.68 >= 1.0)
7-1	204102.6	664.4	SI (204102.6/664.4 = 307.21 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T007_ID029).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 3							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-7 Nodo 3							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-10 Nodo 3							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-7 Nodo 3							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-10 Nodo 3							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-7 Nodo 3							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-10 Nodo 3							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	788620	15250	SI (788620/15250 = 51.71 >= 1.0)	1164460	18300	SI (1164460/18300 = 63.63 >= 1.0)
2-1	498520	180300	SI (498520/180300 = 2.76 >= 1.0)	744380	216360	SI (744380/216360 = 3.44 >= 1.0)
3-1	518640	59500	SI (518640/59500 = 8.72 >= 1.0)	772560	71400	SI (772560/71400 = 10.82 >= 1.0)
4-1	500420	197550	SI (500420/197550 = 2.53 >= 1.0)	747040	237060	SI (747040/237060 = 3.15 >= 1.0)
5-1	522560	64700	SI (522560/64700 = 8.08 >= 1.0)	778040	77640	SI (778040/77640 = 10.02 >= 1.0)

6-1	502480	216180	SI (502480/216180 = 2.32 >= 1.0)	749930	259420	SI (749930/259420 = 2.89 >= 1.0)
7-1	526800	70250	SI (526800/70250 = 7.50 >= 1.0)	783970	84300	SI (783970/84300 = 9.30 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	33270.2	180079.5	SI (180079.5/33270.2 = 5.41 >= 1.0)	33270.2	374904.1	SI (374904.1/33270.2 = 11.27 >= 1.0)
2-1	21267.9	94636.7	SI (94636.7/21267.9 = 4.45 >= 1.0)	21267.9	345195.2	SI (345195.2/21267.9 = 16.23 >= 1.0)
3-1	22073	159458.6	SI (159458.6/22073 = 7.22 >= 1.0)	22073	439403.1	SI (439403.1/22073 = 19.91 >= 1.0)
4-1	21344.1	87592.8	SI (87592.8/21344.1 = 4.10 >= 1.0)	21344.1	332235.2	SI (332235.2/21344.1 = 15.57 >= 1.0)
5-1	22229.7	156619.8	SI (156619.8/22229.7 = 7.05 >= 1.0)	22229.7	435935.2	SI (435935.2/22229.7 = 19.61 >= 1.0)
6-1	21426.4	72434.4	SI (72434.4/21426.4 = 3.38 >= 1.0)	21426.4	251208.1	SI (251208.1/21426.4 = 11.72 >= 1.0)
7-1	22399	138057.8	SI (138057.8/22399 = 6.16 >= 1.0)	22399	341215.8	SI (341215.8/22399 = 15.23 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	305	28247.8	SI (28247.8/305 = 92.62 >=	305	216656.1	SI (216656.1/305 = 710.35 >=

			1.0)			1.0)
2-1	3606	20160.6	SI (20160.6/3606 = 5.59 >= 1.0)	3606	164736	SI (164736/3606 = 45.68 >= 1.0)
3-1	1190	20452.6	SI (20452.6/1190 = 17.19 >= 1.0)	1190	172708.8	SI (172708.8/1190 = 145.13 >= 1.0)
4-1	3951	20188.2	SI (20188.2/3951 = 5.11 >= 1.0)	3951	163663.3	SI (163663.3/3951 = 41.42 >= 1.0)
5-1	1294	20509.4	SI (20509.4/1294 = 15.85 >= 1.0)	1294	172412.5	SI (172412.5/1294 = 133.24 >= 1.0)
6-1	4323.6	20218.1	SI (20218.1/4323.6 = 4.68 >= 1.0)	4323.6	162513.3	SI (162513.3/4323.6 = 37.59 >= 1.0)
7-1	1405	20570.8	SI (20570.8/1405 = 14.64 >= 1.0)	1405	172101	SI (172101/1405 = 122.49 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 70 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-305	0	-33270.25	0	0	0	0	60
2-1	-3606	0	-21267.87	0	0	0	0	60
3-1	-1190	0	-22073	0	0	0	0	60
4-1	-3951	0	-21344.1	0	0	0	0	60
5-1	-1294	0	-22229.75	0	0	0	0	60
6-1	-4323.65	0	-21426.43	0	0	0	0	60
7-1	-1405.05	0	-22399.03	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-305	0	-33270.25	0	-18300	-	-	-
2-1	-3606	0	-21267.87	0	-216360	-	-	-
3-1	-1190	0	-22073	0	-71400	-	-	-
4-1	-3951	0	-21344.1	0	-237060	-	-	-
5-1	-1294	0	-22229.75	0	-77640	-	-	-

6-1	-4323.65	0	-21426.43	0	-259419	-	-	-
7-1	-1405.05	0	-22399.03	0	-84303	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 12.11 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.55	0	asse X	asse Y
2-1	10.17	0	asse X	asse Y
3-1	3.23	0	asse X	asse Y
4-1	11.11	0	asse X	asse Y
5-1	3.49	0	asse X	asse Y
6-1	12.11	0	asse X	asse Y
7-1	3.76	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	2 176.9	126.8	generale
2-1	2 302.0	129.2	generale
3-1	2 210.5	127.4	generale
4-1	2 314.9	129.4	generale
5-1	2 213.7	127.5	generale
6-1	2 328.9	129.7	generale
7-1	2 217.2	127.6	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.03	1.00	0.97	1.00	1.00	1.00	1.00	-	1.26
2-1	-	-	29	0.0019	19.34	1.02	1.00	0.58	1.00	1.00	1.00	1.00	0.76	0.41
3-1	-	-	29	0.0019	19.34	1.02	1.00	0.85	1.00	1.00	1.00	1.00	0.76	0.77
4-1	-	-	29	0.0019	19.34	1.02	1.00	0.55	1.00	1.00	1.00	1.00	0.76	0.37
5-1	-	-	29	0.0019	19.34	1.02	1.00	0.84	1.00	1.00	1.00	1.00	0.76	0.75
6-1	-	-	29	0.0019	19.34	1.02	1.00	0.51	1.00	1.00	1.00	1.00	0.93	0.41
7-1	-	-	29	0.0019	19.34	1.02	1.00	0.83	1.00	1.00	1.00	1.00	0.93	0.9

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.05	1.36	0.98	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.04	1.39	0.68	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.05	1.37	0.89	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.03	1.40	0.65	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.05	1.37	0.88	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.03	1.40	0.62	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.05	1.37	0.88	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.03	1.34	0.98	1.00	1.00	1.00	1.00	-	5.99
2-1	0.27	16.44	1.02	1.37	0.70	1.00	1.00	1.00	1.00	0.86	3.72
3-1	0.27	16.44	1.02	1.34	0.90	1.00	1.00	1.00	1.00	0.86	4.73
4-1	0.27	16.44	1.02	1.37	0.67	1.00	1.00	1.00	1.00	0.86	3.59
5-1	0.27	16.44	1.02	1.35	0.89	1.00	1.00	1.00	1.00	0.86	4.69
6-1	0.27	16.44	1.02	1.38	0.65	1.00	1.00	1.00	1.00	0.96	3.85
7-1	0.27	16.44	1.02	1.35	0.88	1.00	1.00	1.00	1.00	0.96	5.18

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.31	54430.94	180079.5	33270.2	SI (180079.5/33270.2 = 5.41 >= 1.0)
2-1	1.80	2.41	39226.51	94636.7	21267.9	SI (94636.7/21267.9 = 4.45 >= 1.0)
3-1	1.80	3.18	50189.14	159458.6	22073	SI (159458.6/22073 = 7.22 >= 1.0)
4-1	1.80	2.32	37751.6	87592.8	21344.1	SI (87592.8/21344.1 = 4.10 >= 1.0)
5-1	1.80	3.15	49781.67	156619.8	22229.7	SI (156619.8/22229.7 = 7.05 >= 1.0)
6-1	2.30	2	36170.26	72434.4	21426.4	SI (72434.4/21426.4 = 3.38 >= 1.0)
7-1	2.30	2.8	49353.37	138057.8	22399	SI (138057.8/22399 = 6.16 >=

						1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	12066.8	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	7713.65	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	8005.67	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	7741.3	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	8062.52	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	7771.16	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	8123.92	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	28247.8	305	SI (28247.8/305 = 92.62 >= 1.0)
2-1	20160.6	3606	SI (20160.6/3606 = 5.59 >= 1.0)
3-1	20452.6	1190	SI (20452.6/1190 = 17.19 >= 1.0)
4-1	20188.2	3951	SI (20188.2/3951 = 5.11 >= 1.0)
5-1	20509.4	1294	SI (20509.4/1294 = 15.85 >= 1.0)
6-1	20218.1	4323.6	SI (20218.1/4323.6 = 4.68 >= 1.0)
7-1	20570.8	1405	SI (20570.8/1405 = 14.64 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx	My	dx [cm]	dy [cm]	dz [cm]

				[daN*cm]	[daN*cm]			
1-1	-305	0	-33270.25	0	0	0	0	60
2-1	-3606	0	-21267.87	0	0	0	0	60
3-1	-1190	0	-22073	0	0	0	0	60
4-1	-3951	0	-21344.1	0	0	0	0	60
5-1	-1294	0	-22229.75	0	0	0	0	60
6-1	-4323.65	0	-21426.43	0	0	0	0	60
7-1	-1405.05	0	-22399.03	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-305	0	-33270.25	0	-18300	-	-	-
2-1	-3606	0	-21267.87	0	-216360	-	-	-
3-1	-1190	0	-22073	0	-71400	-	-	-
4-1	-3951	0	-21344.1	0	-237060	-	-	-
5-1	-1294	0	-22229.75	0	-77640	-	-	-
6-1	-4323.65	0	-21426.43	0	-259419	-	-	-
7-1	-1405.05	0	-22399.03	0	-84303	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 12.11 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.55	0	asse X	asse Y
2-1	10.17	0	asse X	asse Y
3-1	3.23	0	asse X	asse Y
4-1	11.11	0	asse X	asse Y
5-1	3.49	0	asse X	asse Y
6-1	12.11	0	asse X	asse Y
7-1	3.76	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.22	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.35	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.27	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.35	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.27	0.27
6-1	-	-	2	0.001	0.27	5.14	1.01	1.51	0.98	1.00	1.00	1.00	0	15.35	0.27

				9											
7-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	0.99	1.00	1.00	1.00	0	15.28	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.89	54430.94	374904.1	33270.2	SI (374904.1/33270.2 = 11.27 >= 1.0)
2-1	1.80	8.8	39226.51	345195.2	21267.9	SI (345195.2/21267.9 = 16.23 >= 1.0)
3-1	1.80	8.75	50189.14	439403.1	22073	SI (439403.1/22073 = 19.91 >= 1.0)
4-1	1.80	8.8	37751.6	332235.2	21344.1	SI (332235.2/21344.1 = 15.57 >= 1.0)
5-1	1.80	8.76	49781.67	435935.2	22229.7	SI (435935.2/22229.7 = 19.61 >= 1.0)
6-1	2.30	6.95	36170.26	251208.1	21426.4	SI (251208.1/21426.4 = 11.72 >= 1.0)
7-1	2.30	6.91	49353.37	341215.8	22399	SI (341215.8/22399 = 15.23 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	39586.13	177069.92
2-1	-	2	0.8	1.10	1.30	28528.37	136207.63
3-1	-	2	0.8	1.10	1.30	36501.19	136207.63
4-1	-	2	0.8	1.10	1.30	27455.71	136207.63
5-1	-	2	0.8	1.10	1.30	36204.85	136207.63
6-1	-	2	0.8	1.10	1.30	26305.64	136207.63
7-1	-	2	0.8	1.10	1.30	35893.36	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica

1-1	216656.1	305	SI (216656.1/305 = 710.35 >= 1.0)
2-1	164736	3606	SI (164736/3606 = 45.68 >= 1.0)
3-1	172708.8	1190	SI (172708.8/1190 = 145.13 >= 1.0)
4-1	163663.3	3951	SI (163663.3/3951 = 41.42 >= 1.0)
5-1	172412.5	1294	SI (172412.5/1294 = 133.24 >= 1.0)
6-1	162513.3	4323.6	SI (162513.3/4323.6 = 37.59 >= 1.0)
7-1	172101	1405	SI (172101/1405 = 122.49 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T008_ID030).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 4							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-7 Nodo 4							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-10 Nodo 4							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-7 Nodo 4							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-10 Nodo 4							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-7 Nodo 4							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-10 Nodo 4							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	824430	8100	SI (824430/8100 > 100)	1214590	9720	SI (1214590/9720 > 100)
2-1	504820	170150	SI (504820/170150 = 2.97 >= 1.0)	753200	204180	SI (753200/204180 = 3.69 >= 1.0)
3-1	515940	48200	SI (515940/48200 = 10.70 >= 1.0)	768770	57840	SI (768770/57840 = 13.29 >= 1.0)
4-1	505950	187500	SI (505950/187500 = 2.70 >= 1.0)	754780	225000	SI (754780/225000 = 3.35 >= 1.0)
5-1	518180	53400	SI (518180/53400 = 9.70 >= 1.0)	771900	64080	SI (771900/64080 = 12.05 >= 1.0)

6-1	507160	206280	SI (507160/206280 = 2.46 >= 1.0)	756480	247530	SI (756480/247530 = 3.06 >= 1.0)
7-1	520590	59000	SI (520590/59000 = 8.82 >= 1.0)	775280	70810	SI (775280/70810 = 10.95 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	34702.6	183319.6	SI (183319.6/34702.6 = 5.28 >= 1.0)	34702.6	377774.3	SI (377774.3/34702.6 = 10.89 >= 1.0)
2-1	21520.1	100042	SI (100042/21520.1 = 4.65 >= 1.0)	21520.1	354586.5	SI (354586.5/21520.1 = 16.48 >= 1.0)
3-1	21964.8	166219	SI (166219/21964.8 = 7.57 >= 1.0)	21964.8	447447.7	SI (447447.7/21964.8 = 20.37 >= 1.0)
4-1	21565.1	92634.9	SI (92634.9/21565.1 = 4.30 >= 1.0)	21565.1	341507.6	SI (341507.6/21565.1 = 15.84 >= 1.0)
5-1	22054.3	163134.2	SI (163134.2/22054.3 = 7.40 >= 1.0)	22054.3	443806.1	SI (443806.1/22054.3 = 20.12 >= 1.0)
6-1	21613.7	76583.8	SI (76583.8/21613.7 = 3.54 >= 1.0)	21613.7	258370.4	SI (258370.4/21613.7 = 11.95 >= 1.0)
7-1	22150.9	143629.5	SI (143629.5/22150.9 = 6.48 >= 1.0)	22150.9	347236.1	SI (347236.1/22150.9 = 15.68 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	162	28767.3	SI (28767.3/162 = 177.58 >=	162	216966.3	SI (216966.3/162 = 1 339.30 >=

			1.0)			1.0)
2-1	3403	20252.1	SI (20252.1/3403 = 5.95 >= 1.0)	3403	165523.4	SI (165523.4/3403 = 48.64 >= 1.0)
3-1	964	20413.3	SI (20413.3/964 = 21.18 >= 1.0)	964	173399.9	SI (173399.9/964 = 179.88 >= 1.0)
4-1	3750	20268.4	SI (20268.4/3750 = 5.40 >= 1.0)	3750	164436.8	SI (164436.8/3750 = 43.85 >= 1.0)
5-1	1068	20445.8	SI (20445.8/1068 = 19.14 >= 1.0)	1068	173087.1	SI (173087.1/1068 = 162.07 >= 1.0)
6-1	4125.5	20286	SI (20286/4125.5 = 4.92 >= 1.0)	4125.5	163265.8	SI (163265.8/4125.5 = 39.57 >= 1.0)
7-1	1180.1	20480.9	SI (20480.9/1180.1 = 17.36 >= 1.0)	1180.1	172752.7	SI (172752.7/1180.1 = 146.39 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 70 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	162	0	-34702.59	0	0	0	0	60
2-1	-3403	0	-21520.1	0	0	0	0	60
3-1	-964	0	-21964.8	0	0	0	0	60
4-1	-3750	0	-21565.12	0	0	0	0	60
5-1	-1068	0	-22054.29	0	0	0	0	60
6-1	-4125.54	0	-21613.74	0	0	0	0	60
7-1	-1180.09	0	-22150.93	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	162	0	-34702.59	0	9720	-	-	-
2-1	-3403	0	-21520.1	0	-204180	-	-	-
3-1	-964	0	-21964.8	0	-57840	-	-	-
4-1	-3750	0	-21565.12	0	-225000	-	-	-
5-1	-1068	0	-22054.29	0	-64080	-	-	-

6-1	-4125.54	0	-21613.74	0	-247532	-	-	-
7-1	-1180.09	0	-22150.93	0	-70805	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 11.45 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.28	0	asse X	asse Y
2-1	9.49	0	asse X	asse Y
3-1	2.63	0	asse X	asse Y
4-1	10.43	0	asse X	asse Y
5-1	2.91	0	asse X	asse Y
6-1	11.45	0	asse X	asse Y
7-1	3.2	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	2 173.6	126.7	generale
2-1	2 292.7	129.0	generale
3-1	2 202.9	127.3	generale
4-1	2 305.6	129.2	generale
5-1	2 206.3	127.4	generale
6-1	2 319.8	129.5	generale
7-1	2 210.0	127.4	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.03	1.00	0.99	1.00	1.00	1.00	1.00	-	1.29
2-1	-	-	29	0.0019	19.34	1.02	1.00	0.60	1.00	1.00	1.00	1.00	0.76	0.44
3-1	-	-	29	0.0019	19.34	1.02	1.00	0.88	1.00	1.00	1.00	1.00	0.76	0.81
4-1	-	-	29	0.0019	19.34	1.02	1.00	0.57	1.00	1.00	1.00	1.00	0.76	0.4
5-1	-	-	29	0.0019	19.34	1.02	1.00	0.86	1.00	1.00	1.00	1.00	0.76	0.79
6-1	-	-	29	0.0019	19.34	1.02	1.00	0.54	1.00	1.00	1.00	1.00	0.93	0.44
7-1	-	-	29	0.0019	19.34	1.02	1.00	0.85	1.00	1.00	1.00	1.00	0.93	0.94

