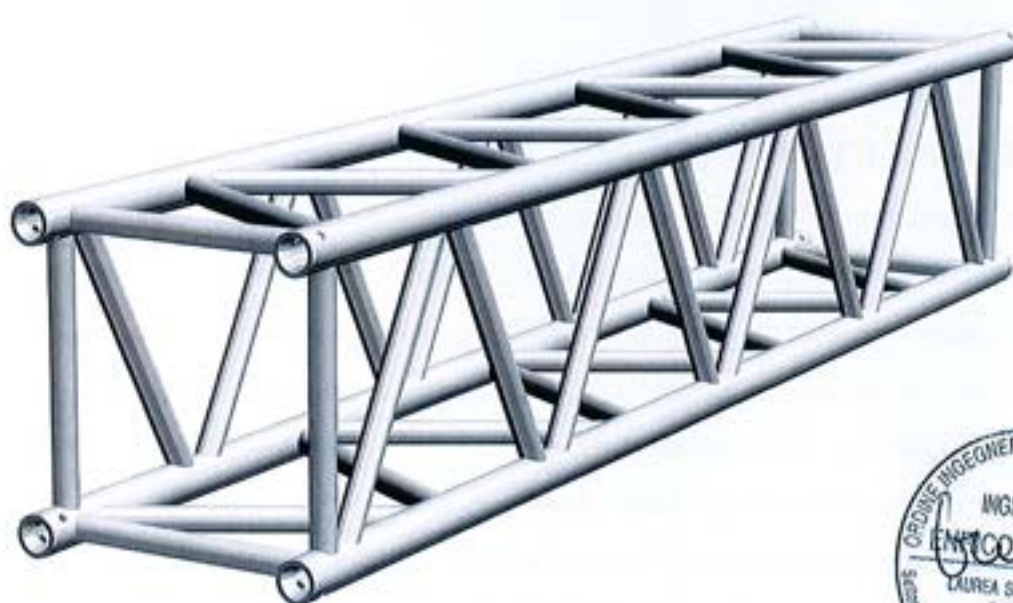


## Relazione di calcolo

### **Quadro EURO 40 HD**

CALCOLO AGLI S.L.U. SECONDO EUROCODICE 9, NTC 2008



<b>1- Descrizione della struttura.</b>	<b>(pag.2)</b>
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## 1 - DESCRIZIONE DELLA STRUTTURA

La struttura in oggetto è una trave reticolare modulare realizzata con tubolari in lega di alluminio estruso. I moduli hanno le dimensioni mostrate nella tavola allegata. I correnti in ogni modulo sono realizzati con tubolari 50 x 3 mentre i diagonalali sono tubolari 30X3.0 saldati ai correnti come in figura. La continuità fra i moduli è garantita da opportune boccole. Le distanze fra gli interassi dei correnti sono pari a 35,0 cm .

## 2 - MATERIALI UTILIZZATI.

Il materiale utilizzato per i tubolari è una lega di alluminio AlMgSi1 con denominazione EN AW 6082 T6 HB 90 secondo "eurocode 9, prospetto 3.2.b" avente una resistenza allo snervamento pari a  $f_y = 2500 \text{ Kg/cm}^2$  e resistenza a rottura  $f_r = 2900 \text{ Kg/cm}^2$  (stato termico T6) , ed un modulo di elasticità  $E = 700000 \text{ kg/cm}^2$ . Si considera un coefficiente di sicurezza pari a  $\gamma_m = 1.10$  e si ottiene come a  $F_u = 2272 \text{ kg/cm}^2$  . In prossimità delle saldature il materiale termicamente alterato (softening HAZ) subisce un decadimento delle caratteristiche meccaniche per cui la resistenza residua di tali tratti è pari a  $f_{yh} = 1250 \text{ kg/cm}^2$  ed applicando un coefficiente di sicurezza 1.10 si ottiene  $f_{uh} = 1136 \text{ kg/cm}^2$ . Le saldature sono realizzate con materiale di apporto S-Al Mg5 avente una resistenza pari a  $f_y = 1200 \text{ kg/cm}^2$ . Considerando un coefficiente di sicurezza  $\gamma_m = 1.25$  si ottiene una resistenza della saldatura di  $f = 960 \text{ kg/cm}^2$ .

Per la spina di collegamento si utilizza un acciaio C45 avente le seguenti caratteristiche tecniche:

Tensione di snervamento pari a  $f_y = 5500 \text{ kg/cm}^2$  da cui deriva applicando un  $\gamma_m = 1.15$  una  $f_u = 4782 \text{ kg/cm}^2$ .

Il maschio e la femmina relativi alla boccola d'accoppiamento sono realizzati con la lega d'alluminio AlMgSi1 con denominazione EN AW 6082 T6 HB 90 con le medesime caratteristiche meccaniche del tubolare.

### 3- CARICHI

Il calcolo è stato eseguito considerando differenti tipologie di carico. Carico concentrato P applicato in un punto od in più punti ed un carico uniformemente distribuito sull'intera luce della trave . Il carico è stato considerato statico, applicato in corrispondenza dei nodi del corrente inferiore e perfettamente centrato sull'asse della trave.

### 4- MODELLO DI CALCOLO

Per il calcolo della struttura in esame è stato utilizzato il metodo degli SLU (STATI LIMITE ULTIMO come previsto dall'eurocodice 9 UNI ENV 1999-1-1-2002)

Lo schema di calcolo delle azioni M T N dovute ai carichi è quello di una trave in semplice appoggio o di una trave incastrata ad un estremo. Infine viene considerato il carico di punta limite con la formula di Eulero per l'utilizzo dell'elemento come puntone semplicemente soggetto a compressione assiale.

Le verifiche di resistenza sono state eseguite solo sulle sezioni maggiormente sollecitate: la mezzeria per gli sforzi flessionali, ed i diagonali in prossimità degli appoggi per gli sforzi di taglio. Essendo la trave costituita tubolari molto snelli , gli elementi sono stati verificati anche alla instabilità utilizzando la nota relazione di Eulero  $N_{cr} = \pi^2 EJ / L_0^2$ , dove  $L_0 = \alpha L$  ( $\alpha = 0.8$ ).

Nel caso del diagonale  $L = 49,50$  cm . Nei confronti della instabilità si è utilizzato un coefficiente di sicurezza pari a  $\gamma = 3.0$ .

### 5- CALCOLI

Caratteristiche geometriche della sezione:

**Dati relativi al corrente:**

Dimensioni 50 x 3 mm

Area =  $4,42 \text{ cm}^2$  (N1)

$J = 12,28 \text{ cm}^4$

$W = 4,91 \text{ cm}^3$



#### **Dati relativi al diagonale:**

Dimensioni 30 x 3

Area = 2,54 cm<sup>2</sup> (N2)

J = 2,35 cm<sup>4</sup>

W = 1,56 cm<sup>3</sup>

Lunghezza = 49,50 cm

$Ncr = \pi^2 EJ / l_0^2 = 34589 \text{ kg}$

$Ncr/3 = 11529 \text{ kg}$

Caratteristiche della sezione nel suo complesso:

Area = 17,72 cm<sup>2</sup>

J = 5414 cm<sup>4</sup>

W = 270 cm<sup>3</sup>

#### **ACCOPPIAMENTO MEDIANTE GIUNTO E SPINA.**

##### **Caratteristiche geometriche della spina conica:**

La spina di collegamento in acciaio resiste grazie alla resistenza a taglio offerta dalle due superfici trasversali resistenti aventi diametro diverso:

$\phi 1 = 12 \text{ mm}$ ,  $\phi 2 = 8 \text{ mm}$ ,  $\phi m = 10 \text{ mm}$

Considerando il diametro medio di 10 mm la superficie resistente è pari a:

$A = 2 \times 0,78 = 1,56 \text{ cmq}$  (N3)

##### **Caratteristiche geometriche del maschio della boccola:**

Diametro esterno in corrispondenza del foro = 2,9 cm

Area lorda =  $\pi \phi^2 / 4 = 6,6 \text{ cmq}$

Area del foro =  $2,9 \times 1,05 = 3,045 \text{ cmq}$

Area netta = 3,555 cmq (N4)

Area di contatto spina foro = 3,045 cmq

##### **Caratteristiche della femmina della boccola:**

Diametro esterno = 4,3 cm

Diametro interno = 2,9 cm

Area lorda = 7,91 cmq

Area del foro =  $(4,3-2,9) \times 1,05 = 1,47 \text{ cmq}$

Area netta =  $6,44 \text{ cmq}$  (N5)

Area di contatto spina foro =  $1,47 \text{ cmq}$  (N6)

**Caratteristiche della saldatura a cordone d'angolo:**

Lunghezza =  $4,0 \text{ cm} \times 2$

Larghezza =  $0,8 \text{ cm}$

Area lorda =  $6,4 \text{ cmq}$  (N7)

Considerando tutti i carichi, peso proprio e permanenti come permanenti ( a favore di sicurezza) per ottenere i carichi di progetto devo utilizzare :

$F_d = 1,4 \times F$  ( nota A)

(utilizzo un  $\gamma_k = 1,4$  come previsto dalla normativa per tali carichi)

uguagliando  $F_d = F_u$  si ottiene  $F = F_u / 1,4$  (il carico massimo sul singolo elemento è pari all'azione ultima diviso 1,4)

In base a queste caratteristiche ed alle relative tensioni ultime è possibile ricavare gli sforzi normali massimi di progetto relativi ai singoli elementi costituenti il traliccio completo. Per ottenere i carichi reali di utilizzo devo dividere per 1,4 vedi nota A

$N1 = 4,42 \times 1136 = 5021 \text{ kg}$  (trazione tubo corrente)

$N2 = 2,54 \times 1136 = 2885 \text{ kg}$  (trazione tubo diagonale)

$N3 = 1,56 \times 4782 / 1,73 = 4312 \text{ kg}$  (resistenza spina acciaio)

$N4 = 3,555 \times 2272 = 8076 \text{ kg}$  (resistenza maschio del giunto)

$N5 = 6,44 \times 2272 = 14631 \text{ kg}$  (resistenza femmina del giunto)

$N6 = 1,47 \times 2272 \times 1,5 = 5009 \text{ kg}$  (resistenza femmina a rifollamento)

$N7 = 6,4 \times 960 = 6144 \text{ kg}$  (resistenza della saldatura)

In base ai calcoli summenzionati il momento massimo limite ammissibile è pari a :

$M_u = 4312 \times 35,0 \times 2 = 301840 \text{ kgcm}$

Lo sforzo massimo di trazione sopportabile dal traliccio è pari :

$$Nu = 4 \times 4312 = 17248 / 1,5 = 11499 \text{ kg (coefficiente aggiuntivo di sicurezza pari a 1,5)}$$

Lo sforzo massimo di taglio è pari a :

$$Tu = 2 \times N2 \times \sin 45 = 4080 \text{ kg}$$

In base ai valori ultimi relativi al momento ( $M_u$ ) allo sforzo normale ( $N_u$ ) ed al taglio ( $T_u$ ) nella trave reticolare, sono calcolate, con le formule fornite dalla scienza delle costruzioni e qui di seguito riassunte brevemente, i carichi ammessi sulla trave nelle diverse configurazioni di carico.

Si ricordi che le tabelle non contengono i carichi di progetto  $F_d$  bensì quelli ridotti con il fattore 1,4 per cui sono i carichi per l'utilizzatore finale. Vedi nota A.

CARICO UNIFORMEMENTE DISTRIBUITO

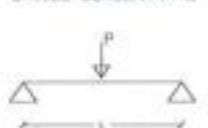


$$M = qL^2/8$$

$$F = 5/384 qL^4/EJ$$

$M$  = Momento flettente  
 $F$  = freccia massima  
 $I$  = Momento d'inerzia  
 $L$  = Luce della trave

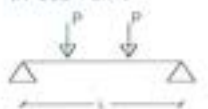
CARICO CONCENTRATO



$$M = PL/4$$

$M$  = Momento flettente  
 $L$  = Luce della trave

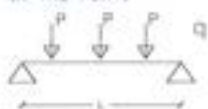
CARICO CONCENTRATO IN DUE PUNTI



$$M = PL/3$$

$M$  = Momento flettente  
 $L$  = Luce della trave

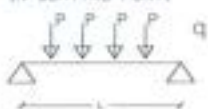
CARICO CONCENTRATO IN TRE PUNTI



$$M = PL/2$$

$M$  = Momento flettente  
 $L$  = Luce della trave

CARICO CONCENTRATO IN QUATTRO PUNTI



$$M = 0,6PL$$

$M$  = Momento flettente  
 $L$  = Luce della trave

Partendo dal momento massimo e detraendo il contributo dovuto al peso proprio è possibile ricavare a seconda dei casi il carico distribuito massimo, od il carico concentrato P in ogni singolo punto.

E' possibile inoltre calcolare la freccia teorica con la nota formula:

$f = 5/384ql^4/EJ$  per trave semplicemente appoggiata e caricata uniformemente.