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.05	1.36	0.99	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.04	1.39	0.70	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.05	1.36	0.91	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.04	1.39	0.67	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.05	1.37	0.90	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.03	1.40	0.64	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.05	1.37	0.89	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.03	1.33	0.99	1.00	1.00	1.00	1.00	-	6.04
2-1	0.27	16.44	1.02	1.37	0.72	1.00	1.00	1.00	1.00	0.86	3.81
3-1	0.27	16.44	1.02	1.34	0.92	1.00	1.00	1.00	1.00	0.86	4.83
4-1	0.27	16.44	1.02	1.37	0.69	1.00	1.00	1.00	1.00	0.86	3.68
5-1	0.27	16.44	1.02	1.34	0.91	1.00	1.00	1.00	1.00	0.86	4.78
6-1	0.27	16.44	1.02	1.37	0.66	1.00	1.00	1.00	1.00	0.96	3.95
7-1	0.27	16.44	1.02	1.34	0.90	1.00	1.00	1.00	1.00	0.96	5.28

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.34	54857.45	183319.6	34702.6	SI (183319.6/34702.6 = 5.28 >= 1.0)
2-1	1.80	2.48	40309.16	100042	21520.1	SI (100042/21520.1 = 4.65 >= 1.0)
3-1	1.80	3.25	51139.38	166219	21964.8	SI (166219/21964.8 = 7.57 >= 1.0)
4-1	1.80	2.39	38815.05	92634.9	21565.1	SI (92634.9/21565.1 = 4.30 >= 1.0)
5-1	1.80	3.22	50709.22	163134.2	22054.3	SI (163134.2/22054.3 = 7.40 >= 1.0)
6-1	2.30	2.06	37204.97	76583.8	21613.7	SI (76583.8/21613.7 = 3.54 >= 1.0)
7-1	2.30	2.86	50249.53	143629.5	22150.9	SI (143629.5/22150.9 = 6.48

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	12586.3	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	7805.14	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	7966.42	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	7821.46	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	7998.88	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	7839.1	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	8033.93	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	28767.3	162	SI (28767.3/162 = 177.58 >= 1.0)
2-1	20252.1	3403	SI (20252.1/3403 = 5.95 >= 1.0)
3-1	20413.3	964	SI (20413.3/964 = 21.18 >= 1.0)
4-1	20268.4	3750	SI (20268.4/3750 = 5.40 >= 1.0)
5-1	20445.8	1068	SI (20445.8/1068 = 19.14 >= 1.0)
6-1	20286	4125.5	SI (20286/4125.5 = 4.92 >= 1.0)
7-1	20480.9	1180.1	SI (20480.9/1180.1 = 17.36 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx	My	dx [cm]	dy [cm]	dz [cm]

				[daN*cm]	[daN*cm]			
1-1	162	0	-34702.59	0	0	0	0	60
2-1	-3403	0	-21520.1	0	0	0	0	60
3-1	-964	0	-21964.8	0	0	0	0	60
4-1	-3750	0	-21565.12	0	0	0	0	60
5-1	-1068	0	-22054.29	0	0	0	0	60
6-1	-4125.54	0	-21613.74	0	0	0	0	60
7-1	-1180.09	0	-22150.93	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	162	0	-34702.59	0	9720	-	-	-
2-1	-3403	0	-21520.1	0	-204180	-	-	-
3-1	-964	0	-21964.8	0	-57840	-	-	-
4-1	-3750	0	-21565.12	0	-225000	-	-	-
5-1	-1068	0	-22054.29	0	-64080	-	-	-
6-1	-4125.54	0	-21613.74	0	-247532	-	-	-
7-1	-1180.09	0	-22150.93	0	-70805	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 11.45 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.28	0	asse X	asse Y
2-1	9.49	0	asse X	asse Y
3-1	2.63	0	asse X	asse Y
4-1	10.43	0	asse X	asse Y
5-1	2.91	0	asse X	asse Y
6-1	11.45	0	asse X	asse Y
7-1	3.2	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.02	1.45	1.00	1.00	1.00	1.00	0	15.22	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.35	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.26	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.35	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.27	0.27
6-1	-	-	2	0.001	0.27	5.14	1.01	1.51	0.98	1.00	1.00	1.00	0	15.35	0.27

				9											
7-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.27	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.89	54857.45	377774.3	34702.6	SI (377774.3/34702.6 = 10.89 >= 1.0)
2-1	1.80	8.8	40309.16	354586.5	21520.1	SI (354586.5/21520.1 = 16.48 >= 1.0)
3-1	1.80	8.75	51139.38	447447.7	21964.8	SI (447447.7/21964.8 = 20.37 >= 1.0)
4-1	1.80	8.8	38815.05	341507.6	21565.1	SI (341507.6/21565.1 = 15.84 >= 1.0)
5-1	1.80	8.75	50709.22	443806.1	22054.3	SI (443806.1/22054.3 = 20.12 >= 1.0)
6-1	2.30	6.94	37204.97	258370.4	21613.7	SI (258370.4/21613.7 = 11.95 >= 1.0)
7-1	2.30	6.91	50249.53	347236.1	22150.9	SI (347236.1/22150.9 = 15.68 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	39896.33	177069.92
2-1	-	2	0.8	1.10	1.30	29315.75	136207.63
3-1	-	2	0.8	1.10	1.30	37192.28	136207.63
4-1	-	2	0.8	1.10	1.30	28229.12	136207.63
5-1	-	2	0.8	1.10	1.30	36879.43	136207.63
6-1	-	2	0.8	1.10	1.30	27058.16	136207.63
7-1	-	2	0.8	1.10	1.30	36545.12	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica

1-1	216966.3	162	SI (216966.3/162 = 1339.30 >= 1.0)
2-1	165523.4	3403	SI (165523.4/3403 = 48.64 >= 1.0)
3-1	173399.9	964	SI (173399.9/964 = 179.88 >= 1.0)
4-1	164436.8	3750	SI (164436.8/3750 = 43.85 >= 1.0)
5-1	173087.1	1068	SI (173087.1/1068 = 162.07 >= 1.0)
6-1	163265.8	4125.5	SI (163265.8/4125.5 = 39.57 >= 1.0)
7-1	172752.7	1180.1	SI (172752.7/1180.1 = 146.39 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T009_ID031).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 5							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-7 Nodo 5							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-10 Nodo 5							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-7 Nodo 5							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-10 Nodo 5							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-7 Nodo 5							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-10 Nodo 5							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	831550	65850	SI (831550/65850 = 12.63 >= 1.0)	1224550	79020	SI (1224550/79020 = 15.50 >= 1.0)
2-1	501340	137950	SI (501340/137950 = 3.63 >= 1.0)	748330	165540	SI (748330/165540 = 4.52 >= 1.0)
3-1	511020	18400	SI (511020/18400 = 27.77 >= 1.0)	761880	22080	SI (761880/22080 = 34.51 >= 1.0)
4-1	501860	155000	SI (501860/155000 = 3.24 >= 1.0)	749060	186000	SI (749060/186000 = 4.03 >= 1.0)
5-1	512510	23450	SI (512510/23450 = 21.86 >= 1.0)	763970	28140	SI (763970/28140 = 27.15 >= 1.0)

6-1	502430	173400	SI (502430/173400 = 2.90 >= 1.0)	749850	208080	SI (749850/208080 = 3.60 >= 1.0)
7-1	514120	28960	SI (514120/28960 = 17.75 >= 1.0)	766220	34750	SI (766220/34750 = 22.05 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	34987.2	160522	SI (160522/34987.2 = 4.59 >= 1.0)	34987.2	356523.9	SI (356523.9/34987.2 = 10.19 >= 1.0)
2-1	21380.9	114745.7	SI (114745.7/21380.9 = 5.37 >= 1.0)	21380.9	378568.2	SI (378568.2/21380.9 = 17.71 >= 1.0)
3-1	21768.1	185420.3	SI (185420.3/21768.1 = 8.52 >= 1.0)	21768.1	468973.2	SI (468973.2/21768.1 = 21.54 >= 1.0)
4-1	21401.8	106586.5	SI (106586.5/21401.8 = 4.98 >= 1.0)	21401.8	365577.8	SI (365577.8/21401.8 = 17.08 >= 1.0)
5-1	21827.6	182055.1	SI (182055.1/21827.6 = 8.34 >= 1.0)	21827.6	465330.2	SI (465330.2/21827.6 = 21.32 >= 1.0)
6-1	21424.3	88380.4	SI (88380.4/21424.3 = 4.13 >= 1.0)	21424.3	277456	SI (277456/21424.3 = 12.95 >= 1.0)
7-1	21892	160307.6	SI (160307.6/21892 = 7.32 >= 1.0)	21892	364185.3	SI (364185.3/21892 = 16.64 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	1317	28870.5	SI (28870.5/1317 = 21.92 >=	1317	214692.8	SI (214692.8/1317 = 163.02 >=

			1.0)			1.0)
2-1	2759	20201.6	SI (20201.6/2759 = 7.32 >= 1.0)	2759	167529.1	SI (167529.1/2759 = 60.72 >= 1.0)
3-1	368	20342	SI (20342/368 = 55.28 >= 1.0)	368	175260.3	SI (175260.3/368 = 476.25 >= 1.0)
4-1	3100	20209.1	SI (20209.1/3100 = 6.52 >= 1.0)	3100	166439.2	SI (166439.2/3100 = 53.69 >= 1.0)
5-1	469	20363.6	SI (20363.6/469 = 43.42 >= 1.0)	469	174944.4	SI (174944.4/469 = 373.02 >= 1.0)
6-1	3467.9	20217.3	SI (20217.3/3467.9 = 5.83 >= 1.0)	3467.9	165265.7	SI (165265.7/3467.9 = 47.66 >= 1.0)
7-1	579.1	20386.9	SI (20386.9/579.1 = 35.20 >= 1.0)	579.1	174601.9	SI (174601.9/579.1 = 301.49 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 70 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1317	0	-34987.24	0	0	0	0	60
2-1	-2759	0	-21380.92	0	0	0	0	60
3-1	-368	0	-21768.06	0	0	0	0	60
4-1	-3100	0	-21401.78	0	0	0	0	60
5-1	-469	0	-21827.64	0	0	0	0	60
6-1	-3467.92	0	-21424.31	0	0	0	0	60
7-1	-579.13	0	-21891.98	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1317	0	-34987.24	0	79020	-	-	-
2-1	-2759	0	-21380.92	0	-165540	-	-	-
3-1	-368	0	-21768.06	0	-22080	-	-	-
4-1	-3100	0	-21401.78	0	-186000	-	-	-
5-1	-469	0	-21827.64	0	-28140	-	-	-

6-1	-3467.92	0	-21424.31	0	-208075	-	-	-
7-1	-579.13	0	-21891.98	0	-34748	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 9.71 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	2.26	0	asse X	asse Y
2-1	7.74	0	asse X	asse Y
3-1	1.01	0	asse X	asse Y
4-1	8.69	0	asse X	asse Y
5-1	1.29	0	asse X	asse Y
6-1	9.71	0	asse X	asse Y
7-1	1.59	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	2 198.2	127.2	generale
2-1	2 269.1	128.6	generale
3-1	2 182.7	126.9	generale
4-1	2 281.8	128.8	generale
5-1	2 186.1	127.0	generale
6-1	2 295.7	129.1	generale
7-1	2 189.8	127.0	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.02	1.00	0.89	1.00	1.00	1.00	1.00	-	1.1
2-1	-	-	29	0.0019	19.34	1.02	1.00	0.67	1.00	1.00	1.00	1.00	0.76	0.52
3-1	-	-	29	0.0019	19.34	1.02	1.00	0.95	1.00	1.00	1.00	1.00	0.76	0.92
4-1	-	-	29	0.0019	19.34	1.02	1.00	0.63	1.00	1.00	1.00	1.00	0.76	0.47
5-1	-	-	29	0.0019	19.34	1.02	1.00	0.94	1.00	1.00	1.00	1.00	0.76	0.9
6-1	-	-	29	0.0019	19.34	1.02	1.00	0.60	1.00	1.00	1.00	1.00	0.93	0.52
7-1	-	-	29	0.0019	19.34	1.02	1.00	0.92	1.00	1.00	1.00	1.00	0.93	1.08

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.05	1.36	0.92	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.04	1.38	0.75	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.05	1.36	0.97	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.04	1.39	0.72	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.05	1.36	0.96	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.04	1.39	0.69	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.05	1.36	0.95	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.02	1.34	0.93	1.00	1.00	1.00	1.00	-	5.68
2-1	0.27	16.44	1.02	1.36	0.77	1.00	1.00	1.00	1.00	0.86	4.06
3-1	0.27	16.44	1.02	1.34	0.97	1.00	1.00	1.00	1.00	0.86	5.08
4-1	0.27	16.44	1.02	1.36	0.74	1.00	1.00	1.00	1.00	0.86	3.93
5-1	0.27	16.44	1.02	1.34	0.96	1.00	1.00	1.00	1.00	0.86	5.03
6-1	0.27	16.44	1.02	1.37	0.71	1.00	1.00	1.00	1.00	0.96	4.21
7-1	0.27	16.44	1.02	1.34	0.95	1.00	1.00	1.00	1.00	0.96	5.56

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.1	51731.51	160522	34987.2	SI (160522/34987.2 = 4.59 >= 1.0)
2-1	1.80	2.66	43066.98	114745.7	21380.9	SI (114745.7/21380.9 = 5.37 >= 1.0)
3-1	1.80	3.45	53697.36	185420.3	21768.1	SI (185420.3/21768.1 = 8.52 >= 1.0)
4-1	1.80	2.56	41568.43	106586.5	21401.8	SI (106586.5/21401.8 = 4.98 >= 1.0)
5-1	1.80	3.42	53263.08	182055.1	21827.6	SI (182055.1/21827.6 = 8.34 >= 1.0)
6-1	2.30	2.21	39954.87	88380.4	21424.3	SI (88380.4/21424.3 = 4.13 >= 1.0)
7-1	2.30	3.04	52792.16	160307.6	21892	SI (160307.6/21892 = 7.32 >=

						1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	12689.54	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	7754.66	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	7895.07	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	7762.22	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	7916.68	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	7770.39	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	7940.01	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	28870.5	1317	SI (28870.5/1317 = 21.92 >= 1.0)
2-1	20201.6	2759	SI (20201.6/2759 = 7.32 >= 1.0)
3-1	20342	368	SI (20342/368 = 55.28 >= 1.0)
4-1	20209.1	3100	SI (20209.1/3100 = 6.52 >= 1.0)
5-1	20363.6	469	SI (20363.6/469 = 43.42 >= 1.0)
6-1	20217.3	3467.9	SI (20217.3/3467.9 = 5.83 >= 1.0)
7-1	20386.9	579.1	SI (20386.9/579.1 = 35.20 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:

Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1317	0	-34987.24	0	0	0	0	60
2-1	-2759	0	-21380.92	0	0	0	0	60
3-1	-368	0	-21768.06	0	0	0	0	60
4-1	-3100	0	-21401.78	0	0	0	0	60
5-1	-469	0	-21827.64	0	0	0	0	60
6-1	-3467.92	0	-21424.31	0	0	0	0	60
7-1	-579.13	0	-21891.98	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	1317	0	-34987.24	0	79020	-	-	-
2-1	-2759	0	-21380.92	0	-165540	-	-	-
3-1	-368	0	-21768.06	0	-22080	-	-	-
4-1	-3100	0	-21401.78	0	-186000	-	-	-
5-1	-469	0	-21827.64	0	-28140	-	-	-
6-1	-3467.92	0	-21424.31	0	-208075	-	-	-
7-1	-579.13	0	-21891.98	0	-34748	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 9.71 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	2.26	0	asse X	asse Y
2-1	7.74	0	asse X	asse Y
3-1	1.01	0	asse X	asse Y
4-1	8.69	0	asse X	asse Y
5-1	1.29	0	asse X	asse Y
6-1	9.71	0	asse X	asse Y
7-1	1.59	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.23	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.49	0.99	1.00	1.00	1.00	0	15.33	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.23	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.49	0.99	1.00	1.00	1.00	0	15.34	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.24	0.27

6-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.35	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.24	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.89	51731.51	356523.9	34987.2	SI (356523.9/34987.2 = 10.19 >= 1.0)
2-1	1.80	8.79	43066.98	378568.2	21380.9	SI (378568.2/21380.9 = 17.71 >= 1.0)
3-1	1.80	8.73	53697.36	468973.2	21768.1	SI (468973.2/21768.1 = 21.54 >= 1.0)
4-1	1.80	8.79	41568.43	365577.8	21401.8	SI (365577.8/21401.8 = 17.08 >= 1.0)
5-1	1.80	8.74	53263.08	465330.2	21827.6	SI (465330.2/21827.6 = 21.32 >= 1.0)
6-1	2.30	6.94	39954.87	277456	21424.3	SI (277456/21424.3 = 12.95 >= 1.0)
7-1	2.30	6.9	52792.16	364185.3	21892	SI (364185.3/21892 = 16.64 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	37622.92	177069.92
2-1	-	2	0.8	1.10	1.30	31321.44	136207.63
3-1	-	2	0.8	1.10	1.30	39052.62	136207.63
4-1	-	2	0.8	1.10	1.30	30231.59	136207.63
5-1	-	2	0.8	1.10	1.30	38736.78	136207.63
6-1	-	2	0.8	1.10	1.30	29058.09	136207.63
7-1	-	2	0.8	1.10	1.30	38394.3	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	214692.8	1317	SI (214692.8/1317 = 163.02 >= 1.0)
2-1	167529.1	2759	SI (167529.1/2759 = 60.72 >= 1.0)
3-1	175260.3	368	SI (175260.3/368 = 476.25 >= 1.0)
4-1	166439.2	3100	SI (166439.2/3100 = 53.69 >= 1.0)
5-1	174944.4	469	SI (174944.4/469 = 373.02 >= 1.0)
6-1	165265.7	3467.9	SI (165265.7/3467.9 = 47.66 >= 1.0)
7-1	174601.9	579.1	SI (174601.9/579.1 = 301.49 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T010_ID032).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 6							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-12 Nodo 6							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-15 Nodo 6							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-12 Nodo 6							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-15 Nodo 6							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-12 Nodo 6							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-15 Nodo 6							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	808920	94350	SI (808920/94350 = 8.57 >= 1.0)	1192870	113220	SI (1192870/113220 = 10.54 >= 1.0)
2-1	502300	126950	SI (502300/126950 = 3.96 >= 1.0)	749670	152340	SI (749670/152340 = 4.92 >= 1.0)
3-1	509590	6500	SI (509590/6500 = 78.40 >= 1.0)	759880	7800	SI (759880/7800 = 97.42 >= 1.0)
4-1	503850	144150	SI (503850/144150 = 3.50 >= 1.0)	751850	172980	SI (751850/172980 = 4.35 >= 1.0)
5-1	511880	11700	SI (511880/11700 = 43.75 >= 1.0)	763080	14040	SI (763080/14040 = 54.35 >= 1.0)