Il J è stato moltiplicato per un coefficiente riduttivo pari a 0,8 per tenere in opportuna considerazione la struttura a trave reticolare.

luce	CPL	UDL	DPL	TPL	QPL	Def.
m	kg	kg/m	kg	kg	kg	cm
4	1500	700	1400	933	700	0,9
6	1494	466	1120	747	622	3,2
8	1096	274	822	548	457	5,5
10	851	170	639	426	355	8,6
12	684	114	513	342	285	12,4
14	560	80	420	280	233	16,8
16	464	58	348	232	193	22,0
18	338	38	253	169	141	27,8
20	277	28	208	139	116	34,4
22	225	20	169	113	94	41,6

## CARICO DI PUNTA

Per la valutazione del carico di punta che determina lo svergolamento (instabilità) del traliccio viene utilizzata la nota formula di Eulero con coefficiente di sicurezza pari a  $\nu=3$ .

Sono state considerate due configurazioni A,B. Nella configurazione A l'elemento viene considerato incernierato alle due estremità, nella configurazione B l'elemento viene considerato incastrato ad una estremità e libero all'altra. Disponendo in una tabella i dati riassuntivi utilizzando la nota formula di Eulero:  $N_{cr} = \pi^2 EJ / l_0^2$

Dove:

$N_{cr}$  = è il carico critico

$E=700000$  kg/cm<sup>2</sup> (Modulo di elasticità dell'alluminio)

J= momento d'inerzia del traliccio

$L_0$ =Lunghezza libera d'inflessione pari a L nel caso A ed a 2L nel caso B.



CONFIGURAZIONE A



CONFIGURAZIONE B



Caso A		Caso B	
Luce m	Ncr kg	Luce m	Ncr kg
4	77925	4	19481
5	49872	5	12468
6	34633	6	8658
7	25445	7	6361
8	19481	8	4870
9	15393	9	3848
10	12468	10	3117
11	10304	11	2576
12	8658	12	2165
13	7377	13	1844

In rosso sono evidenziati i carichi che superano la resistenza a trazione del traliccio stesso. E' stato applicato un coefficiente di sicurezza pari a 3,0.



## CARICO DEL TRALICCIO UTILIZZATO COME MENSOLA

CARICO UNIFORMEMENTE  
DISTRIBUITO



CARICO CONCENTRATO



Luce	CPL	UDL
m	kg	kg/m
1	1500	1500
2	899	750
3	598	399
4	448	224
5	357	143
6	296	99

## 6- CALCOLI CON ELABORATORE ELETTRONICO

LUCE = 10.00 m

CARICO  $q=200$  KG/M

I\*\*\*\* Algor (c) FEA Stress Processor - MKNSO 8/17/89, Ver 1.003

DATE: August 25, 2011

TIME: 18:43:00

INPUT FILE.....EUHD40

### I\*\*\*\* BEAM ELEMENTS

number of beam elements	=	308
number of area property sets	=	3
number of fixed end force sets	=	0
number of materials	=	1
number of intermediate load sets	=	1

### I\*\*\*\* MATERIAL PROPERTIES

INDEX	E	MU	MASS DENSITY	WEIGHT DENSITY	THERMAL EXPANSION			REFERENCE TEMPERATURE
					X	Y	Z	

1	7.00E+05	.300	7.32E-04	2.83E-01	0.00E+00	0.00E+00	0.00E+00	0.000E+00
---	----------	------	----------	----------	----------	----------	----------	-----------

### I\*\*\*\* AREA PROPERTIES

INDEX	AREAS			TORSION		FLEXURAL INERTIAS	
	AXIAL	SHEAR	SHEAR				
	A(1)	A(2)	A(3)	I(1)	I(2)	I(3)	

1	4.420E+00	0.000E+00	0.000E+00	1.400E-01	1.228E+01	1.228E+01	
2	1.000E+00	0.000E+00	0.000E+00	1.400E-01	8.333E-02	8.333E-02	
3	2.540E+00	0.000E+00	0.000E+00	1.400E-01	2.350E+00	2.350E+00	

### I\*\*\*\* STRESS PROPERTIES

INDEX	SECTION MODULI	
	S(2)	S(3)

1	4.910E+00	4.910E+00
---	-----------	-----------

2 1.000E+00 1.000E+00  
3 1.560E+00 1.560E+00

## \*\*\*\*\* ELEMENT LOAD MULTIPLIERS

	CASE A	CASE B	CASE C	CASE D
X-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Y-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Z-DIR	0.000E+00	0.000E+00	0.000E+00	0.000E+00

## \*\*\*\*\* INTERMEDIATE LOADS IN LOCAL COORDINATES

-----INTERMEDIATE LOAD PARAMETER SUMMARY-----

TYPE	A	B	C	D	E	F	G	H
CL	AI	F1	F2	F3				
CM	AI	M1	M2	M3				
DL	AI	BI	WA1	WB1	WA2	WB2	WA3	WB3
TL	TI	TJ	DT2I	DT2J	H2	DT3I	DT3J	H3
TN								

## INDEX TYPE INTERMEDIATE LOAD PARAMETERS (SEE ABOVE)

A (E)	B (F)	C (G)	D (H)
-------	-------	-------	-------

1 DL	0.0000E+00	2.8000E+01	0.0000E+00	0.0000E+00
	0.0000E+00	0.0000E+00	1.0000E+00	1.0000E+00

## \*\*\*\*\* BEAM ELEMENT FORCES AND MOMENTS

ELEMENT NO. (MODE)	CASE	AXIAL FORCE	SHEAR FORCE	SHEAR FORCE	TORSION MOMENT	BENDING MOMENT	BENDING MOMENT
		R1	R2	R3	M1	M2	M3

1	1	-4.606E+02	2.237E+00	-3.359E+01	-1.129E-01	3.237E+02	2.947E+01
		4.606E+02	-2.237E+00	5.588E+00	1.129E-01	2.248E+02	3.317E+01
2	1	-4.614E+02	7.830E-01	-5.721E+00	-2.042E-01	-2.413E+02	1.270E+01
		4.614E+02	-7.830E-01	2.228E+01	2.042E-01	9.499E+00	9.228E+00
3	1	-1.346E+03	9.074E-01	-3.360E+01	7.520E-02	1.295E+02	1.679E+00
		1.346E+03	-9.074E-01	5.602E+00	-7.520E-02	4.194E+02	2.373E+01



- 4 1 -1.345E+03 8.484E-01 -5.772E+00 -4.168E-01 -3.991E+02 1.661E+01  
1.345E+03 -8.484E-01 -2.223E+01 4.168E-01 1.687E+02 7.143E+00
- 5 1 -2.118E+03 9.246E-01 -3.288E+01 7.452E-02 -4.599E+01 3.404E+00  
2.118E+03 -9.246E-01 4.878E+00 -7.452E-02 5.746E+02 2.249E+01
- 6 1 1.772E+03 -7.483E-01 -5.242E+00 -4.060E-01 -3.509E+02 -1.649E+01  
-1.772E+03 7.483E-01 5.242E+00 4.060E-01 4.976E+02 -4.462E+00
- 7 1 1.773E+03 -1.024E+00 -5.304E+00 7.324E-02 -2.190E+02 -6.838E+00  
-1.773E+03 1.024E+00 5.304E+00 -7.324E-02 3.675E+02 -2.185E+01
- 8 1 9.451E+02 -9.890E-01 -5.284E+00 -3.445E-01 -1.985E+02 -2.261E+01  
-9.451E+02 9.890E-01 5.284E+00 3.445E-01 3.464E+02 -5.080E+00
- 9 1 9.470E+02 -7.756E-01 -5.404E+00 -7.144E-02 -5.859E+01 -2.832E+00  
-9.470E+02 7.756E-01 5.404E+00 7.144E-02 2.099E+02 -1.889E+01
- 10 1 1.556E+01 -9.769E-01 -1.579E+01 -3.182E-01 2.247E+02 -1.249E+01  
-1.556E+01 9.769E-01 1.579E+01 3.182E-01 2.174E+02 -1.486E+01
- 11 1 6.480E+02 3.876E+00 -3.307E-01 7.206E-02 7.321E-01 8.229E+01  
-6.480E+02 -3.876E+00 3.307E-01 -7.206E-02 1.236E+01 7.122E+01
- 12 1 -6.621E+02 -3.292E+00 1.294E-01 -2.553E-02 -1.261E+01 -8.759E+01  
6.621E+02 3.292E+00 -1.294E-01 2.553E-02 7.491E+00 -4.275E+01
- 13 1 5.830E+02 3.212E+00 -4.973E-03 2.397E-02 -7.935E+00 9.620E+01  
-5.830E+02 -3.212E+00 4.973E-03 -2.397E-02 8.132E+00 3.098E+01
- 14 1 -5.825E+02 -2.694E+00 4.039E-02 -5.235E-04 -8.699E+00 -9.645E+01  
5.825E+02 2.694E+00 -4.039E-02 5.235E-04 7.099E+00 -1.023E+01
- 15 1 5.048E+02 2.956E+00 3.585E-02 1.134E-02 -7.806E+00 1.125E+02  
-5.048E+02 -2.956E+00 -3.585E-02 -1.134E-02 6.386E+00 4.550E+00
- 16 1 1.612E+01 1.665E+01 -1.148E-01 2.105E-01 1.283E+01 2.417E+02  
-1.612E+01 -1.665E+01 1.148E-01 -2.105E-01 -9.611E+00 2.246E+02
- 17 1 3.483E+02 2.534E+00 3.636E-02 1.277E-02 -5.229E+00 1.372E+02  
-3.483E+02 -2.534E+00 -3.636E-02 -1.277E-02 3.789E+00 -3.689E+01
- 18 1 -4.289E+02 -1.977E+00 2.585E-02 -1.531E-03 -5.772E+00 -1.184E+02  
4.289E+02 1.977E+00 -2.585E-02 1.531E-03 4.748E+00 4.010E+01

19 1 4.272E+02 2.403E+00 3.176E-02 1.115E-02 -6.380E+00 1.203E+02  
-4.272E+02 -2.403E+00 -3.176E-02 -1.115E-02 5.122E+00 -2.516E+01

20 1 -5.050E+02 -2.315E+00 3.460E-02 -1.711E-05 -7.063E+00 -1.098E+02  
5.050E+02 2.315E+00 -3.460E-02 1.711E-05 5.693E+00 1.814E+01

21 1 2.489E+03 -8.187E-01 -4.638E+00 8.077E-02 -3.833E+02 -5.056E+00  
-2.489E+03 8.187E-01 4.638E+00 -8.077E-02 5.132E+02 -1.787E+01

22 1 2.488E+03 -6.404E-01 -4.559E+00 -3.476E-01 -4.981E+02 -1.464E+01  
-2.488E+03 6.404E-01 4.559E+00 3.476E-01 6.258E+02 -3.291E+00

23 1 3.096E+03 -6.980E-01 -3.096E+00 1.209E-01 -5.325E+02 -4.420E+00  
-3.096E+03 6.980E-01 3.096E+00 -1.209E-01 6.192E+02 -1.513E+01

24 1 3.094E+03 -5.110E-01 -3.046E+00 -3.335E-01 -6.106E+02 -1.184E+01  
-3.094E+03 5.110E-01 3.046E+00 3.335E-01 6.959E+02 -2.463E+00

25 1 3.583E+03 -5.303E-01 -8.512E+00 -5.853E-02 -6.094E+02 -3.159E+00  
-3.583E+03 5.303E-01 8.512E+00 5.853E-02 8.478E+02 -1.169E+01

26 1 -3.331E+03 3.066E-01 -5.051E+00 -1.828E-01 -8.188E+02 7.023E+00  
3.331E+03 -3.066E-01 -2.295E+01 1.828E-01 5.682E+02 1.560E+00

27 1 -3.331E+03 6.533E-01 -3.315E+01 -1.877E-02 -3.034E+02 1.580E+00  
3.331E+03 -6.533E-01 5.152E+00 1.877E-02 8.397E+02 1.671E+01

28 1 -2.779E+03 5.911E-01 -3.787E+00 -3.487E-01 -6.865E+02 1.107E+01  
2.779E+03 -5.911E-01 -2.421E+01 3.487E-01 4.006E+02 5.484E+00

29 1 -2.779E+03 7.472E-01 -3.184E+01 1.060E-01 -1.992E+02 2.213E+00  
2.779E+03 -7.472E-01 3.837E+00 -1.060E-01 6.987E+02 1.871E+01

30 1 -2.117E+03 6.808E-01 -4.767E+00 -3.719E-01 -5.599E+02 1.273E+01  
2.117E+03 -6.808E-01 -2.323E+01 3.719E-01 3.014E+02 6.332E+00

31 1 -3.391E+02 -1.089E+00 -1.701E-02 -8.083E-03 -4.158E+00 -1.234E+02  
3.391E+02 1.089E+00 1.701E-02 8.083E-03 4.831E+00 8.024E+01

32 1 -1.624E+00 6.261E+00 2.186E-01 7.619E-02 -7.676E-01 8.311E+01  
1.624E+00 -6.261E+00 -2.186E-01 -7.619E-02 -5.353E+00 9.218E+01

33 1 -1.658E+00 -1.564E+00 1.318E-01 -2.193E-02 -4.354E-01 -2.076E+01  
1.658E+00 1.564E+00 -1.318E-01 2.193E-02 -3.255E+00 -2.303E+01

34 1 3.920E+01 1.817E-01 -3.210E-03 -8.923E-03 7.115E-01 -1.162E+02  
-3.920E+01 -1.817E-01 3.210E-03 8.923E-03 -5.844E-01 1.234E+02

35 1 -4.322E+03 8.915E-02 -1.106E+00 -1.502E-01 -1.000E+03 4.635E-01  
4.322E+03 -8.915E-02 -2.689E+01 1.502E-01 6.393E+02 2.033E+00