6-1	505530	162780	SI (505530/162780 = 3.11 >= 1.0)	754200	195340	SI (754200/195340 = 3.86 >= 1.0)
7-1	514340	17300	SI (514340/17300 = 29.73 >= 1.0)	766530	20760	SI (766530/20760 = 36.92 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	34082.1	149147.3	SI (149147.3/34082.1 = 4.38 >= 1.0)	34082.1	345084.7	SI (345084.7/34082.1 = 10.13 >= 1.0)
2-1	21419.2	120395.5	SI (120395.5/21419.2 = 5.62 >= 1.0)	21419.2	387153.6	SI (387153.6/21419.2 = 18.08 >= 1.0)
3-1	21710.9	193618.6	SI (193618.6/21710.9 = 8.92 >= 1.0)	21710.9	477633	SI (477633/21710.9 = 22.00 >= 1.0)
4-1	21481.3	112032.3	SI (112032.3/21481.3 = 5.22 >= 1.0)	21481.3	374306.6	SI (374306.6/21481.3 = 17.42 >= 1.0)
5-1	21802.2	190024.4	SI (190024.4/21802.2 = 8.72 >= 1.0)	21802.2	473871.5	SI (473871.5/21802.2 = 21.74 >= 1.0)
6-1	21548.4	93062.4	SI (93062.4/21548.4 = 4.32 >= 1.0)	21548.4	284467.8	SI (284467.8/21548.4 = 13.20 >= 1.0)
7-1	21900.8	167302.6	SI (167302.6/21900.8 = 7.64 >= 1.0)	21900.8	370877.9	SI (370877.9/21900.8 = 16.93 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	1887	28542.3	SI (28542.3/1887 = 15.13 >=	1887	213470.9	SI (213470.9/1887 = 113.13 >=

			1.0)			1.0)
2-1	2539	20215.5	SI (20215.5/2539 = 7.96 >= 1.0)	2539	168253.1	SI (168253.1/2539 = 66.27 >= 1.0)
3-1	130	20321.3	SI (20321.3/130 = 156.32 >= 1.0)	130	176013	SI (176013/130 = 1 353.95 >= 1.0)
4-1	2883	20238	SI (20238/2883 = 7.02 >= 1.0)	2883	167172.7	SI (167172.7/2883 = 57.99 >= 1.0)
5-1	234	20354.4	SI (20354.4/234 = 86.98 >= 1.0)	234	175685.8	SI (175685.8/234 = 750.79 >= 1.0)
6-1	3255.6	20262.3	SI (20262.3/3255.6 = 6.22 >= 1.0)	3255.6	166009.3	SI (166009.3/3255.6 = 50.99 >= 1.0)
7-1	346	20390.2	SI (20390.2/346 = 58.93 >= 1.0)	346	175336.6	SI (175336.6/346 = 506.77 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 70 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1887	0	-34082.1	0	0	0	0	60
2-1	2539	0	-21419.18	0	0	0	0	60
3-1	130	0	-21710.91	0	0	0	0	60
4-1	2883	0	-21481.32	0	0	0	0	60
5-1	234	0	-21802.23	0	0	0	0	60
6-1	3255.61	0	-21548.43	0	0	0	0	60
7-1	345.99	0	-21900.84	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1887	0	-34082.1	0	-113220	-	-	-
2-1	2539	0	-21419.18	0	152340	-	-	-
3-1	130	0	-21710.91	0	7800	-	-	-
4-1	2883	0	-21481.32	0	172980	-	-	-
5-1	234	0	-21802.23	0	14040	-	-	-

6-1	3255.61	0	-21548.43	0	195337	-	-	-
7-1	345.99	0	-21900.84	0	20759	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 9.07 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	3.32	0	asse X	asse Y
2-1	7.11	0	asse X	asse Y
3-1	0.36	0	asse X	asse Y
4-1	8.05	0	asse X	asse Y
5-1	0.64	0	asse X	asse Y
6-1	9.07	0	asse X	asse Y
7-1	0.95	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	2 211.6	127.5	generale
2-1	2 260.7	128.4	generale
3-1	2 174.6	126.7	generale
4-1	2 273.3	128.6	generale
5-1	2 178.1	126.8	generale
6-1	2 286.9	128.9	generale
7-1	2 181.8	126.9	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.02	1.00	0.85	1.00	1.00	1.00	1.00	-	1.01
2-1	-	-	29	0.0019	19.34	1.02	1.00	0.69	1.00	1.00	1.00	1.00	0.76	0.55
3-1	-	-	29	0.0019	19.34	1.03	1.00	0.98	1.00	1.00	1.00	1.00	0.76	0.97
4-1	-	-	29	0.0019	19.34	1.02	1.00	0.65	1.00	1.00	1.00	1.00	0.76	0.5
5-1	-	-	29	0.0019	19.34	1.03	1.00	0.97	1.00	1.00	1.00	1.00	0.76	0.95
6-1	-	-	29	0.0019	19.34	1.02	1.00	0.62	1.00	1.00	1.00	1.00	0.93	0.56
7-1	-	-	29	0.0019	19.34	1.02	1.00	0.95	1.00	1.00	1.00	1.00	0.93	1.13

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.05	1.37	0.89	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.04	1.38	0.77	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.05	1.36	0.99	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.04	1.38	0.74	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.05	1.36	0.98	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.04	1.39	0.71	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.05	1.36	0.97	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.02	1.34	0.90	1.00	1.00	1.00	1.00	-	5.49
2-1	0.27	16.44	1.02	1.36	0.78	1.00	1.00	1.00	1.00	0.86	4.16
3-1	0.27	16.44	1.03	1.33	0.99	1.00	1.00	1.00	1.00	0.86	5.18
4-1	0.27	16.44	1.02	1.36	0.76	1.00	1.00	1.00	1.00	0.86	4.02
5-1	0.27	16.44	1.03	1.34	0.98	1.00	1.00	1.00	1.00	0.86	5.14
6-1	0.27	16.44	1.02	1.36	0.73	1.00	1.00	1.00	1.00	0.96	4.32
7-1	0.27	16.44	1.02	1.34	0.97	1.00	1.00	1.00	1.00	0.96	5.67

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	2.98	50051.27	149147.3	34082.1	SI (149147.3/34082.1 = 4.38 >= 1.0)
2-1	1.80	2.73	44062.54	120395.5	21419.2	SI (120395.5/21419.2 = 5.62 >= 1.0)
3-1	1.80	3.54	54732.36	193618.6	21710.9	SI (193618.6/21710.9 = 8.92 >= 1.0)
4-1	1.80	2.63	42576.93	112032.3	21481.3	SI (112032.3/21481.3 = 5.22 >= 1.0)
5-1	1.80	3.5	54282.53	190024.4	21802.2	SI (190024.4/21802.2 = 8.72 >= 1.0)
6-1	2.30	2.27	40977.29	93062.4	21548.4	SI (93062.4/21548.4 = 4.32 >= 1.0)
7-1	2.30	3.11	53802.35	167302.6	21900.8	SI (167302.6/21900.8 = 7.64

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	12361.25	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	7768.53	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	7874.34	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	7791.07	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	7907.46	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	7815.41	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	7943.23	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	28542.3	1887	SI (28542.3/1887 = 15.13 >= 1.0)
2-1	20215.5	2539	SI (20215.5/2539 = 7.96 >= 1.0)
3-1	20321.3	130	SI (20321.3/130 = 156.32 >= 1.0)
4-1	20238	2883	SI (20238/2883 = 7.02 >= 1.0)
5-1	20354.4	234	SI (20354.4/234 = 86.98 >= 1.0)
6-1	20262.3	3255.6	SI (20262.3/3255.6 = 6.22 >= 1.0)
7-1	20390.2	346	SI (20390.2/346 = 58.93 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:

Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1887	0	-34082.1	0	0	0	0	60
2-1	2539	0	-21419.18	0	0	0	0	60
3-1	130	0	-21710.91	0	0	0	0	60
4-1	2883	0	-21481.32	0	0	0	0	60
5-1	234	0	-21802.23	0	0	0	0	60
6-1	3255.61	0	-21548.43	0	0	0	0	60
7-1	345.99	0	-21900.84	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1887	0	-34082.1	0	-113220	-	-	-
2-1	2539	0	-21419.18	0	152340	-	-	-
3-1	130	0	-21710.91	0	7800	-	-	-
4-1	2883	0	-21481.32	0	172980	-	-	-
5-1	234	0	-21802.23	0	14040	-	-	-
6-1	3255.61	0	-21548.43	0	195337	-	-	-
7-1	345.99	0	-21900.84	0	20759	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 9.07 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	3.32	0	asse X	asse Y
2-1	7.11	0	asse X	asse Y
3-1	0.36	0	asse X	asse Y
4-1	8.05	0	asse X	asse Y
5-1	0.64	0	asse X	asse Y
6-1	9.07	0	asse X	asse Y
7-1	0.95	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.02	1.47	0.99	1.00	1.00	1.00	0	15.23	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.49	0.99	1.00	1.00	1.00	0	15.33	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.22	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.49	0.99	1.00	1.00	1.00	0	15.34	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.23	0.27

6-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.99	1.00	1.00	1.00	0	15.34	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.02	1.46	1.00	1.00	1.00	1.00	0	15.23	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.89	50051.27	345084.7	34082.1	SI (345084.7/34082.1 = 10.13 >= 1.0)
2-1	1.80	8.79	44062.54	387153.6	21419.2	SI (387153.6/21419.2 = 18.08 >= 1.0)
3-1	1.80	8.73	54732.36	477633	21710.9	SI (477633/21710.9 = 22.00 >= 1.0)
4-1	1.80	8.79	42576.93	374306.6	21481.3	SI (374306.6/21481.3 = 17.42 >= 1.0)
5-1	1.80	8.73	54282.53	473871.5	21802.2	SI (473871.5/21802.2 = 21.74 >= 1.0)
6-1	2.30	6.94	40977.29	284467.8	21548.4	SI (284467.8/21548.4 = 13.20 >= 1.0)
7-1	2.30	6.89	53802.35	370877.9	21900.8	SI (370877.9/21900.8 = 16.93 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	36400.93	177069.92
2-1	-	2	0.8	1.10	1.30	32045.48	136207.63
3-1	-	2	0.8	1.10	1.30	39805.35	136207.63
4-1	-	2	0.8	1.10	1.30	30965.04	136207.63
5-1	-	2	0.8	1.10	1.30	39478.2	136207.63
6-1	-	2	0.8	1.10	1.30	29801.67	136207.63
7-1	-	2	0.8	1.10	1.30	39128.98	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	213470.9	1887	SI (213470.9/1887 = 113.13 >= 1.0)
2-1	168253.1	2539	SI (168253.1/2539 = 66.27 >= 1.0)
3-1	176013	130	SI (176013/130 = 1 353.95 >= 1.0)
4-1	167172.7	2883	SI (167172.7/2883 = 57.99 >= 1.0)
5-1	175685.8	234	SI (175685.8/234 = 750.79 >= 1.0)
6-1	166009.3	3255.6	SI (166009.3/3255.6 = 50.99 >= 1.0)
7-1	175336.6	346	SI (175336.6/346 = 506.77 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T011_ID033).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 7							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-12 Nodo 7							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-15 Nodo 7							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-12 Nodo 7							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-15 Nodo 7							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-12 Nodo 7							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-15 Nodo 7							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	751150	3800	SI (751150/3800 > 100)	1112000	4560	SI (1112000/4560 > 100)
2-1	485020	174400	SI (485020/174400 = 2.78 >= 1.0)	725480	209280	SI (725480/209280 = 3.47 >= 1.0)
3-1	500710	51950	SI (500710/51950 = 9.64 >= 1.0)	747450	62340	SI (747450/62340 = 11.99 >= 1.0)
4-1	487230	191900	SI (487230/191900 = 2.54 >= 1.0)	728570	230280	SI (728570/230280 = 3.16 >= 1.0)
5-1	504480	57250	SI (504480/57250 = 8.81 >= 1.0)	752730	68700	SI (752730/68700 = 10.96 >= 1.0)

6-1	489610	210850	SI (489610/210850 = 2.32 >= 1.0)	731910	253020	SI (731910/253020 = 2.89 >= 1.0)
7-1	508560	62970	SI (508560/62970 = 8.08 >= 1.0)	758440	75560	SI (758440/75560 = 10.04 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	31771.5	184974.7	SI (184974.7/31771.5 = 5.82 >= 1.0)	31771.5	379241.9	SI (379241.9/31771.5 = 11.94 >= 1.0)
2-1	20728.1	95231.6	SI (95231.6/20728.1 = 4.59 >= 1.0)	20728.1	346403.7	SI (346403.7/20728.1 = 16.71 >= 1.0)
3-1	21355.6	162981.4	SI (162981.4/21355.6 = 7.63 >= 1.0)	21355.6	443678.9	SI (443678.9/21355.6 = 20.78 >= 1.0)
4-1	20816.4	87917.6	SI (87917.6/20816.4 = 4.22 >= 1.0)	20816.4	333008.2	SI (333008.2/20816.4 = 16.00 >= 1.0)
5-1	21506.6	159906	SI (159906/21506.6 = 7.44 >= 1.0)	21506.6	439991.2	SI (439991.2/21506.6 = 20.46 >= 1.0)
6-1	20911.6	72484.5	SI (72484.5/20911.6 = 3.47 >= 1.0)	20911.6	251430.9	SI (251430.9/20911.6 = 12.02 >= 1.0)
7-1	21669.6	140756.8	SI (140756.8/21669.6 = 6.50 >= 1.0)	21669.6	344200.1	SI (344200.1/21669.6 = 15.88 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	76	27704.2	SI (27704.2/76 = 364.53 >=	76	217123.2	SI (217123.2/76 = 2 856.88 >=

			1.0)			1.0)
2-1	3488	19964.8	SI (19964.8/3488 = 5.72 >= 1.0)	3488	164824.1	SI (164824.1/3488 = 47.25 >= 1.0)
3-1	1039	20192.4	SI (20192.4/1039 = 19.43 >= 1.0)	1039	173071.5	SI (173071.5/1039 = 166.58 >= 1.0)
4-1	3838	19996.8	SI (19996.8/3838 = 5.21 >= 1.0)	3838	163714	SI (163714/3838 = 42.66 >= 1.0)
5-1	1145	20247.2	SI (20247.2/1145 = 17.68 >= 1.0)	1145	172755.2	SI (172755.2/1145 = 150.88 >= 1.0)
6-1	4217	20031.4	SI (20031.4/4217 = 4.75 >= 1.0)	4217	162522.5	SI (162522.5/4217 = 38.54 >= 1.0)
7-1	1259.3	20306.3	SI (20306.3/1259.3 = 16.12 >= 1.0)	1259.3	172419	SI (172419/1259.3 = 136.91 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 70 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-76	0	-31771.53	0	0	0	0	60
2-1	3488	0	-20728.14	0	0	0	0	60
3-1	1039	0	-21355.64	0	0	0	0	60
4-1	3838	0	-20816.35	0	0	0	0	60
5-1	1145	0	-21506.59	0	0	0	0	60
6-1	4216.96	0	-20911.61	0	0	0	0	60
7-1	1259.35	0	-21669.62	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-76	0	-31771.53	0	-4560	-	-	-
2-1	3488	0	-20728.14	0	209280	-	-	-
3-1	1039	0	-21355.64	0	62340	-	-	-
4-1	3838	0	-20816.35	0	230280	-	-	-
5-1	1145	0	-21506.59	0	68700	-	-	-

6-1	4216.96	0	-20911.61	0	253018	-	-	-
7-1	1259.35	0	-21669.62	0	75561	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 12.1 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.14	0	asse X	asse Y
2-1	10.1	0	asse X	asse Y
3-1	2.92	0	asse X	asse Y
4-1	11.06	0	asse X	asse Y
5-1	3.19	0	asse X	asse Y
6-1	12.1	0	asse X	asse Y
7-1	3.49	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	2 172.0	126.7	generale
2-1	2 301.0	129.2	generale
3-1	2 206.5	127.4	generale
4-1	2 314.3	129.4	generale
5-1	2 209.9	127.4	generale
6-1	2 328.8	129.7	generale
7-1	2 213.7	127.5	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.03	1.00	0.99	1.00	1.00	1.00	1.00	-	1.3
2-1	-	-	29	0.0019	19.34	1.02	1.00	0.58	1.00	1.00	1.00	1.00	0.76	0.41
3-1	-	-	29	0.0019	19.34	1.02	1.00	0.86	1.00	1.00	1.00	1.00	0.76	0.79
4-1	-	-	29	0.0019	19.34	1.02	1.00	0.55	1.00	1.00	1.00	1.00	0.76	0.37
5-1	-	-	29	0.0019	19.34	1.02	1.00	0.85	1.00	1.00	1.00	1.00	0.76	0.77
6-1	-	-	29	0.0019	19.34	1.02	1.00	0.52	1.00	1.00	1.00	1.00	0.93	0.41
7-1	-	-	29	0.0019	19.34	1.02	1.00	0.84	1.00	1.00	1.00	1.00	0.93	0.92

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.05	1.36	1.00	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.04	1.39	0.68	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.05	1.37	0.90	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.03	1.40	0.65	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.05	1.37	0.89	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.03	1.40	0.62	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.05	1.37	0.88	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.03	1.33	1.00	1.00	1.00	1.00	1.00	-	6.07
2-1	0.27	16.44	1.02	1.37	0.70	1.00	1.00	1.00	1.00	0.86	3.73
3-1	0.27	16.44	1.02	1.34	0.91	1.00	1.00	1.00	1.00	0.86	4.78
4-1	0.27	16.44	1.02	1.37	0.67	1.00	1.00	1.00	1.00	0.86	3.6
5-1	0.27	16.44	1.02	1.34	0.90	1.00	1.00	1.00	1.00	0.86	4.74
6-1	0.27	16.44	1.02	1.38	0.65	1.00	1.00	1.00	1.00	0.96	3.85
7-1	0.27	16.44	1.02	1.35	0.89	1.00	1.00	1.00	1.00	0.96	5.23