36 1 -4.432E+03 1.326E-01 -2.840E+01 9.984E-02 -6.218E+02 -6.562E-01  
4.432E+03 -1.326E-01 4.003E-01 -9.984E-02 1.025E+03 4.368E+00

37 1 -4.433E+03 5.601E-03 -4.531E-01 -1.234E-01 -1.024E+03 -1.573E+00  
4.433E+03 -5.601E-03 -2.755E+01 1.234E-01 6.451E+02 1.730E+00

38 1 -4.433E+03 5.213E-02 -2.746E+01 6.322E-02 -6.460E+02 -1.632E+00  
4.433E+03 -5.213E-02 -5.380E-01 -6.322E-02 1.023E+03 3.091E+00

39 1 -4.433E+03 -2.626E-01 4.546E-01 -4.337E-02 -1.013E+03 -6.246E+00  
4.433E+03 2.626E-01 -2.845E+01 4.337E-02 6.078E+02 -1.107E+00

40 1 4.413E+03 6.042E-02 -1.451E-01 3.823E-02 -8.894E+02 4.263E-01  
-4.413E+03 -6.042E-02 1.451E-01 -3.823E-02 8.934E+02 1.266E+00

41 1 4.467E+03 8.529E-02 2.110E-01 -1.102E-01 -8.938E+02 1.668E+00  
-4.467E+03 -8.529E-02 -2.110E-01 1.102E-01 8.879E+02 7.200E-01

42 1 4.468E+03 -8.339E-02 1.617E-01 1.133E-01 -8.983E+02 -5.254E-01  
-4.468E+03 8.339E-02 -1.617E-01 -1.133E-01 8.937E+02 -1.810E+00

43 1 4.413E+03 -4.391E-02 -7.454E-01 -1.342E-01 -8.848E+02 -1.061E+00  
-4.413E+03 4.391E-02 7.454E-01 1.342E-01 9.057E+02 -1.688E-01

44 1 4.414E+03 -2.084E-01 -7.930E-01 9.051E-02 -8.652E+02 -1.401E+00  
-4.414E+03 2.084E-01 7.930E-01 -9.051E-02 8.874E+02 -4.434E+00

45 1 -1.165E+02 -3.318E-01 2.239E-02 -2.613E-03 -1.679E+00 -1.256E+02  
1.165E+02 3.318E-01 -2.239E-02 2.613E-03 7.923E-01 1.125E+02

46 1 3.847E+01 4.753E-01 2.103E-02 4.130E-03 -1.153E+00 1.301E+02  
-3.847E+01 -4.753E-01 -2.103E-02 -4.130E-03 3.199E-01 -1.113E+02

47 1 -3.914E+01 1.345E-01 1.845E-02 -4.047E-03 -6.617E-01 -1.187E+02  
3.914E+01 -1.345E-01 -1.845E-02 4.047E-03 -6.883E-02 1.240E+02

48 1 -3.838E+01 1.358E-01 2.808E-02 5.890E-03 -2.051E-01 1.231E+02  
3.838E+01 -1.358E-01 -2.808E-02 -5.890E-03 -9.067E-01 -1.177E+02



49 1 -1.624E+00 6.261E+00 2.186E-01 7.619E-02 -7.676E-01 8.311E+01  
1.624E+00 -6.261E+00 -2.186E-01 -7.619E-02 -5.353E+00 9.218E+01

50 1 1.161E+02 8.756E-01 2.192E-02 5.499E-03 -2.188E+00 1.340E+02  
-1.161E+02 -8.756E-01 -2.192E-02 -5.499E-03 1.320E+00 -9.932E+01

51 1 -1.945E+02 -6.803E-01 2.106E-02 -1.577E-03 -2.649E+00 -1.274E+02  
1.945E+02 6.803E-01 -2.106E-02 1.577E-03 1.815E+00 1.005E+02

52 1 1.943E+02 1.407E+00 1.753E-02 7.928E-03 -2.978E+00 1.390E+02  
-1.943E+02 -1.407E+00 -1.753E-02 -7.928E-03 2.284E+00 -8.331E+01

53 1 -2.700E+02 -1.282E+00 3.585E-02 -5.865E-03 -3.983E+00 -1.303E+02  
2.700E+02 1.282E+00 -3.585E-02 5.865E-03 2.564E+00 7.959E+01

54 1 2.660E+02 9.507E-01 -1.841E-02 1.644E-02 -3.044E+00 1.141E+02  
-2.660E+02 -9.507E-01 1.841E-02 -1.644E-02 3.773E+00 -7.644E+01

55 1 3.594E+03 -4.427E-01 -4.789E+00 -1.142E-01 -6.606E+02 -1.038E+01  
-3.594E+03 4.427E-01 4.789E+00 1.142E-01 7.947E+02 -2.012E+00

56 1 3.975E+03 -4.601E-01 -2.161E+00 5.006E-02 -7.408E+02 -3.480E+00  
-3.975E+03 4.601E-01 2.161E+00 -5.006E-02 8.013E+02 -9.404E+00

57 1 3.973E+03 -2.915E-01 -2.124E+00 -1.833E-01 -7.964E+02 -6.832E+00  
-3.973E+03 2.915E-01 2.124E+00 1.833E-01 8.559E+02 -1.331E+00

58 1 4.250E+03 -3.301E-01 -1.533E+00 8.157E-02 -8.118E+02 -2.162E+00  
-4.250E+03 3.301E-01 1.533E+00 -8.157E-02 8.547E+02 -7.082E+00

59 1 4.248E+03 -1.641E-01 -1.490E+00 -1.690E-01 -8.498E+02 -3.873E+00  
-4.248E+03 1.641E-01 1.490E+00 1.690E-01 8.916E+02 -7.216E-01

60 1 -4.322E+03 2.764E-01 -2.919E+01 8.457E-02 -5.787E+02 9.455E-02  
4.322E+03 -2.764E-01 1.189E+00 -8.457E-02 1.004E+03 7.643E+00

61 1 -4.102E+03 2.334E-01 -1.633E+00 -1.742E-01 -9.585E+02 3.796E+00  
4.102E+03 -2.334E-01 -2.637E+01 1.742E-01 6.123E+02 2.739E+00

62 1 -4.102E+03 3.359E-01 -2.954E+01 6.915E-02 -5.298E+02 -7.886E-02  
4.102E+03 -3.359E-01 1.544E+00 -6.915E-02 9.650E+02 9.483E+00

63 1 -3.772E+03 2.825E-01 -3.935E+00 -2.141E-01 -8.711E+02 3.911E+00  
3.772E+03 -2.825E-01 -2.407E+01 2.141E-01 5.893E+02 3.999E+00

64 1 -3.773E+03 7.084E-01 -3.191E+01 7.156E-02 -3.681E+02 4.166E+00  
3.773E+03 -7.084E-01 3.906E+00 -7.156E-02 8.695E+02 1.567E+01

65 1 -2.124E+03 -6.679E-01 -2.075E+01 1.143E-01 -3.994E+02 -4.234E+00  
2.124E+03 6.679E-01 -7.251E+00 -1.143E-01 5.884E+02 -1.447E+01

66 1 -2.127E+03 -9.191E-01 7.354E+00 1.915E-01 -6.137E+02 -2.081E+01  
2.127E+03 9.191E-01 -3.535E+01 -1.915E-01 1.573E+01 -4.927E+00

67 1 -1.355E+03 -8.727E-01 -2.265E+01 3.074E-01 -1.524E+02 -5.494E+00  
1.355E+03 8.727E-01 -5.352E+00 -3.074E-01 3.945E+02 -1.894E+01

68 1 -1.358E+03 -8.947E-01 5.159E+00 1.831E-02 -4.139E+02 -2.163E+01  
1.358E+03 8.947E-01 -3.316E+01 -1.831E-02 -1.226E+02 -3.418E+00

69 1 -4.739E+02 -8.030E-01 -2.216E+01 1.214E-01 -1.377E+01 -6.556E+00  
4.739E+02 8.030E-01 -5.836E+00 -1.214E-01 2.424E+02 -1.593E+01

70 1 9.453E+02 7.328E-01 5.574E+00 1.604E-01 -2.143E+02 1.890E+01  
-9.453E+02 -7.328E-01 -5.574E+00 -1.604E-01 5.820E+01 1.619E+00

71 1 9.432E+02 9.994E-01 5.483E+00 2.199E-01 -3.545E+02 5.425E+00  
-9.432E+02 -9.994E-01 -5.483E+00 -2.199E-01 2.010E+02 2.256E+01

72 1 1.772E+03 1.003E+00 4.484E+00 9.333E-03 -3.553E+02 2.219E+01  
-1.772E+03 -1.003E+00 -4.484E+00 -9.333E-03 2.297E+02 5.894E+00

73 1 1.770E+03 7.633E-01 4.452E+00 3.148E-01 -4.684E+02 5.455E+00  
-1.770E+03 -7.633E-01 -4.452E+00 -3.148E-01 3.438E+02 1.592E+01

74 1 2.475E+03 7.864E-01 1.167E+01 1.274E-01 -6.737E+02 1.815E+01  
-2.475E+03 -7.864E-01 -1.167E+01 -1.274E-01 3.469E+02 3.874E+00

75 1 -4.902E+02 -1.608E+00 -1.752E-03 -2.862E-04 6.790E+00 4.205E+01  
4.902E+02 1.608E+00 1.752E-03 2.862E-04 -6.721E+00 -1.057E+02

76 1 5.022E+02 3.483E+00 2.484E-02 -8.082E-03 6.463E+00 1.577E+01  
-5.022E+02 -3.483E+00 -2.484E-02 8.082E-03 -7.447E+00 1.222E+02

77 1 -5.836E+02 -2.819E+00 2.158E-02 -3.676E-03 7.279E+00 -1.448E+01  
5.836E+02 2.819E+00 -2.158E-02 3.676E-03 -8.133E+00 -9.715E+01

78 1 5.824E+02 3.064E+00 -1.787E-02 -1.892E-02 7.851E+00 2.761E+01  
-5.824E+02 -3.064E+00 1.787E-02 1.892E-02 -7.143E+00 9.373E+01

79 1 -6.609E+02 -3.312E+00 1.096E-01 1.819E-02 6.960E+00 -4.262E+01  
6.609E+02 3.312E+00 -1.096E-01 -1.819E-02 -1.130E+01 -8.853E+01

80 1 -1.619E+00 -9.376E+00 1.113E-01 -1.238E-01 -3.773E-01 -1.244E+02  
1.619E+00 9.376E+00 -1.113E-01 1.238E-01 -2.739E+00 -1.381E+02

81 1 6.470E+02 3.872E+00 -3.336E-01 -6.544E-02 1.120E+01 7.109E+01  
-6.470E+02 -3.872E+00 3.336E-01 6.544E-02 2.007E+00 8.224E+01

82 1 1.539E+01 9.568E-01 1.582E+01 2.887E-01 -2.178E+02 1.433E+01  
-1.539E+01 -9.568E-01 -1.582E+01 -2.887E-01 -2.250E+02 1.246E+01

83 1 -4.752E+02 -2.149E+00 5.684E+00 1.459E-01 -2.277E+02 -3.016E+01  
4.752E+02 2.149E+00 -3.368E+01 -1.459E-01 -3.235E+02 -3.001E+01

84 1 -1.619E+00 -9.376E+00 1.113E-01 -1.238E-01 -3.773E-01 -1.244E+02  
1.619E+00 9.376E+00 -1.113E-01 1.238E-01 -2.739E+00 -1.381E+02

85 1 4.170E+02 1.447E+00 -2.091E-03 -1.201E-02 5.941E+00 -3.535E+01  
-4.170E+02 -1.447E+00 2.091E-03 1.201E-02 -5.858E+00 9.264E+01

86 1 -3.775E+03 -5.303E-01 2.712E+00 -1.012E-02 -8.970E+02 -1.273E+01  
3.775E+03 5.303E-01 -3.071E+01 1.012E-02 4.291E+02 -2.122E+00

87 1 -3.334E+03 -4.915E-01 -2.502E+01 1.793E-01 -4.967E+02 -3.923E+00  
3.334E+03 4.915E-01 -2.983E+00 -1.793E-01 8.052E+02 -9.838E+00

88 1 -3.335E+03 -5.962E-01 2.856E+00 2.748E-02 -8.159E+02 -1.448E+01  
3.335E+03 5.962E-01 -3.086E+01 -2.748E-02 3.439E+02 -2.213E+00

89 1 -2.785E+03 -5.522E-01 -2.179E+01 2.226E-01 -4.426E+02 -5.026E+00  
2.785E+03 5.522E-01 -6.210E+00 -2.226E-01 6.607E+02 -1.044E+01

90 1 -2.787E+03 -8.867E-01 6.091E+00 2.697E-02 -6.625E+02 -1.986E+01  
2.787E+03 8.867E-01 -3.409E+01 -2.697E-02 9.999E+01 -4.966E+00

91 1 2.493E+03 6.794E-01 8.190E+00 1.502E-01 -6.234E+02 4.173E+00  
-2.493E+03 -6.794E-01 -8.190E+00 -1.502E-01 3.940E+02 1.485E+01