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.36	55073.23	184974.7	31771.5	SI (184974.7/31771.5 = 5.82 >= 1.0)
2-1	1.80	2.42	39347.66	95231.6	20728.1	SI (95231.6/20728.1 = 4.59 >= 1.0)
3-1	1.80	3.22	50687.77	162981.4	21355.6	SI (162981.4/21355.6 = 7.63 >= 1.0)
4-1	1.80	2.32	37821.32	87917.6	20816.4	SI (87917.6/20816.4 = 4.22 >= 1.0)
5-1	1.80	3.18	50252.9	159906	21506.6	SI (159906/21506.6 = 7.44 >= 1.0)
6-1	2.30	2	36182.97	72484.5	20911.6	SI (72484.5/20911.6 = 3.47 >= 1.0)
7-1	2.30	2.83	49790.61	140756.8	21669.6	SI (140756.8/21669.6 = 6.50

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	11523.23	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	7517.9	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	7745.49	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	7549.89	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	7800.24	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	7584.44	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	7859.37	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	27704.2	76	SI (27704.2/76 = 364.53 >= 1.0)
2-1	19964.8	3488	SI (19964.8/3488 = 5.72 >= 1.0)
3-1	20192.4	1039	SI (20192.4/1039 = 19.43 >= 1.0)
4-1	19996.8	3838	SI (19996.8/3838 = 5.21 >= 1.0)
5-1	20247.2	1145	SI (20247.2/1145 = 17.68 >= 1.0)
6-1	20031.4	4217	SI (20031.4/4217 = 4.75 >= 1.0)
7-1	20306.3	1259.3	SI (20306.3/1259.3 = 16.12 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:

Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-76	0	-31771.53	0	0	0	0	60
2-1	3488	0	-20728.14	0	0	0	0	60
3-1	1039	0	-21355.64	0	0	0	0	60
4-1	3838	0	-20816.35	0	0	0	0	60
5-1	1145	0	-21506.59	0	0	0	0	60
6-1	4216.96	0	-20911.61	0	0	0	0	60
7-1	1259.35	0	-21669.62	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-76	0	-31771.53	0	-4560	-	-	-
2-1	3488	0	-20728.14	0	209280	-	-	-
3-1	1039	0	-21355.64	0	62340	-	-	-
4-1	3838	0	-20816.35	0	230280	-	-	-
5-1	1145	0	-21506.59	0	68700	-	-	-
6-1	4216.96	0	-20911.61	0	253018	-	-	-
7-1	1259.35	0	-21669.62	0	75561	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 12.1 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.14	0	asse X	asse Y
2-1	10.1	0	asse X	asse Y
3-1	2.92	0	asse X	asse Y
4-1	11.06	0	asse X	asse Y
5-1	3.19	0	asse X	asse Y
6-1	12.1	0	asse X	asse Y
7-1	3.49	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.02	1.45	1.00	1.00	1.00	1.00	0	15.21	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.36	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.27	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.01	1.50	0.98	1.00	1.00	1.00	0	15.36	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.27	0.27

6-1	-	-	2	0.0019	0.27	5.14	1.01	1.51	0.98	1.00	1.00	1.00	0	15.36	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.02	1.47	1.00	1.00	1.00	1.00	0	15.28	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.89	55073.23	379241.9	31771.5	SI (379241.9/31771.5 = 11.94 >= 1.0)
2-1	1.80	8.8	39347.66	346403.7	20728.1	SI (346403.7/20728.1 = 16.71 >= 1.0)
3-1	1.80	8.75	50687.77	443678.9	21355.6	SI (443678.9/21355.6 = 20.78 >= 1.0)
4-1	1.80	8.8	37821.32	333008.2	20816.4	SI (333008.2/20816.4 = 16.00 >= 1.0)
5-1	1.80	8.76	50252.9	439991.2	21506.6	SI (439991.2/21506.6 = 20.46 >= 1.0)
6-1	2.30	6.95	36182.97	251430.9	20911.6	SI (251430.9/20911.6 = 12.02 >= 1.0)
7-1	2.30	6.91	49790.61	344200.1	21669.6	SI (344200.1/21669.6 = 15.88 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	40053.26	177069.92
2-1	-	2	0.8	1.10	1.30	28616.48	136207.63
3-1	-	2	0.8	1.10	1.30	36863.83	136207.63
4-1	-	2	0.8	1.10	1.30	27506.41	136207.63
5-1	-	2	0.8	1.10	1.30	36547.56	136207.63
6-1	-	2	0.8	1.10	1.30	26314.89	136207.63
7-1	-	2	0.8	1.10	1.30	36211.35	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	217123.2	76	SI (217123.2/76 = 2856.88 >= 1.0)
2-1	164824.1	3488	SI (164824.1/3488 = 47.25 >= 1.0)
3-1	173071.5	1039	SI (173071.5/1039 = 166.58 >= 1.0)
4-1	163714	3838	SI (163714/3838 = 42.66 >= 1.0)
5-1	172755.2	1145	SI (172755.2/1145 = 150.88 >= 1.0)
6-1	162522.5	4217	SI (162522.5/4217 = 38.54 >= 1.0)
7-1	172419	1259.3	SI (172419/1259.3 = 136.91 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T012_ID034).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 8							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-12 Nodo 8							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-15 Nodo 8							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-12 Nodo 8							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-15 Nodo 8							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-12 Nodo 8							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-15 Nodo 8							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	2626170	78800	SI (2626170/78800 = 33.33 >= 1.0)	3328870	94560	SI (3328870/94560 = 35.20 >= 1.0)
2-1	1769220	217000	SI (1769220/217000 = 8.15 >= 1.0)	2259570	260400	SI (2259570/260400 = 8.68 >= 1.0)
3-1	1905380	44700	SI (1905380/44700 = 42.63 >= 1.0)	2422970	53640	SI (2422970/53640 = 45.17 >= 1.0)
4-1	1776950	241650	SI (1776950/241650 = 7.35 >= 1.0)	2268860	289980	SI (2268860/289980 = 7.82 >= 1.0)
5-1	1926740	52150	SI (1926740/52150 = 36.95 >= 1.0)	2448600	62580	SI (2448600/62580 = 39.13 >= 1.0)

6-1	1785310	268270	SI (1785310/268270 = 6.65 >= 1.0)	2278880	321920	SI (2278880/321920 = 7.08 >= 1.0)
7-1	1949800	60160	SI (1949800/60160 = 32.41 >= 1.0)	2476270	72200	SI (2476270/72200 = 34.30 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	55481.1	319911.8	SI (319911.8/55481.1 = 5.77 >= 1.0)	55481.1	601455	SI (601455/55481.1 = 10.84 >= 1.0)
2-1	37659.5	248860	SI (248860/37659.5 = 6.61 >= 1.0)	37659.5	696272	SI (696272/37659.5 = 18.49 >= 1.0)
3-1	40382.9	343158.7	SI (343158.7/40382.9 = 8.50 >= 1.0)	40382.9	766974.8	SI (766974.8/40382.9 = 18.99 >= 1.0)
4-1	37814.2	237829.1	SI (237829.1/37814.2 = 6.29 >= 1.0)	37814.2	686599.3	SI (686599.3/37814.2 = 18.16 >= 1.0)
5-1	40809.9	339277.2	SI (339277.2/40809.9 = 8.31 >= 1.0)	40809.9	764364.6	SI (764364.6/40809.9 = 18.73 >= 1.0)
6-1	37981.3	204999.3	SI (204999.3/37981.3 = 5.40 >= 1.0)	37981.3	534004.8	SI (534004.8/37981.3 = 14.06 >= 1.0)
7-1	41271.1	303413.3	SI (303413.3/41271.1 = 7.35 >= 1.0)	41271.1	601465.8	SI (601465.8/41271.1 = 14.57 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	1576	36303.5	SI (36303.5/1576 = 23.04 >=	1576	244056.9	SI (244056.9/1576 = 154.86 >=

			1.0)			1.0)
2-1	4340	26105.7	SI (26105.7/4340 = 6.02 >= 1.0)	4340	197207.6	SI (197207.6/4340 = 45.44 >= 1.0)
3-1	894	27093.4	SI (27093.4/894 = 30.31 >= 1.0)	894	203626.8	SI (203626.8/894 = 227.77 >= 1.0)
4-1	4833	26161.8	SI (26161.8/4833 = 5.41 >= 1.0)	4833	196341.2	SI (196341.2/4833 = 40.63 >= 1.0)
5-1	1043	27248.3	SI (27248.3/1043 = 26.12 >= 1.0)	1043	203391	SI (203391/1043 = 195.01 >= 1.0)
6-1	5365.3	26222.4	SI (26222.4/5365.3 = 4.89 >= 1.0)	5365.3	195413.7	SI (195413.7/5365.3 = 36.42 >= 1.0)
7-1	1203.3	27415.6	SI (27415.6/1203.3 = 22.78 >= 1.0)	1203.3	203142.9	SI (203142.9/1203.3 = 168.82 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1576	0	-55481.09	0	0	0	0	60
2-1	4340	0	-37659.55	0	0	0	0	60
3-1	894	0	-40382.9	0	0	0	0	60
4-1	4833	0	-37814.25	0	0	0	0	60
5-1	1043	0	-40809.93	0	0	0	0	60
6-1	5365.34	0	-37981.33	0	0	0	0	60
7-1	1203.29	0	-41271.13	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1576	0	-55481.09	0	-94560	-	-	-
2-1	4340	0	-37659.55	0	260400	-	-	-
3-1	894	0	-40382.9	0	53640	-	-	-
4-1	4833	0	-37814.25	0	289980	-	-	-
5-1	1043	0	-40809.93	0	62580	-	-	-

6-1	5365.34	0	-37981.33	0	321920	-	-	-
7-1	1203.29	0	-41271.13	0	72197	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 8.48 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	1.7	0	asse X	asse Y
2-1	6.91	0	asse X	asse Y
3-1	1.33	0	asse X	asse Y
4-1	7.67	0	asse X	asse Y
5-1	1.53	0	asse X	asse Y
6-1	8.48	0	asse X	asse Y
7-1	1.75	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 918.6	121.1	generale
2-1	1 969.7	122.3	generale
3-1	1 915.0	121.0	generale
4-1	1 977.3	122.5	generale
5-1	1 917.0	121.0	generale
6-1	1 985.5	122.7	generale
7-1	1 919.0	121.1	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.04	1.00	0.92	1.00	1.00	1.00	1.00	-	2.06
2-1	-	-	29	0.0019	19.34	1.04	1.00	0.70	1.00	1.00	1.00	1.00	0.76	1.08
3-1	-	-	29	0.0019	19.34	1.04	1.00	0.94	1.00	1.00	1.00	1.00	0.76	1.6
4-1	-	-	29	0.0019	19.34	1.04	1.00	0.67	1.00	1.00	1.00	1.00	0.76	1.02
5-1	-	-	29	0.0019	19.34	1.04	1.00	0.93	1.00	1.00	1.00	1.00	0.76	1.57
6-1	-	-	29	0.0019	19.34	1.04	1.00	0.64	1.00	1.00	1.00	1.00	0.93	1.17
7-1	-	-	29	0.0019	19.34	1.04	1.00	0.92	1.00	1.00	1.00	1.00	0.93	1.9

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.09	1.29	0.94	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.08	1.30	0.78	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.09	1.28	0.96	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.08	1.30	0.76	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.09	1.28	0.95	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.08	1.30	0.73	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.09	1.29	0.94	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.04	1.27	0.95	1.00	1.00	1.00	1.00	-	5.58
2-1	0.27	16.44	1.04	1.28	0.79	1.00	1.00	1.00	1.00	0.86	4.05
3-1	0.27	16.44	1.04	1.27	0.96	1.00	1.00	1.00	1.00	0.86	4.85
4-1	0.27	16.44	1.04	1.28	0.77	1.00	1.00	1.00	1.00	0.86	3.94
5-1	0.27	16.44	1.04	1.27	0.95	1.00	1.00	1.00	1.00	0.86	4.82
6-1	0.27	16.44	1.04	1.29	0.75	1.00	1.00	1.00	1.00	0.96	4.27
7-1	0.27	16.44	1.04	1.27	0.95	1.00	1.00	1.00	1.00	0.96	5.33

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.47	92107.1	319911.8	55481.1	SI (319911.8/55481.1 = 5.77 >= 1.0)
2-1	1.80	2.97	83874.96	248860	37659.5	SI (248860/37659.5 = 6.61 >= 1.0)
3-1	1.80	3.7	92701.31	343158.7	40382.9	SI (343158.7/40382.9 = 8.50 >= 1.0)
4-1	1.80	2.88	82683.71	237829.1	37814.2	SI (237829.1/37814.2 = 6.29 >= 1.0)
5-1	1.80	3.67	92377.15	339277.2	40809.9	SI (339277.2/40809.9 = 8.31 >= 1.0)
6-1	2.30	2.52	81408.31	204999.3	37981.3	SI (204999.3/37981.3 = 5.40 >= 1.0)
7-1	2.30	3.3	92036.04	303413.3	41271.1	SI (303413.3/41271.1 = 7.35

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	20122.46	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	13658.76	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	14646.49	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	13714.87	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	14801.37	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	13775.47	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	14968.65	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	36303.5	1576	SI (36303.5/1576 = 23.04 >= 1.0)
2-1	26105.7	4340	SI (26105.7/4340 = 6.02 >= 1.0)
3-1	27093.4	894	SI (27093.4/894 = 30.31 >= 1.0)
4-1	26161.8	4833	SI (26161.8/4833 = 5.41 >= 1.0)
5-1	27248.3	1043	SI (27248.3/1043 = 26.12 >= 1.0)
6-1	26222.4	5365.3	SI (26222.4/5365.3 = 4.89 >= 1.0)
7-1	27415.6	1203.3	SI (27415.6/1203.3 = 22.78 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:

Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1576	0	-55481.09	0	0	0	0	60
2-1	4340	0	-37659.55	0	0	0	0	60
3-1	894	0	-40382.9	0	0	0	0	60
4-1	4833	0	-37814.25	0	0	0	0	60
5-1	1043	0	-40809.93	0	0	0	0	60
6-1	5365.34	0	-37981.33	0	0	0	0	60
7-1	1203.29	0	-41271.13	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-1576	0	-55481.09	0	-94560	-	-	-
2-1	4340	0	-37659.55	0	260400	-	-	-
3-1	894	0	-40382.9	0	53640	-	-	-
4-1	4833	0	-37814.25	0	289980	-	-	-
5-1	1043	0	-40809.93	0	62580	-	-	-
6-1	5365.34	0	-37981.33	0	321920	-	-	-
7-1	1203.29	0	-41271.13	0	72197	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 8.48 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	1.7	0	asse X	asse Y
2-1	6.91	0	asse X	asse Y
3-1	1.33	0	asse X	asse Y
4-1	7.67	0	asse X	asse Y
5-1	1.53	0	asse X	asse Y
6-1	8.48	0	asse X	asse Y
7-1	1.75	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.45	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.46	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.41	0.27

6-1	-	-	2	0.0019	0.27	5.14	1.03	1.39	0.99	1.00	1.00	1.00	0	14.46	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.41	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.53	92107.1	601455	55481.1	SI (601455/55481.1 = 10.84 >= 1.0)
2-1	1.80	8.3	83874.96	696272	37659.5	SI (696272/37659.5 = 18.49 >= 1.0)
3-1	1.80	8.27	92701.31	766974.8	40382.9	SI (766974.8/40382.9 = 18.99 >= 1.0)
4-1	1.80	8.3	82683.71	686599.3	37814.2	SI (686599.3/37814.2 = 18.16 >= 1.0)
5-1	1.80	8.27	92377.15	764364.6	40809.9	SI (764364.6/40809.9 = 18.73 >= 1.0)
6-1	2.30	6.56	81408.31	534004.8	37981.3	SI (534004.8/37981.3 = 14.06 >= 1.0)
7-1	2.30	6.54	92036.04	601465.8	41271.1	SI (601465.8/41271.1 = 14.57 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	66986.98	177069.92
2-1	-	2	0.8	1.10	1.30	60999.97	136207.63
3-1	-	2	0.8	1.10	1.30	67419.13	136207.63
4-1	-	2	0.8	1.10	1.30	60133.61	136207.63
5-1	-	2	0.8	1.10	1.30	67183.38	136207.63
6-1	-	2	0.8	1.10	1.30	59206.04	136207.63
7-1	-	2	0.8	1.10	1.30	66935.3	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	244056.9	1576	SI (244056.9/1576 = 154.86 >= 1.0)
2-1	197207.6	4340	SI (197207.6/4340 = 45.44 >= 1.0)
3-1	203626.8	894	SI (203626.8/894 = 227.77 >= 1.0)
4-1	196341.2	4833	SI (196341.2/4833 = 40.63 >= 1.0)
5-1	203391	1043	SI (203391/1043 = 195.01 >= 1.0)
6-1	195413.7	5365.3	SI (195413.7/5365.3 = 36.42 >= 1.0)
7-1	203142.9	1203.3	SI (203142.9/1203.3 = 168.82 >= 1.0)

Valutazione della stabilità, capacità portante e resistenza a scorrimento di una fondazione superficiale (TRAVE_T013_ID035).

Descrizione dei Casi di calcolo e riassunto dei risultati.

Segue il riassunto dei Casi di calcolo analizzati. I dettagli di ciascun Caso (sollecitazioni, verifiche, ecc.) sono specificati nei paragrafi successivi.