92 1 3.090E+03 7.047E-01 3.454E+00 5.786E-02 -6.308E+02 1.541E+01  
-3.090E+03 -7.047E-01 -3.454E+00 -5.786E-02 5.341E+02 4.321E+00

93 1 3.089E+03 5.395E-01 3.403E+00 1.750E-01 -7.181E+02 3.611E+00  
-3.089E+03 -5.395E-01 -3.403E+00 -1.750E-01 6.228E+02 1.149E+01



94 1 3.587E+03 5.741E-01 3.048E+00 -3.878E-03 -7.252E+02 1.300E+01  
-3.587E+03 -5.741E-01 -3.048E+00 3.878E-03 6.398E+02 3.074E+00

95 1 3.586E+03 4.101E-01 3.009E+00 1.905E-01 -7.999E+02 2.778E+00  
-3.586E+03 -4.101E-01 -3.009E+00 -1.905E-01 7.156E+02 8.703E+00

96 1 2.712E+02 1.670E+00 2.091E-02 -5.210E-03 3.577E+00 -6.720E+01  
-2.712E+02 -1.670E+00 -2.091E-02 5.210E-03 -4.405E+00 1.333E+02

97 1 -3.498E+02 -1.460E+00 1.798E-02 -2.541E-03 4.135E+00 6.571E+01  
3.498E+02 1.460E+00 -1.798E-02 2.541E-03 -4.847E+00 -1.235E+02

98 1 3.501E+02 2.238E+00 1.665E-02 -6.464E-03 4.598E+00 -4.531E+01  
-3.501E+02 -2.238E+00 -1.665E-02 6.464E-03 -5.257E+00 1.339E+02

99 1 -4.245E+02 -2.256E+00 2.739E-02 1.994E-05 4.975E+00 3.526E+01  
4.245E+02 2.256E+00 -2.739E-02 -1.994E-05 -6.059E+00 -1.246E+02

100 1 -1.658E+00 -1.564E+00 1.318E-01 -2.193E-02 -4.354E-01 -2.076E+01  
1.658E+00 1.564E+00 -1.318E-01 2.193E-02 -3.255E+00 -2.303E+01

101 1 -2.716E+02 -1.144E+00 2.054E-02 -6.954E-04 3.057E+00 8.324E+01  
2.716E+02 1.144E+00 -2.054E-02 6.954E-04 -3.870E+00 -1.285E+02

102 1 1.938E+02 1.240E+00 2.143E-02 -4.741E-03 2.521E+00 -8.587E+01  
-1.938E+02 -1.240E+00 -2.143E-02 4.741E-03 -3.369E+00 1.350E+02

103 1 -1.949E+02 -7.143E-01 1.747E-02 1.490E-03 2.149E+00 9.925E+01  
1.949E+02 7.143E-01 -1.747E-02 -1.490E-03 -2.841E+00 -1.275E+02

104 1 1.161E+02 1.085E+00 2.755E-02 -6.781E-03 1.282E+00 -9.446E+01  
-1.161E+02 -1.085E+00 -2.755E-02 6.781E-03 -2.373E+00 1.374E+02

105 1 -1.120E+02 -3.287E-01 4.072E-03 6.777E-03 1.646E+00 1.149E+02  
1.120E+02 3.287E-01 4.072E-03 -6.777E-03 -1.485E+00 -1.280E+02

106 1 4.409E+03 1.826E-01 3.459E+00 1.034E-02 -9.400E+02 4.190E+00  
-4.409E+03 -1.826E-01 -3.459E+00 -1.034E-02 8.431E+02 9.226E-01

107 1 4.247E+03 1.591E-01 1.085E+00 1.635E-01 -8.766E+02 1.034E+00  
-4.247E+03 -1.591E-01 -1.085E+00 -1.635E-01 8.463E+02 3.421E+00

108 1 4.247E+03 3.278E-01 1.134E+00 -6.978E-02 -8.492E+02 7.384E+00  
-4.247E+03 -3.278E-01 -1.134E+00 6.978E-02 8.175E+02 1.793E+00

109 1 3.971E+03 2.888E-01 2.258E+00 1.610E-01 -8.592E+02 2.000E+00  
-3.971E+03 -2.888E-01 -2.258E+00 -1.610E-01 7.959E+02 6.087E+00

110 1 3.972E+03 4.515E-01 2.307E+00 -1.964E-02 -8.032E+02 1.015E+01  
-3.972E+03 -4.515E-01 -2.307E+00 1.964E-02 7.386E+02 2.492E+00

111 1 -3.773E+03 -3.478E-01 -2.537E+01 1.750E-01 -5.706E+02 -3.356E+00  
3.773E+03 3.478E-01 -2.631E+00 -1.750E-01 8.889E+02 -6.384E+00

112 1 -4.104E+03 -3.898E-01 1.751E+00 -4.325E-02 -9.599E+02 -9.723E+00  
4.104E+03 3.898E-01 -2.975E+01 4.325E-02 5.189E+02 -1.192E+00

113 1 -4.103E+03 -2.534E-01 -2.623E+01 1.646E-01 -6.127E+02 -3.055E+00  
4.103E+03 2.534E-01 -1.775E+00 -1.646E-01 9.550E+02 -4.040E+00

114 1 -4.324E+03 -2.984E-01 1.726E+00 1.217E-02 -1.015E+03 -8.211E+00  
4.324E+03 2.984E-01 -2.973E+01 -1.217E-02 5.746E+02 -1.456E-01

115 1 -4.323E+03 -6.272E-03 -2.622E+01 6.557E-02 -6.578E+02 -5.154E-01  
4.323E+03 6.272E-03 -1.779E+00 -6.557E-02 1.000E+03 3.397E-01

116 1 4.334E+03 6.010E-02 1.630E+00 3.675E-02 -9.213E+02 8.138E-01  
-4.334E+03 -6.010E-02 -1.630E+00 -3.675E-02 8.757E+02 8.690E-01

117 1 4.335E+03 -2.911E-01 1.545E+00 -1.129E-01 -8.795E+02 -8.334E+00  
-4.335E+03 2.911E-01 -1.545E+00 1.129E-01 8.362E+02 1.840E-01

118 1 4.117E+03 -2.608E-01 1.662E+00 -1.203E-02 -8.696E+02 -3.326E+00  
-4.117E+03 2.608E-01 -1.662E+00 1.203E-02 8.231E+02 -3.976E+00

119 1 4.118E+03 -3.809E-01 1.726E+00 -1.072E-01 -8.289E+02 -9.739E+00  
-4.118E+03 3.809E-01 -1.726E+00 1.072E-01 7.805E+02 -9.260E-01

120 1 3.786E+03 -3.593E-01 2.657E+00 -2.370E-02 -8.330E+02 -3.600E+00  
-3.786E+03 3.593E-01 -2.657E+00 2.370E-02 7.586E+02 -6.462E+00