Indici e nomi dei casi di carico			Elenco delle verifiche eseguite per ciascun caso				Sisma
Caso	Nome	Sestetti	Ver. dren.	Ver. non dren.	Ver. equ.	Ver. upl.	Coef. sism.
1	SLU SENZA SISMA (SLU Appr.2)	1-1	Si	Si	Si	No	Non sismico
1-1 Caso 1-1 Nodo 9							
2	SLU con SISMAX PRINC (SLU Appr.2)	2-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
2-1 Caso 4-4 Nodo 9							
3	SLU con SISMAY PRINC (SLU Appr.2)	3-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
3-1 Caso 5-13 Nodo 9							
4	SLU FON con SISMAX P (SLU Appr.2)	4-1	Si	Si	Si	No	$k_{h,x}$= 0.06, $k_{h,y}$= 0.02
4-1 Caso 8-4 Nodo 9							
5	SLU FON con SISMAY P (SLU Appr.2)	5-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.06
5-1 Caso 9-13 Nodo 9							
6	SLD con SISMAX PRINC (SLD)	6-1	Si	Si	Si	No	$k_{h,x}$= 0.02, $k_{h,y}$= 0.01
6-1 Caso 6-4 Nodo 9							

7	SLD con SISMAY PRINC (SLD)	7-1	Si	Si	Si	No	$k_{h,x}$= 0.01, $k_{h,y}$= 0.02
7-1 Caso 7-13 Nodo 9							

La seguente tabella elenca i coefficienti di sicurezza parziali, applicati alle caratteristiche meccaniche del terreno, alla capacità portante, alla resistenza a scorrimento e del terreno, per ciascun Caso di calcolo.

Caso	$\gamma_{G1,fav}$	$\gamma_{G1,sfa}$	$\gamma_{G2,fav}$	$\gamma_{G2,sfa}$	$\gamma_{Qi,fav}$	$\gamma_{Qi,sfa}$
1	1.00	1.30	0.80	1.50	0.00	1.50
2	1.00	1.00	1.00	1.00	1.00	1.00
3	1.00	1.00	1.00	1.00	1.00	1.00
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.00	1.00	1.00	1.00	1.00	1.00
6	-	-	-	-	-	-
7	-	-	-	-	-	-

Caso	γ_{γ}	γ_{φ}	$\gamma_{c'}$	γ_{su}	$\gamma_{R;v}$	$\gamma_{R;h}$	$\gamma_{R;e}$	$\gamma_{R;equ}$	$\gamma_{R;upl}$
1	1.00	1.00	1.00	1.00	2.30	1.10	1.00	1.00	1.00
2	-	-	-	-	1.80	1.10	1.30	1.00	1.00
3	-	-	-	-	1.80	1.10	1.30	1.00	1.00
4	-	-	-	-	1.80	1.10	1.30	1.00	1.00
5	-	-	-	-	1.80	1.10	1.30	1.00	1.00
6	-	-	-	-	2.30	1.10	1.30	-	-
7	-	-	-	-	2.30	1.10	1.30	-	-

Segue la tabella riassuntiva di tutte le verifiche a ***ribaltamento***.

	Fondazione			Fondazione e Sottofondo		
Caso	R_d [daN*cm]	E_d [daN*cm]	Verifica	R_d [daN*cm]	E_d [daN*cm]	Verifica
1-1	2156600	34350	SI (2156600/34350 = 62.78 >= 1.0)	2765380	41220	SI (2765380/41220 = 67.09 >= 1.0)
2-1	1723780	229650	SI (1723780/229650 = 7.51 >= 1.0)	2205050	275580	SI (2205050/275580 = 8.00 >= 1.0)
3-1	1823960	84850	SI (1823960/84850 = 21.50 >= 1.0)	2325270	101820	SI (2325270/101820 = 22.84 >= 1.0)
4-1	1747190	250300	SI (1747190/250300 = 6.98 >= 1.0)	2233140	300360	SI (2233140/300360 = 7.43 >= 1.0)
5-1	1857380	91050	SI (1857380/91050 = 20.40 >= 1.0)	2365370	109260	SI (2365370/109260 = 21.65 >= 1.0)

6-1	1772470	272590	SI (1772470/272590 = 6.50 >= 1.0)	2263470	327110	SI (2263470/327110 = 6.92 >= 1.0)
7-1	1893480	97730	SI (1893480/97730 = 19.38 >= 1.0)	2408690	117270	SI (2408690/117270 = 20.54 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***capacità portante***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	46089.7	334692.5	SI (334692.5/46089.7 = 7.26 >= 1.0)	46089.7	609936.5	SI (609936.5/46089.7 = 13.23 >= 1.0)
2-1	36750.9	240282.6	SI (240282.6/36750.9 = 6.54 >= 1.0)	36750.9	688973.1	SI (688973.1/36750.9 = 18.75 >= 1.0)
3-1	38754.4	319145.4	SI (319145.4/38754.4 = 8.24 >= 1.0)	38754.4	750629.5	SI (750629.5/38754.4 = 19.37 >= 1.0)
4-1	37219	232107.2	SI (232107.2/37219 = 6.24 >= 1.0)	37219	681572	SI (681572/37219 = 18.31 >= 1.0)
5-1	39422.9	316561.6	SI (316561.6/39422.9 = 8.03 >= 1.0)	39422.9	748760.8	SI (748760.8/39422.9 = 18.99 >= 1.0)
6-1	37724.5	202567	SI (202567/37724.5 = 5.37 >= 1.0)	37724.5	532065.8	SI (532065.8/37724.5 = 14.10 >= 1.0)
7-1	40144.8	284085.5	SI (284085.5/40144.8 = 7.08 >= 1.0)	40144.8	589775.1	SI (589775.1/40144.8 = 14.69 >= 1.0)

Segue la tabella riassuntiva di tutte le verifiche di ***resistenza a scorrimento***, i dettagli sono riportati nei paragrafi successivi.

	Cond. drenate			Cond. non drenate		
Caso	E_d [daN]	R_d [daN]	Verifica	E_d [daN]	R_d [daN]	Verifica
1-1	687	32897.3	SI (32897.3/687 = 47.89 >=	687	244987.7	SI (244987.7/687 = 356.61 >=

			1.0)			1.0)
2-1	4593	25776.1	SI (25776.1/4593 = 5.61 >= 1.0)	4593	196536.5	SI (196536.5/4593 = 42.79 >= 1.0)
3-1	1697	26502.8	SI (26502.8/1697 = 15.62 >= 1.0)	1697	202134.1	SI (202134.1/1697 = 119.11 >= 1.0)
4-1	5006	25945.9	SI (25945.9/5006 = 5.18 >= 1.0)	5006	195879.8	SI (195879.8/5006 = 39.13 >= 1.0)
5-1	1821	26745.2	SI (26745.2/1821 = 14.69 >= 1.0)	1821	201968.4	SI (201968.4/1821 = 110.91 >= 1.0)
6-1	5451.9	26129.3	SI (26129.3/5451.9 = 4.79 >= 1.0)	5451.9	195189.2	SI (195189.2/5451.9 = 35.80 >= 1.0)
7-1	1954.5	27007.1	SI (27007.1/1954.5 = 13.82 >= 1.0)	1954.5	201796.4	SI (201796.4/1954.5 = 103.25 >= 1.0)

Descrizione del metodo di calcolo.

Il calcolo della capacità portante viene eseguito secondo la formula trinomia, considerando separatamente i contributi dovuti alla coesione, al sovraccarico laterale ed al peso del terreno.
Per le verifiche in condizioni drenate, si utilizzano i coefficienti di capacità portante Nq (Prandtl, 1921), Nc (Reissner, 1924), N_γ (Vesic, 1973), i coefficienti correttivi dovuti alla forma della fondazione (s, Meyerhof, 1951 e 1963), all'approfondimento (d, Brinch Hansen, 1970), all'inclinazione del carico (i, Vesic, 1973), all'inclinazione del piano di posa (b, Vesic, 1973), all'inclinazione del piano campagna (g, Vesic, 1973), e all'azione sismica (h - Maugeri e Novità, 2004).
Per le verifiche in condizioni non drenate si utilizzando i coefficienti di capacità portante, quelli correttivi dovuti alla forma della fondazione (s), all'approfondimento (d), alla presenza di un'azione orizzontale (i), all'inclinazione del piano di posa (b) e del piano campagna (g), suggeriti da Brinch Hansen e Vesic (1970, 1973).
Nel caso di terreno eterogeneo (litologie differenti, presenza di falda), i parametri meccanici utilizzati nel calcolo sono ottenuti come media ponderata dei valori rinvenuti all'interno del cuneo di rottura.
La resistenza a scorrimento, viene ottenuta sommando i contributi del carico normale al piano di posa moltiplicato per il coefficiente d'attrito, e dell'area del piano di posa (eventualmente ridotta per carico verticale eccentrico) per l'adesione fondazione-terreno. In condizioni drenate, l'attrito fondazione terreno è assunto pari all'angolo di resistenza al taglio del terreno moltiplicato per il coefficiente 0.75, l'adesione fondazione terreno è trascurata (assunta pari a 0). In condizioni non drenate, l'adesione fondazione terreno è assunta pari alla resistenza al taglio non drenata del terreno moltiplicata per il coefficiente 0.40. Si considera il contributo della pressione del terreno a lato della fondazione. La

resistenza laterale del terreno è assunta pari alla resistenza passiva disponibile moltiplicata per 0.50.

Descrizione della fondazione.

La fondazione ha piano di posa rettangolare, con lato X di 120 [cm], lato Y di 790 [cm], e centro alla quota z = -150 [cm]. Il piano di posa è orizzontale.

Descrizione del terreno.

La stratigrafia è eterogenea, presenta 4 strati									
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	c' [daN/cm^2]	φ' [°]	s_u [daN/cm^2]	G' [daN/cm^2]
1	RIPORTO	0	-140	0.0018	0.00215	0	21	2	0
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	0	29	2	406
3	ARGILLA	-800	-2200	0.0018	0.00215	0.96	0	2	571
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	2.06	34	2	0
La stratigrafia non contiene una falda									

Verifiche in condizioni drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:								
Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-687	0	-46089.73	0	0	0	0	60
2-1	-4593	0	-36750.9	0	0	0	0	60
3-1	-1697	0	-38754.43	0	0	0	0	60
4-1	-5006	0	-37218.99	0	0	0	0	60
5-1	-1821	0	-39422.88	0	0	0	0	60
6-1	-5451.87	0	-37724.54	0	0	0	0	60
7-1	-1954.51	0	-40144.8	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-687	0	-46089.73	0	-41220	-	-	-
2-1	-4593	0	-36750.9	0	-275580	-	-	-
3-1	-1697	0	-38754.43	0	-101820	-	-	-
4-1	-5006	0	-37218.99	0	-300360	-	-	-
5-1	-1821	0	-39422.88	0	-109260	-	-	-

6-1	-5451.87	0	-37724.54	0	-327112	-	-	-
7-1	-1954.51	0	-40144.8	0	-117271	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 8.67 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.89	0	asse X	asse Y
2-1	7.5	0	asse X	asse Y
3-1	2.63	0	asse X	asse Y
4-1	8.07	0	asse X	asse Y
5-1	2.77	0	asse X	asse Y
6-1	8.67	0	asse X	asse Y
7-1	2.92	0	asse X	asse Y

Capacità portante.

Sono stati valutati l'indice di rigidezza critico ed effettivo, secondo la teoria di Vesic (1973).

Caso	I_r	$I_{r,crit}$	tipo rottura
1-1	1 910.9	120.9	generale
2-1	1 975.6	122.4	generale
3-1	1 927.4	121.3	generale
4-1	1 981.4	122.6	generale
5-1	1 928.8	121.3	generale
6-1	1 987.5	122.7	generale
7-1	1 930.3	121.4	generale

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, del peso di volume alleggerito, della coesione efficace, del sovraccarico alleggerito, e dei fattori e coefficienti introdotti nel calcolo della capacità portante.

Caso	γ_φ	γ_γ	φ [°]	γ' [daN/cm^3]	N_γ	s_γ	d_γ	$i_{b\gamma}$	$i_{l\gamma}$	b_γ	g_γ	ψ_γ	h_γ	$q'_{lim,\gamma}$ [daN/cm^2]
1-1	1.00	1.00	29	0.0019	19.34	1.04	1.00	0.96	1.00	1.00	1.00	1.00	-	2.17
2-1	-	-	29	0.0019	19.34	1.04	1.00	0.68	1.00	1.00	1.00	1.00	0.76	1.03
3-1	-	-	29	0.0019	19.34	1.04	1.00	0.88	1.00	1.00	1.00	1.00	0.76	1.46
4-1	-	-	29	0.0019	19.34	1.04	1.00	0.66	1.00	1.00	1.00	1.00	0.76	0.99
5-1	-	-	29	0.0019	19.34	1.04	1.00	0.87	1.00	1.00	1.00	1.00	0.76	1.45
6-1	-	-	29	0.0019	19.34	1.04	1.00	0.64	1.00	1.00	1.00	1.00	0.93	1.15
7-1	-	-	29	0.0019	19.34	1.04	1.00	0.87	1.00	1.00	1.00	1.00	0.93	1.75

Caso	$\gamma_{c'}$	c' [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	ψ_c	h_c	$q'_{lim,c}$ [daN/cm^2]

1-1	1.00	0	27.86	1.09	1.28	0.97	1.00	1.00	1.00	1.00	-	0
2-1	-	0	27.86	1.08	1.30	0.76	1.00	1.00	1.00	1.00	0.90	0
3-1	-	0	27.86	1.08	1.29	0.91	1.00	1.00	1.00	1.00	0.90	0
4-1	-	0	27.86	1.08	1.30	0.75	1.00	1.00	1.00	1.00	0.90	0
5-1	-	0	27.86	1.08	1.29	0.91	1.00	1.00	1.00	1.00	0.90	0
6-1	-	0	27.86	1.07	1.30	0.73	1.00	1.00	1.00	1.00	0.97	0
7-1	-	0	27.86	1.08	1.29	0.90	1.00	1.00	1.00	1.00	0.97	0

Caso	q' [daN/cm^2]	N_q	s_q	d_q	i_{bq}	i_{lq}	b_q	g_q	ψ_q	h_q	$q'_{lim,q}$ [daN/cm^2]
1-1	0.27	16.44	1.04	1.27	0.97	1.00	1.00	1.00	1.00	-	5.72
2-1	0.27	16.44	1.04	1.28	0.78	1.00	1.00	1.00	1.00	0.86	3.97
3-1	0.27	16.44	1.04	1.27	0.92	1.00	1.00	1.00	1.00	0.86	4.66
4-1	0.27	16.44	1.04	1.28	0.76	1.00	1.00	1.00	1.00	0.86	3.89
5-1	0.27	16.44	1.04	1.27	0.92	1.00	1.00	1.00	1.00	0.86	4.64
6-1	0.27	16.44	1.04	1.29	0.75	1.00	1.00	1.00	1.00	0.96	4.24
7-1	0.27	16.44	1.04	1.27	0.91	1.00	1.00	1.00	1.00	0.96	5.14

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q'_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	3.58	93386.94	334692.5	46089.7	SI (334692.5/46089.7 = 7.26 >= 1.0)
2-1	1.80	2.9	82952.22	240282.6	36750.9	SI (240282.6/36750.9 = 6.54 >= 1.0)
3-1	1.80	3.52	90648.85	319145.4	38754.4	SI (319145.4/38754.4 = 8.24 >= 1.0)
4-1	1.80	2.83	82049.28	232107.2	37219	SI (232107.2/37219 = 6.24 >= 1.0)
5-1	1.80	3.5	90421.05	316561.6	39422.9	SI (316561.6/39422.9 = 8.03 >= 1.0)
6-1	2.30	2.5	81099.71	202567	37724.5	SI (202567/37724.5 = 5.37 >= 1.0)
7-1	2.30	3.15	90184.52	284085.5	40144.8	SI (284085.5/40144.8 = 7.08

						>= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore dell'angolo di resistenza al taglio, della coesione efficace, dell'attrito e dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{φ}	$\gamma_{c'}$	φ [°]	c' [daN/cm^2]	δ [°]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	1.00	29	0	21.7	0	1.10	1.00	16716.31	16181
2-1	-	-	29	0	21.7	0	1.10	1.30	13329.2	12446.92
3-1	-	-	29	0	21.7	0	1.10	1.30	14055.86	12446.92
4-1	-	-	29	0	21.7	0	1.10	1.30	13498.97	12446.92
5-1	-	-	29	0	21.7	0	1.10	1.30	14298.3	12446.92
6-1	-	-	29	0	21.7	0	1.10	1.30	13682.33	12446.92
7-1	-	-	29	0	21.7	0	1.10	1.30	14560.14	12446.92

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	32897.3	687	SI (32897.3/687 = 47.89 >= 1.0)
2-1	25776.1	4593	SI (25776.1/4593 = 5.61 >= 1.0)
3-1	26502.8	1697	SI (26502.8/1697 = 15.62 >= 1.0)
4-1	25945.9	5006	SI (25945.9/5006 = 5.18 >= 1.0)
5-1	26745.2	1821	SI (26745.2/1821 = 14.69 >= 1.0)
6-1	26129.3	5451.9	SI (26129.3/5451.9 = 4.79 >= 1.0)
7-1	27007.1	1954.5	SI (27007.1/1954.5 = 13.82 >= 1.0)

Verifiche in condizioni non drenate.

Sollecitazioni al piano di posa.

Si riportano di seguito le componenti della sollecitazione applicata e la distanza del punto di applicazione dal centro del piano di posa della fondazione.

Rispetto al sistema di rif. globale:

Caso	Fx [daN]	Fy [daN]	Fz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-687	0	-46089.73	0	0	0	0	60
2-1	-4593	0	-36750.9	0	0	0	0	60
3-1	-1697	0	-38754.43	0	0	0	0	60
4-1	-5006	0	-37218.99	0	0	0	0	60
5-1	-1821	0	-39422.88	0	0	0	0	60
6-1	-5451.87	0	-37724.54	0	0	0	0	60
7-1	-1954.51	0	-40144.8	0	0	0	0	60
Rispetto al sistema di rif. locale (centro piano di posa):								
Caso	Hx [daN]	Hy [daN]	Vz [daN]	Mx [daN*cm]	My [daN*cm]	dx [cm]	dy [cm]	dz [cm]
1-1	-687	0	-46089.73	0	-41220	-	-	-
2-1	-4593	0	-36750.9	0	-275580	-	-	-
3-1	-1697	0	-38754.43	0	-101820	-	-	-
4-1	-5006	0	-37218.99	0	-300360	-	-	-
5-1	-1821	0	-39422.88	0	-109260	-	-	-
6-1	-5451.87	0	-37724.54	0	-327112	-	-	-
7-1	-1954.51	0	-40144.8	0	-117271	-	-	-

Le sollecitazioni applicate provocano un' eccentricità lungo X (max = 8.67 [cm]), percio' le verifiche vengono eseguite sulla fondazione ridotta rettangolare.

Caso	ecc. X [cm]	ecc. Y [cm]	Asse B	Asse L
1-1	0.89	0	asse X	asse Y
2-1	7.5	0	asse X	asse Y
3-1	2.63	0	asse X	asse Y
4-1	8.07	0	asse X	asse Y
5-1	2.77	0	asse X	asse Y
6-1	8.67	0	asse X	asse Y
7-1	2.92	0	asse X	asse Y

Capacità portante.

La seguente tabella elenca il valore della resistenza al taglio non drenata, del peso di volume totale, del sovraccarico totale, ed i fattori e coefficienti introdotti per il calcolo della capacità portante.

Caso	γ_{su}	γ_{γ}	s_u [daN/cm^2]	γ [daN/cm^3]	q_t [daN/cm^2]	N_c	s_c	d_c	i_{bc}	i_{lc}	b_c	g_c	t_{γ} [daN/cm^2]	$q_{lim,c}$ [daN/cm^2]	$q_{lim,q}$ [daN/cm^2]
1-1	1.00	1.00	2	0.0019	0.27	5.14	1.03	1.36	1.00	1.00	1.00	1.00	0	14.4	0.27
2-1	-	-	2	0.0019	0.27	5.14	1.03	1.38	0.99	1.00	1.00	1.00	0	14.46	0.27
3-1	-	-	2	0.0019	0.27	5.14	1.03	1.37	1.00	1.00	1.00	1.00	0	14.42	0.27
4-1	-	-	2	0.0019	0.27	5.14	1.03	1.39	0.99	1.00	1.00	1.00	0	14.46	0.27
5-1	-	-	2	0.0019	0.27	5.14	1.03	1.37	1.00	1.00	1.00	1.00	0	14.42	0.27

6-1	-	-	2	0.0019	0.27	5.14	1.03	1.39	0.99	1.00	1.00	1.00	0	14.47	0.27
7-1	-	-	2	0.0019	0.27	5.14	1.03	1.37	1.00	1.00	1.00	1.00	0	14.42	0.27

Segue il confronto fra la pressione limite ed applicata.

Caso	$\gamma_{R;v}$	q_{lim} [daN/cm^2]	A [cm^2]	R_d [daN]	E_d [daN]	Verifica
1-1	2.30	6.53	93386.94	609936.5	46089.7	SI (609936.5/46089.7 = 13.23 >= 1.0)
2-1	1.80	8.31	82952.22	688973.1	36750.9	SI (688973.1/36750.9 = 18.75 >= 1.0)
3-1	1.80	8.28	90648.85	750629.5	38754.4	SI (750629.5/38754.4 = 19.37 >= 1.0)
4-1	1.80	8.31	82049.28	681572	37219	SI (681572/37219 = 18.31 >= 1.0)
5-1	1.80	8.28	90421.05	748760.8	39422.9	SI (748760.8/39422.9 = 18.99 >= 1.0)
6-1	2.30	6.56	81099.71	532065.8	37724.5	SI (532065.8/37724.5 = 14.10 >= 1.0)
7-1	2.30	6.54	90184.52	589775.1	40144.8	SI (589775.1/40144.8 = 14.69 >= 1.0)

Scorrimento.

Le seguenti tabelle elencano il valore della resistenza al taglio non drenata, dell'aderenza fondazione-terreno, e della resistenza disponibile sul piano di posa e sulle pareti laterali.

Caso	γ_{su}	s_u[daN/cm^2]	a [daN/cm^2]	$\gamma_{R;h}$	$\gamma_{R;e}$	R_h [daN]	R_e [daN]
1-1	1.00	2	0.8	1.10	1.00	67917.77	177069.92
2-1	-	2	0.8	1.10	1.30	60328.89	136207.63
3-1	-	2	0.8	1.10	1.30	65926.43	136207.63
4-1	-	2	0.8	1.10	1.30	59672.21	136207.63
5-1	-	2	0.8	1.10	1.30	65760.76	136207.63
6-1	-	2	0.8	1.10	1.30	58981.6	136207.63
7-1	-	2	0.8	1.10	1.30	65588.74	136207.63

Segue il confronto fra la resistenza a scorrimento e l'azione applicata.

Caso	R_d [daN]	E_d [daN]	Verifica
1-1	244987.7	687	SI (244987.7/687 = 356.61 >= 1.0)
2-1	196536.5	4593	SI (196536.5/4593 = 42.79 >= 1.0)
3-1	202134.1	1697	SI (202134.1/1697 = 119.11 >= 1.0)
4-1	195879.8	5006	SI (195879.8/5006 = 39.13 >= 1.0)
5-1	201968.4	1821	SI (201968.4/1821 = 110.91 >= 1.0)
6-1	195189.2	5451.9	SI (195189.2/5451.9 = 35.80 >= 1.0)
7-1	201796.4	1954.5	SI (201796.4/1954.5 = 103.25 >= 1.0)

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T001_ID023).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 3260 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 5	207360.61
2	Caso 13-1 Nodo 5	168039.25

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 5 (Bur.&Bur.)	0.3	SI	0.45	-
2) Caso 13-1 Nodo 5 (Bur.&Bur.)	0.22	-	0.34	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.64 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.54	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.3 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.45 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T002_ID024).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 390 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 11	17943.34
2	Caso 13-1 Nodo 11	15794.12

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 11 (Bur.&Bur.)	0.17	SI	0.25	-
2) Caso 13-1 Nodo 11 (Bur.&Bur.)	0.14	-	0.21	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.46 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.38	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.17 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.25 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T003_ID025).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 420 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 12	18960.85
2	Caso 13-1 Nodo 12	16767.04

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 12 (Bur.&Bur.)	0.17	SI	0.25	-
2) Caso 13-1 Nodo 12 (Bur.&Bur.)	0.13	-	0.2	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.45 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.39	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.17 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.25 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T004_ID026).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 3260 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 18	166828.93
2	Caso 13-1 Nodo 18	141363.87

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 18 (Bur.&Bur.)	0.22	SI	0.33	-
2) Caso 13-1 Nodo 18 (Bur.&Bur.)	0.17	-	0.26	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.51 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.54	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.22 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.33 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T005_ID027).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 1	34190.37
2	Caso 13-1 Nodo 1	30786.6

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 1 (Bur.&Bur.)	0.17	SI	0.25	-
2) Caso 13-1 Nodo 1 (Bur.&Bur.)	0.14	-	0.21	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.44 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.47	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.17 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.25 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T006_ID028).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 2	40908.2
2	Caso 13-1 Nodo 2	34981.87

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 2 (Bur.&Bur.)	0.22	SI	0.34	-
2) Caso 13-1 Nodo 2 (Bur.&Bur.)	0.18	-	0.26	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.53 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.47	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.22 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.34 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T007_ID029).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 50 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 3	23293.13
2	Caso 13-1 Nodo 3	19178.37

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 3 (Bur.&Bur.)	0.17	SI	0.26	-
2) Caso 13-1 Nodo 3 (Bur.&Bur.)	0.13	-	0.19	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	50 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.61 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.51	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.17 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.26 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T008_ID030).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 50 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 4	24292.22
2	Caso 13-1 Nodo 4	19742.7

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 4 (Bur.&Bur.)	0.18	SI	0.27	-
2) Caso 13-1 Nodo 4 (Bur.&Bur.)	0.14	-	0.2	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	50 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.63 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.51	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.18 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.27 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T009_ID031).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 50 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 5	24488.91
2	Caso 13-1 Nodo 5	19845.13

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 5 (Bur.&Bur.)	0.18	SI	0.28	-
2) Caso 13-1 Nodo 5 (Bur.&Bur.)	0.14	-	0.2	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	50 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.64 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.51	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.18 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.28 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T010_ID032).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 50 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 6	23854.13
2	Caso 13-1 Nodo 6	19470.59

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 6 (Bur.&Bur.)	0.18	SI	0.27	-
2) Caso 13-1 Nodo 6 (Bur.&Bur.)	0.13	-	0.2	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	50 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.62 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.51	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.18 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.27 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T011_ID033).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 50 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 7	22234.56
2	Caso 13-1 Nodo 7	18518.89

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 7 (Bur.&Bur.)	0.16	SI	0.24	-
2) Caso 13-1 Nodo 7 (Bur.&Bur.)	0.12	-	0.18	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	50 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.58 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.51	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.16 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.24 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T012_ID034).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 8	39147.88
2	Caso 13-1 Nodo 8	33837.34

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 8 (Bur.&Bur.)	0.21	SI	0.31	-
2) Caso 13-1 Nodo 8 (Bur.&Bur.)	0.17	-	0.25	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.51 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.47	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.21 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.31 [cm].

Valutazione dei cedimenti di una fondazione superficiale (TRAVE_T013_ID035).

Descrizione del metodo di calcolo.

Viene valutato il cedimento di una fondazione nastriforme su suolo sabbioso, utilizzando il metodo di seguito descritto. Il metodo di Burland e Burbidge (1985), utilizza i dati raccolti con una prova SPT. Il valore medio di Nspt, entro la profondità di influenza al di sotto della base della fondazione, viene utilizzato per valutare un indice di compressibilità, che con il sovraccarico applicato e le dimensioni della fondazione concorre a valutare il cedimento totale.
Si verifica che il cedimento immediato sia minore di 4 [cm], e che il cedimento a lungo termine sia minore di 5 [cm].

Descrizione della fondazione.

Fondazione.

La fondazione ha forma rettangolare, con base B = 100 [cm] e lunghezza L = 770 [cm]. Il piano di posa è approfondito di 140 [cm].

Terreno.

La stratigrafia è eterogenea, presenta 4 strati						
n.	nome	z_i [cm]	z_f [cm]	γ_d [daN/cm^3]	γ_t [daN/cm^3]	OCR
1	RIPORTO	0	-140	0.0018	0.00215	1.00
2	SABBIA_ARGILLOSA	-140	-800	0.0019	0.00215	1.00
3	ARGILLA	-800	-2200	0.0018	0.00215	1.00
4	SABBIA-ARGILLA	-2200	-4600	0.0019	0.00215	1.00
La stratigrafia non contiene una falda						

Prove penetrometriche.

Segue la tabella dei risultati della prova penetrometrica dinamica utilizzati nei calcoli.

z [cm]	N (N_2+N_3)
0 [cm]	2
-140 [cm]	14
-800 [cm]	16
-1400 [cm]	5

Risultati.

Sollecitazioni.

Il calcolo è stato eseguito considerando le seguenti condizioni di carico, costituite da una sollecitazione di sforzo normale, applicata alla fondazione in corrispondenza del centro della base.

Numero	Nome	N [daN]

1	Caso 11-1 Nodo 9	32531.77
2	Caso 13-1 Nodo 9	29794.72

Cedimenti.

Segue l'elenco dei cedimenti corrispondenti a ciascuna condizione di carico. I cedimenti differiti sono calcolati per un tempo di 30.0 anni.

Cond. di carico	Ced. immediato [cm]	Ver.	Ced. differito [cm]	Ver.
1) Caso 11-1 Nodo 9 (Bur.&Bur.)	0.16	SI	0.23	-
2) Caso 13-1 Nodo 9 (Bur.&Bur.)	0.13	-	0.2	SI

La tabella successiva riassume i risultati del calcolo col metodo di Burland e Burbidge per la condizione di carico 1, a cui corrisponde il cedimento immediato maggiore.

$w = \sigma'_{vp} B^{0.7} I_c/3+(q'-\sigma'_{vp})B^{0.7} I_c$

Il cedimento w viene moltiplicato per f_s f_t.

Simbolo	Valore	Descrizione
z_{fon}	-140 [cm]	Quota di base della fondazione
B	100 [cm]	Larghezza della base della fondazione
z_i	100 [cm]	Profondità di influenza
q'	0.42 [daN/cm^2]	Carico unitario applicato
σ'_{v0}	0.25 [daN/cm^2]	Tensione verticale geostatica alla quota della base
σ'_{vp}	0.25 [daN/cm^2]	Tensione verticale di preconsolidazione alla quota della base
N	14	Valore medio di Nspt nella profondità di influenza
I_c	0.042	Indice di compressibilità
f_s	1.47	Coefficiente per la forma della fondazione
f_t	1.50	Coefficiente per il cedimento differito (30.0 anni)

Il cedimento immediato è pari a 0.16 [cm] (Verificato).

Il cedimento differito a 30.0 anni, nel caso di carichi statici, vale 0.23 [cm].

OGGETTO: RISANAMENTO E RISTRUTTURAZIONE FUNZIONALI DEGLI SPAZI RICREATIVI DELLA STRUTTURA SPORTIVA "LELLO SIMEONE" AL SERVIZIO DELLE ASSOCIAZIONI SPORTIVE GIOVANILI E DELLE SCUOLE.

COMMITTENTE: COMUNE DI BARLETTA

PROGETTISTA STRUTTURE IN C.A. : Arch. Silvano RIZZI

RELAZIONE SU ANALISI E VERIFICHE SVOLTE CON L'AUSILIO DI CODICI DI CALCOLO

(PLICO A11)

BARLETTA 23/11/2020

1. INDIVIDUAZIONE DEL CODICE DI CALCOLO

Per il calcolo delle sollecitazioni e per la verifica di travi e pilastri in cemento armato si e' fatto ricorso all'elaboratore elettronico utilizzando il seguente programma di calcolo:

DOLMEN WIN (R), versione 20.0 del 2020 prodotto, distribuito ed assistito dalla CDM DOLMEN srl, con sede in Torino, Via Drovetti 9/F.

Questa procedura e' sviluppata in ambiente Windows, ed e' stata scritta utilizzando i linguaggi Fortran e C. DOLMEN WIN permette l'analisi elastica lineare di strutture tridimensionali con nodi a sei gradi di libertà utilizzando un solutore ad elementi finiti. Gli elementi considerati sono la trave, con eventuali svincoli interni o rotazione attorno al proprio asse, ed il guscio, sia rettangolare che triangolare, avente comportamento di membrana e di piastra. I carichi possono essere applicati sia ai nodi, come forze o coppie concentrate, sia sulle travi, come forze distribuite, trapezie, concentrate, come coppie e come distorsioni termiche. I vincoli sono forniti tramite le sei costanti di rigidezza elastica.

A supporto del programma e' fornito un ampio manuale d'uso contenente fra l'altro una vasta serie di test di validazione sia su esempi classici di Scienza delle Costruzioni, sia su strutture particolarmente impegnative e reperibili nella bibliografia specializzata.

1.2 GRADO DI AFFIDABILITA' DEL CODICE

L' affidabilità del codice di calcolo è garantita dall'esistenza di un ampia documentazione di supporto, come indicato nel paragrafo precedente. La presenza di un modulo CAD per l'introduzione di dati permette la visualizzazione dettagliata degli elementi introdotti. E' possibile inoltre ottenere rappresentazioni grafiche di deformate e sollecitazioni della struttura. Al termine dell'elaborazione viene inoltre valutata la qualità della soluzione, in base all'uguaglianza del lavoro esterno e dell'energia di deformazione.

1.3 MOTIVAZIONE DELLA SCELTA DEL CODICE

DOLMEN WIN permette in campo elastico lineare un'analisi dettagliata del comportamento dell'intera struttura, tenendo conto del comportamento irrigidente di setti anche complessi e solai considerati con la loro effettiva rigidezza. E' possibile inoltre scegliere il grado di affinamento dell'analisi di elementi complessi utilizzando mesh via via più dettagliate.

2. ESAME DEI RISULTATI E CONTROLLI

2.1 VALUTAZIONE DELLA CORRETTEZZA DEL MODELLO

Il modello di calcolo adottato e' da ritenersi appropriato in quanto non sono state riscontrate labilità, le reazioni vincolari equilibrano i carichi applicati, la simmetria di carichi e struttura da' origine a sollecitazioni simmetriche.

3. GIUDIZIO MOTIVATO DI ACCETTABILITA' DEI RISULTATI

L'analisi critica dei risultati e dei parametri di controllo nonché il confronto con calcolazioni di massima eseguite manualmente porta ad confermare la validità dei risultati.
A seguire si allega parte della documentazione di affidabilità fornita con il software, contenente anche alcuni casi di prova.

DOLMEN®

PRESENTAZIONE DEL CODICE DI CALCOLO

Il codice di calcolo DOLMEN® è prodotto, distribuito ed assistito dalla CDM DOLMEN srl, con sede in Torino, Via B. Drovetti 9F.
La società produttrice è presente da anni nell'ambito dei programmi di calcolo per l'ingegneria. Gli sviluppatori sono tutti ingegneri civili laureati presso il Politecnico di Torino, con vasta esperienza professionale nel settore delle costruzioni e dell'analisi strutturale.

La procedura è sviluppata in ambiente Windows, ed è stata scritta utilizzando i linguaggi FORTRAN, C++ e BASIC. Il solutore ad elementi finiti è stato scritto all'interno della società, collaudandolo tramite confronto con esempi di calcolo dotati di soluzione analitica e con altri codici di analisi. In particolare, essendo nato il solutore nella seconda metà negli anni '80 su workstation in ambiente UNIX, si è fatto ricorso al programma ad elementi finiti HERCULE, della SOCOTEC (Francia).

DOLMEN® permette l'analisi elastica lineare di strutture tridimensionali con nodi a sei gradi di libertà utilizzando un solutore ad elementi finiti. Gli elementi considerati sono la trave (elemento BEAM), con eventuali svincoli interni o rotazione attorno al proprio asse, ed il guscio (elemento SHELL), sia rettangolare che triangolare, avente comportamento di membrana e di piastra. La matrice di rigidezza dei gusci quadrangolari è ottenuta per condensazione di quattro gusci triangolari con vertice interno in comune. I carichi possono essere applicati sui nodi, sulle travi e sui gusci come forze (distribuite, trapezie, concentrate), coppie e distorsioni termiche. I vincoli esterni sono definiti tramite le sei costanti di rigidezza elastica.

Eventuali analisi sismiche possono essere effettuate sia in regime statico che dinamico tramite analisi modale, con o senza presa in conto di piani orizzontali rigidi. Il calcolo delle forze sismiche ed il successivo dimensionamento degli elementi resistenti può avvenire sia secondo il DM 16.01.96, sia secondo le Nuove Norme Tecniche 2018.

I riferimenti bibliografici fondamentali usati nella scrittura del codice sono stati i seguenti:

- O. C. Zienkiewicz, "The Finite Element Method", Third Edition, McGraw-Hill
- V. I. Carbone – D. Munari, "Analisi Strutturale per il Calcolo Automatico", Levrotto & Bella
- M. Como – G. Lanni, "Elementi di Costruzioni Antisismiche", Cremonese

L'affidabilità del codice di calcolo è garantita dall'esistenza di un'ampia documentazione di supporto, composta da un manuale d'uso contenente fra l'altro più esempi dettagliati di calcolo e da una vasta serie di test di validazione, sia su esempi classici di Scienza delle Costruzioni, sia su strutture particolarmente impegnative e reperibili nella bibliografia specializzata. La validità del programma è suffragata da anni di uso intensivo presso centinaia di utenti in tutta Italia e all'estero. Inoltre la presenza di un modulo CAD per

l'introduzione di dati permette la visualizzazione dettagliata degli elementi introdotti. È possibile ottenere rappresentazioni grafiche di deformate e sollecitazioni della struttura, ed al termine dell'elaborazione viene valutata la qualità della soluzione, in base all'uguaglianza del lavoro esterno e dell'energia di deformazione.

DOLMEN® è dotato inoltre di moduli a corredo del solutore principale, che consentono il progetto e la verifica di membrature in acciaio, di travi, pilastri e piastre in calcestruzzo, di pareti in muratura portante. Tali moduli leggono direttamente le sollecitazioni prodotte dal solutore e producono disegni e relazioni di calcolo secondo le ultime normative vigenti.

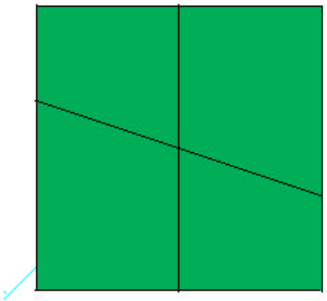
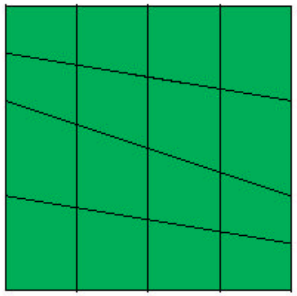
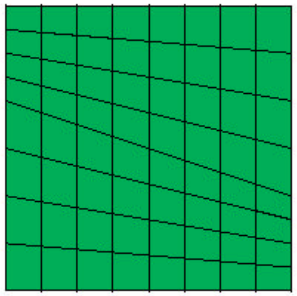
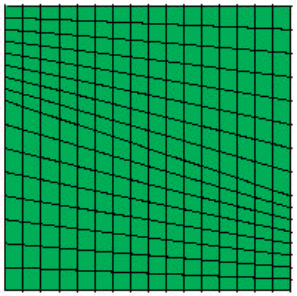
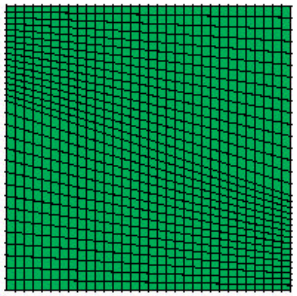
DOLMEN® tratta anche la geotecnica con lo studio di muri controterra, di pali infissi, trivellati, a elica continua e micropali, di opere di contenimento flessibili, con l'analisi di fondazioni superficiali e della stabilità di pendii e la caratterizzazione dei terreni e delle rocce.

Per CDM DOLMEN Srl
Ing. Gianmarco MASSUCCO

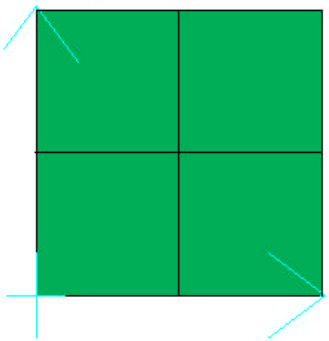
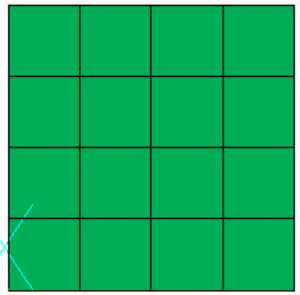
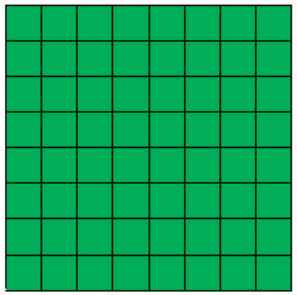
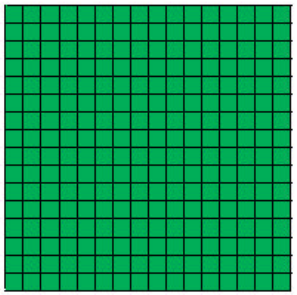
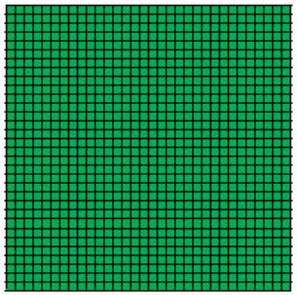
Assonometria : 30, 30

MODELLAZIONE DI PIASTRA QUADRATA INCASTRATA AI LATI

MESH IRREGOLARE

MESH REGOLARE

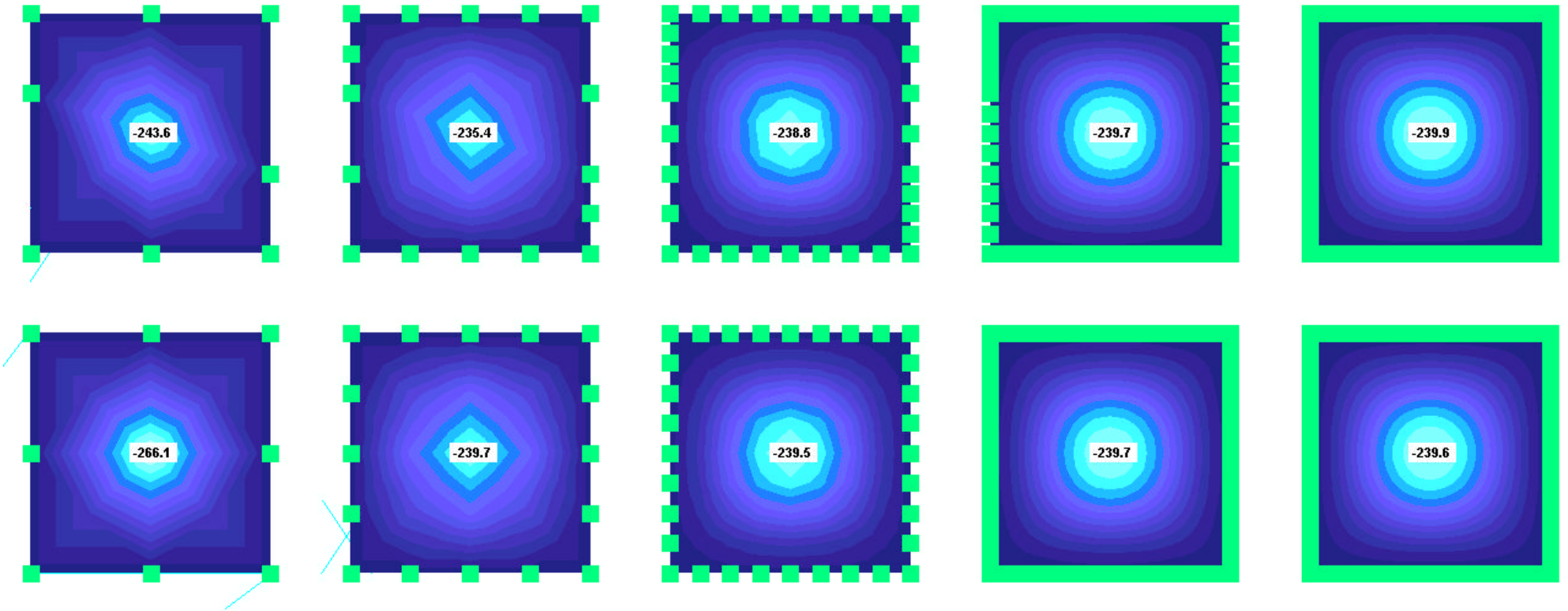
DATI:
dimensioni 600x600 cm
spessore 30 cm

E = 300000 kg/cm2
nu = 0.2

q = 1000 kg/m2

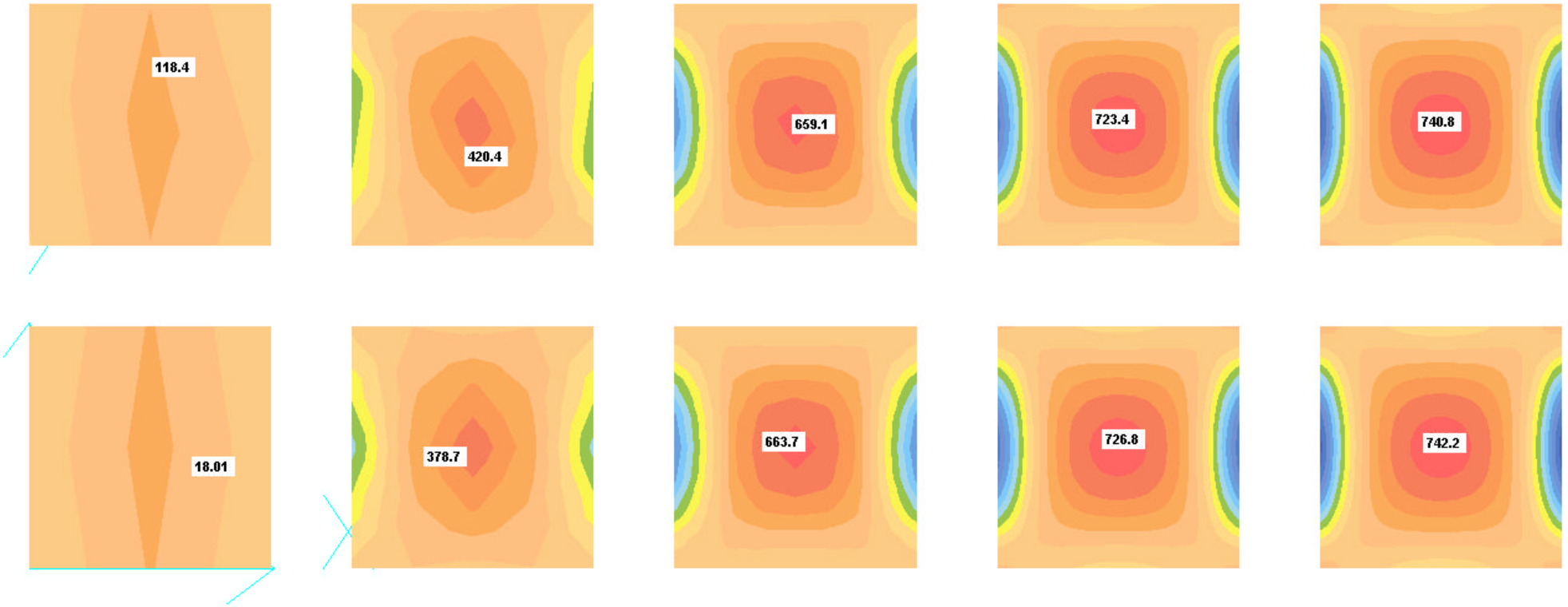
Piano XY Z = 0 cm

SPOSTAMENTI (micron)
Valore ricavato da tabelle = 232.2 micron
errore = 3.1%



Piano XY Z = 0 cm

MOMENTI FLETTENTI X (kgcm/cm)
valore da tabelle = 768.96 kgcm/cm
errore = 3.4%



MODELLAZIONE DI TRAVE A MENSOLA
luce = 2 m
b x h = 30x50

DATI:
E = 300000 kg/cm2
nu = 0.2
G = 125000 kg/cm2

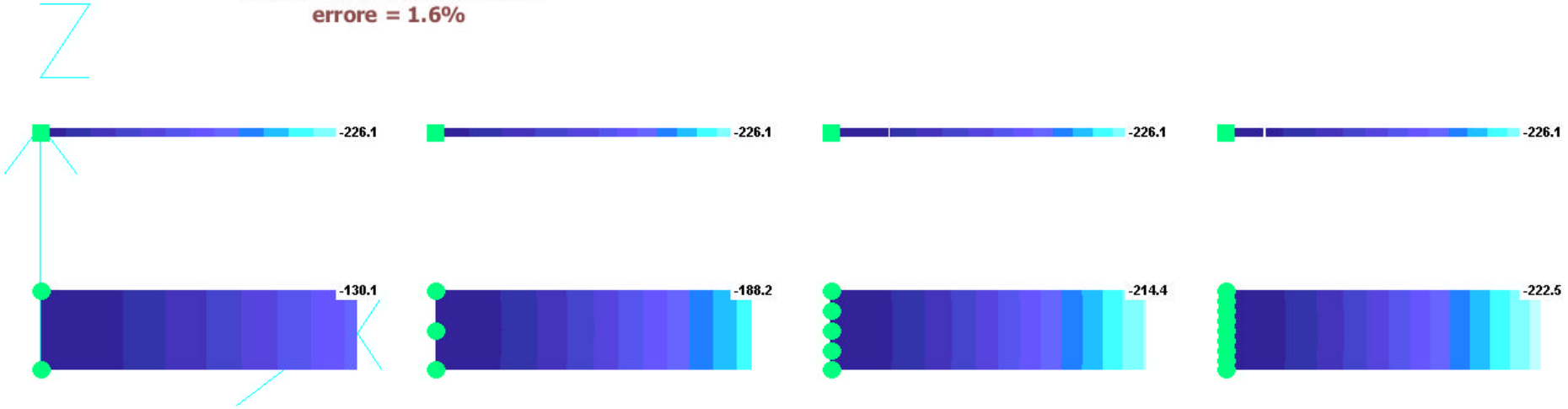
q = 1000 kg/m

Modelli con elementi TRAVE

Modelli con elementi GUSCIO BIDIMENSIONALE

Piano XZ Y = 0

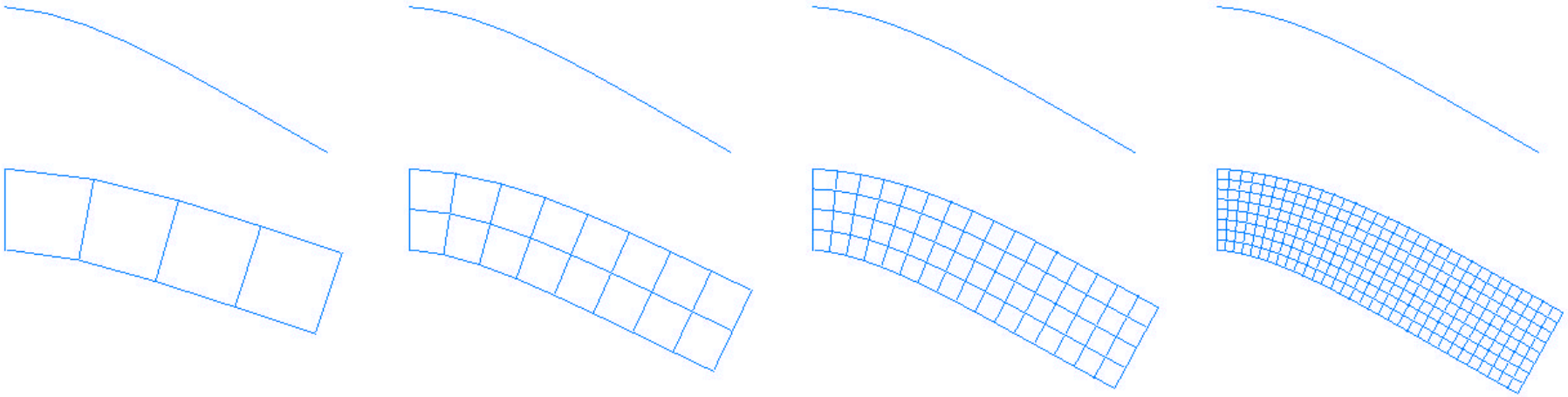
SPOSTAMENTI (micron)
valore esatto= 226.1 micron
errore = 1.6%



NB: l'elemento finito ASTA è "perfetto" in quanto le funzioni interpolatrici interne sono esatte.
Pertanto i risultati delle aste NON dipendono dalla loro schematizzazione, più o meno fitta.

Piano XZ Y = 0

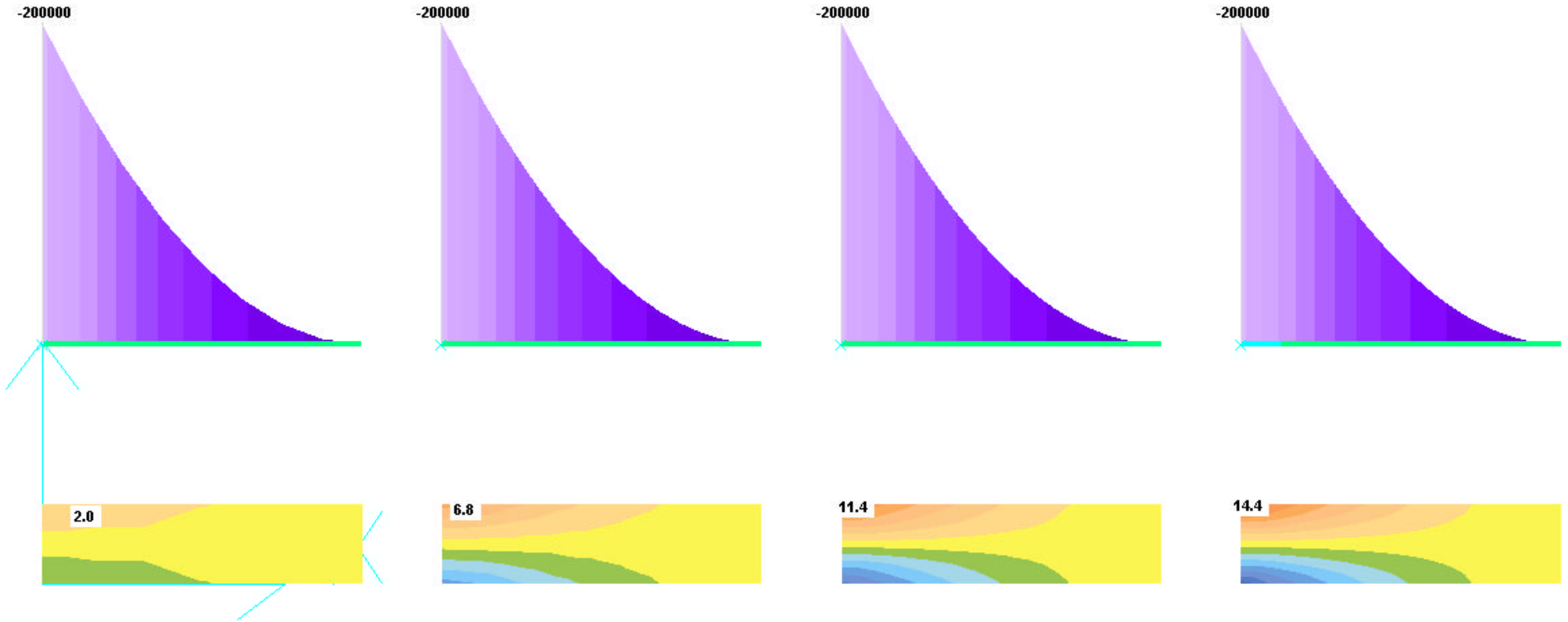
VISUALIZZAZIONE DELLA DEFORMATA



Il calcolo tiene conto della deformabilità a taglio: trascurandola si ottiene il risultato "manuale"
pari a 213 micron (= pL^4/8EJ)

Piano XZ Y = 0

MOMENTI (kgcm)
e TENSIONI (kg/cm2)



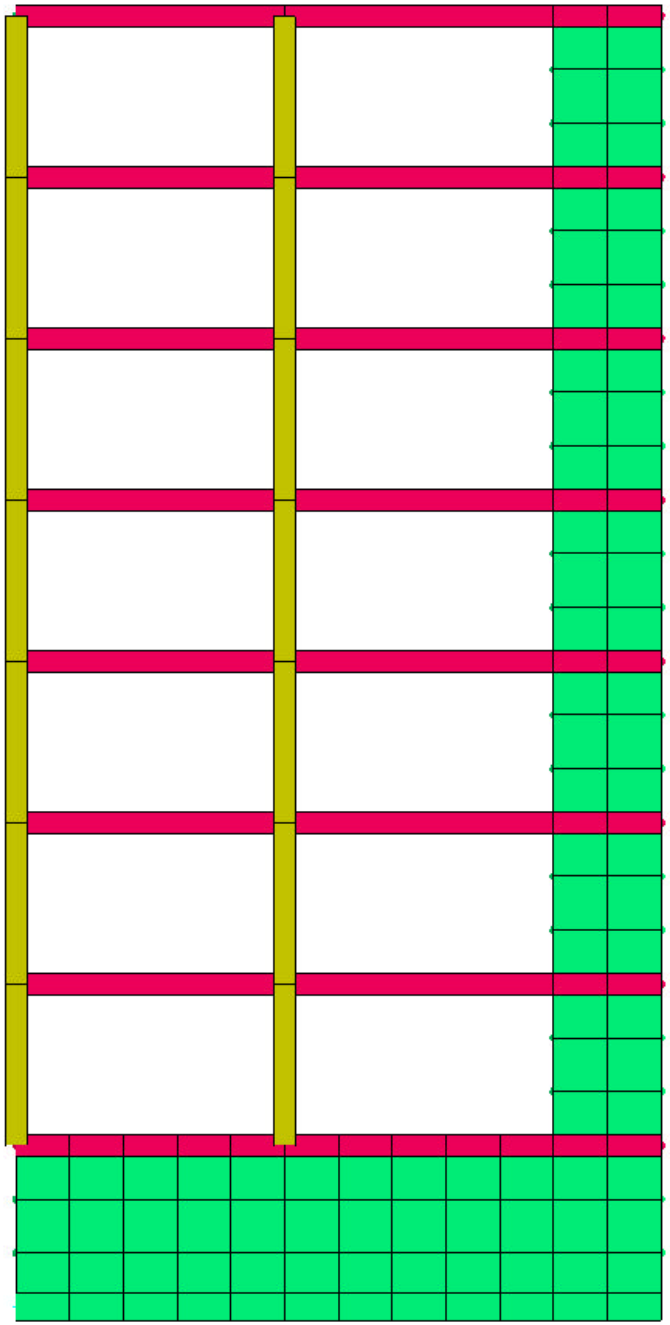
Tensione calcolata ad
x = 3.12 cm ed y = 48.96 cm

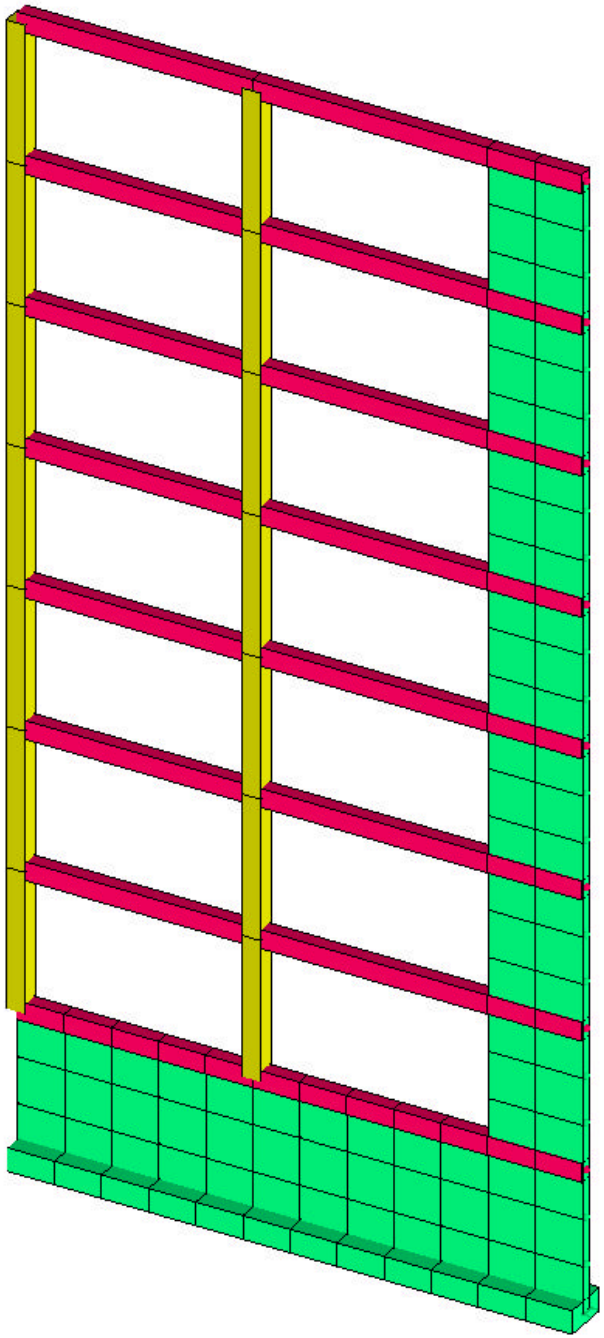
Valore teorico= 15.1 kg/cm2
errore = 4.8 %

Assonometria : 0, 0

Assonometria : 30, 30

ANALISI DINAMICA DI TELAIO IN C.A.





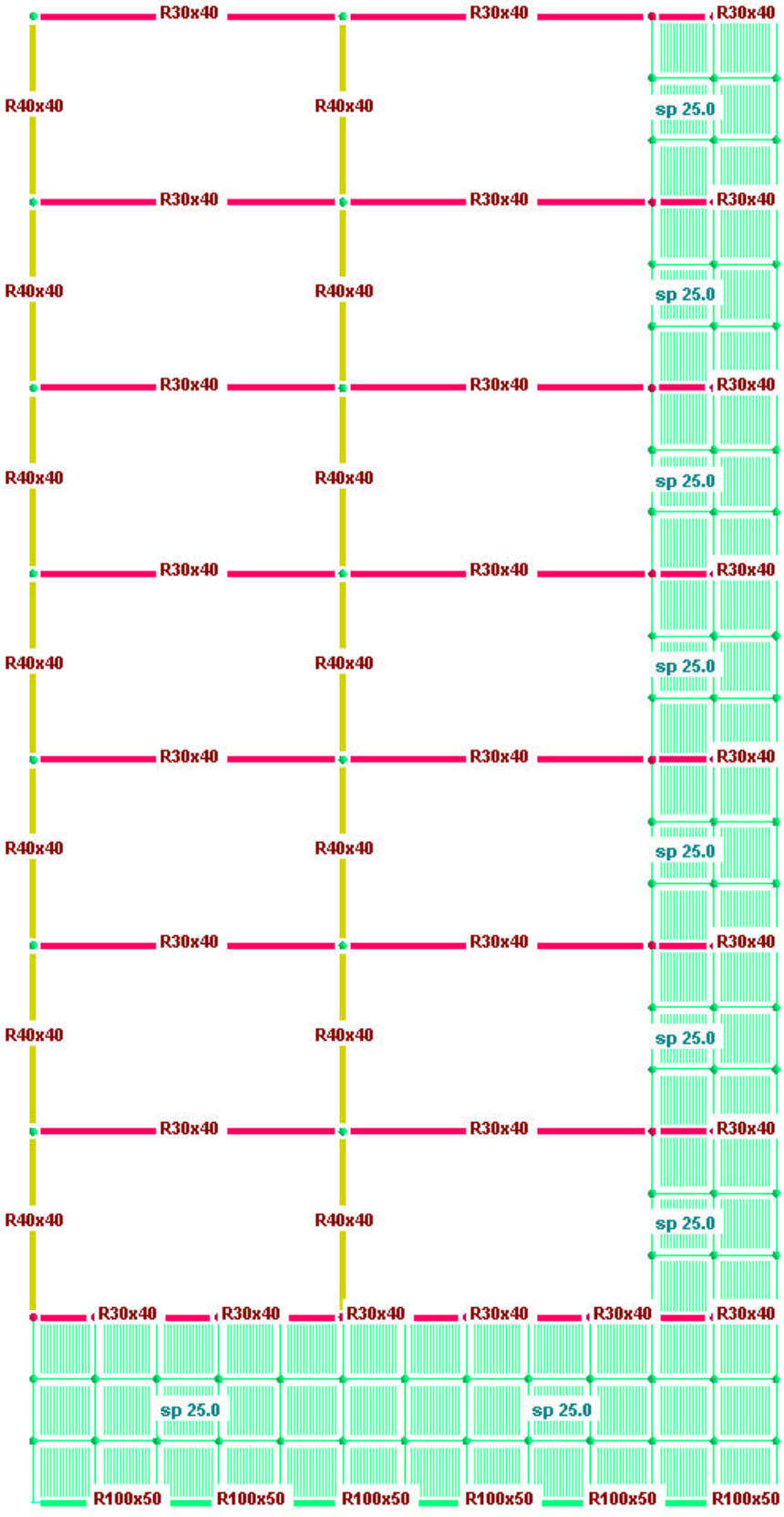
TELAIO SISMICO:
DATI GEOMETRICI

H piano = 3 m
L travi = 5 m
L setto = 2 m

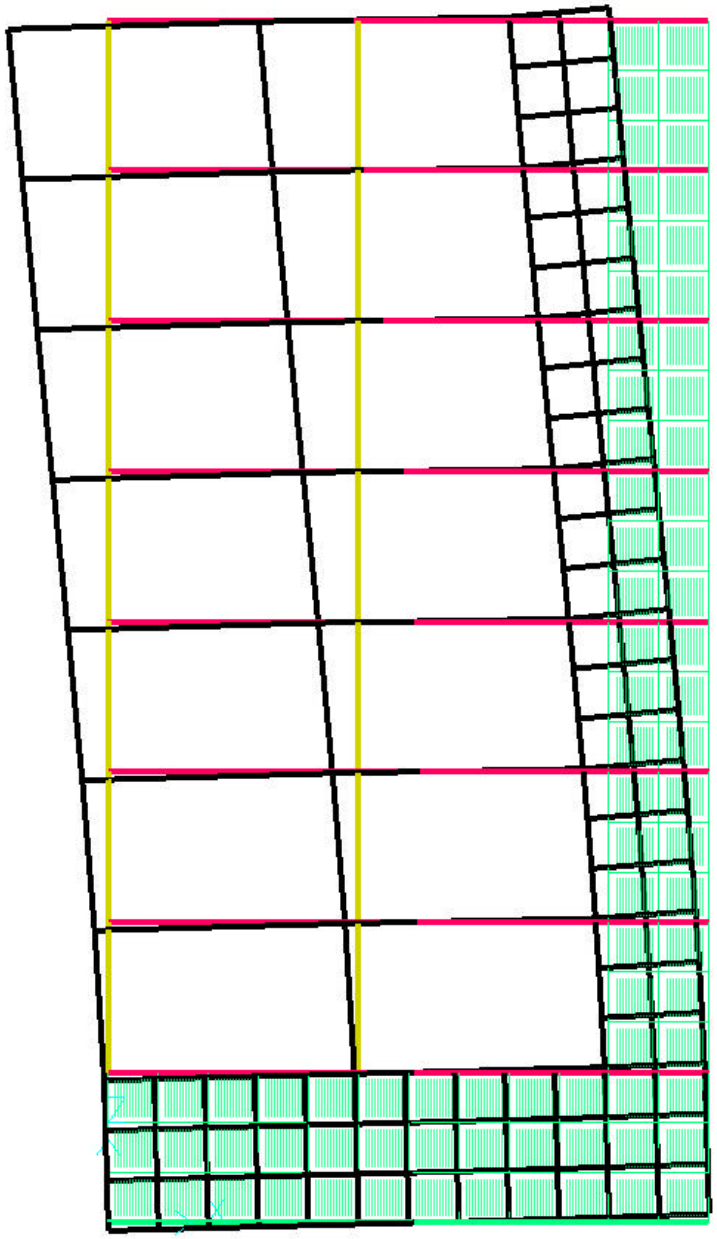
CARICHI:
3000 kg/m ad ogni piano

MATERIALE:
E = 300000 kg/cm2
nu = 0.2
G = 125000 kg/cm2

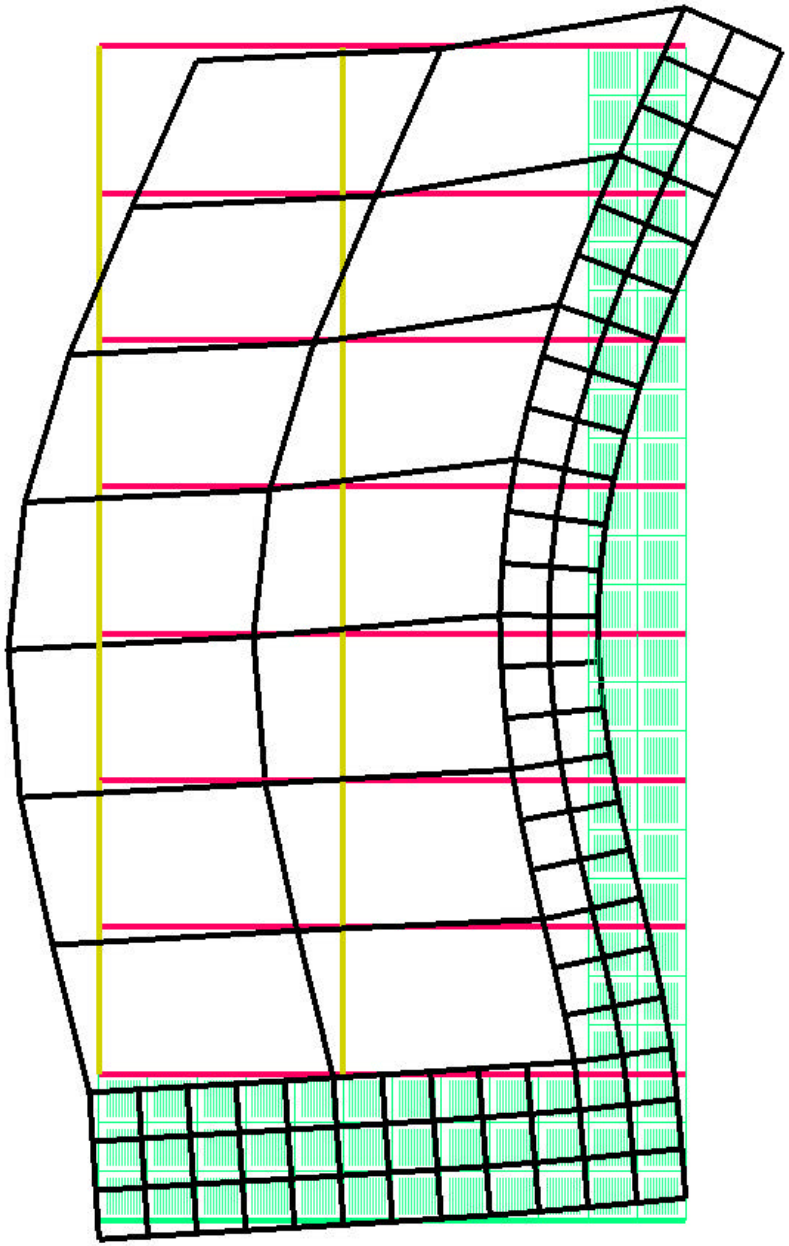
In fondazione: k winkler = 5 kg/cm3



1° MODO DI VIBRARE
periodo = 1.0316 s
massa attivata = 70.215 %



2° MODO DI VIBRARE
periodo = 0.2071 s
massa attivata = 14.796 %



La formula semplificata T1 = 0.075*H^(3/4) produce T1 = 0.8132 s
In effetti, sostituendo la fondazione alla winkler con nodi incastrati si ottiene T1 = 0.8287 s