121 1 -3.957E+03 4.423E-01 1.968E+00 -1.226E-01 -9.301E+02 1.010E+01  
3.957E+03 -4.423E-01 -2.997E+01 1.226E-01 4.830E+02 2.279E+00

122 1 -3.957E+03 2.979E-01 -2.608E+01 -1.915E-02 -5.856E+02 2.227E+00  
3.957E+03 -2.979E-01 -1.922E+00 1.915E-02 9.238E+02 6.114E+00

123 1 -4.233E+03 3.144E-01 2.606E+00 -1.590E-01 -1.001E+03 7.312E+00  
4.233E+03 -3.144E-01 -3.061E+01 1.590E-01 5.365E+02 1.491E+00

124	1	-4.233E+03	1.635E-01	-2.520E+01	7.267E-02	-6.795E+02	1.010E+00	4.233E+03	-1.635E-01	-2.802E+00	-7.267E-02	9.930E+02	3.568E+00
125	1	-4.402E+03	1.609E-01	-6.418E+00	7.727E-03	-8.975E+02	3.906E+00	4.402E+03	-1.609E-01	-2.158E+01	-7.727E-03	6.853E+02	5.992E-01
126	1	8.646E+01	-1.743E-01	2.683E-02	-9.143E-03	-2.146E+00	-1.202E+02	-8.646E+01	1.743E-01	-2.683E-02	9.143E-03	1.083E+00	1.133E+02
127	1	-1.529E+02	-9.524E-02	-2.421E-02	8.338E-03	-1.193E+00	1.191E+02	1.529E+02	9.524E-02	2.421E-02	-8.338E-03	2.151E+00	-1.228E+02
128	1	1.539E+02	1.237E+00	-6.080E-03	-1.299E-03	-2.284E+00	-8.948E+01	-1.539E+02	-1.237E+00	6.080E-03	1.299E-03	2.525E+00	1.385E+02
129	1	-2.338E+02	-1.015E+00	-1.040E-02	4.455E-03	-2.729E+00	8.936E+01	2.338E+02	1.015E+00	1.040E-02	-4.455E-03	3.141E+00	-1.295E+02
130	1	2.329E+02	1.458E+00	-1.114E-02	6.995E-04	-3.255E+00	-7.710E+01	-2.329E+02	-1.458E+00	1.114E-02	-6.995E-04	3.696E+00	1.348E+02
131	1	-8.498E+00	-1.564E+00	-2.199E-01	2.061E-02	5.429E+00	-2.303E+01	8.498E+00	1.564E+00	2.199E-01	-2.061E-02	7.272E-01	-2.076E+01
132	1	3.880E+02	3.247E+00	-2.224E-02	-1.135E-03	-5.341E+00	-2.065E+01	-3.880E+02	-3.247E+00	2.224E-02	1.135E-03	6.222E+00	1.492E+02
133	1	-3.912E+02	-1.714E+00	-5.930E-03	6.101E-03	-4.999E+00	5.622E+01	3.912E+02	1.714E+00	5.930E-03	-6.101E-03	5.234E+00	-1.241E+02
134	1	3.099E+02	1.686E+00	-7.140E-03	2.781E-03	-4.428E+00	-6.027E+01	-3.099E+02	-1.686E+00	7.140E-03	-2.781E-03	4.711E+00	1.270E+02
135	1	-3.101E+02	-1.357E+00	-1.159E-02	5.188E-03	-3.806E+00	7.350E+01	3.101E+02	1.357E+00	1.159E-02	-5.188E-03	4.265E+00	-1.272E+02
136	1	-3.572E+03	4.195E-01	-2.465E+01	-4.756E-02	-5.444E+02	3.030E+00	3.572E+03	-4.195E-01	-3.349E+00	4.756E-02	8.426E+02	8.717E+00
137	1	-3.572E+03	5.661E-01	3.386E+00	-1.416E-01	-8.530E+02	1.301E+01	3.572E+03	-5.661E-01	-3.139E+01	1.416E-01	3.661E+02	2.841E+00
138	1	-3.074E+03	5.530E-01	-2.608E+01	5.960E-02	-4.369E+02	4.031E+00	3.074E+03	-5.530E-01	-1.924E+00	-5.960E-02	7.751E+02	1.145E+01



139 1 -3.075E+03 7.023E-01 1.738E+00 -3.043E-01 -7.776E+02 1.537E+01  
3.075E+03 -7.023E-01 -2.974E+01 3.043E-01 3.369E+02 4.296E+00

140 1 -2.484E+03 6.969E-01 -9.874E+00 -1.669E-01 -4.656E+02 4.659E+00  
2.484E+03 -6.969E-01 -1.813E+01 1.669E-01 3.501E+02 1.485E+01

141 1 2.797E+03 -9.327E-01 6.200E+00 -1.539E-01 -5.378E+02 -2.031E+01  
-2.797E+03 9.327E-01 -6.200E+00 1.539E-01 3.642E+02 -5.804E+00

142 1 2.795E+03 -5.656E-01 6.377E+00 -1.065E-01 -7.040E+02 -5.512E+00  
-2.795E+03 5.656E-01 -6.377E+00 1.065E-01 5.255E+02 -1.032E+01

143 1 3.349E+03 -5.937E-01 2.971E+00 -1.875E-01 -6.837E+02 -1.466E+01  
-3.349E+03 5.937E-01 -2.971E+00 1.875E-01 6.005E+02 -1.969E+00

144 1 3.347E+03 -5.001E-01 3.010E+00 -2.555E-02 -7.584E+02 -4.272E+00  
-3.347E+03 5.001E-01 -3.010E+00 2.555E-02 6.741E+02 -9.731E+00

145 1 3.788E+03 -5.188E-01 2.686E+00 -1.425E-01 -7.666E+02 -1.265E+01  
-3.788E+03 5.188E-01 -2.686E+00 1.425E-01 6.914E+02 -1.880E+00

146 1 -4.427E+02 -1.959E+00 1.682E-02 1.289E-02 -6.430E+00 2.050E+01  
4.427E+02 1.959E+00 -1.682E-02 -1.289E-02 5.764E+00 -9.806E+01

147 1 -8.692E+00 -9.375E+00 -1.617E-01 1.302E-01 4.013E+00 -1.380E+02  
8.692E+00 9.375E+00 1.617E-01 -1.302E-01 5.151E-01 -1.245E+02

148 1 4.831E+02 -2.190E+00 1.070E+01 -1.410E-01 -5.385E+01 -3.055E+01  
-4.831E+02 2.190E+00 -1.070E+01 1.410E-01 -2.456E+02 -3.077E+01

149 1 -1.536E+01 9.739E-01 1.429E+00 -3.321E-01 -1.715E+02 1.506E+01  
1.536E+01 -9.739E-01 -2.943E+01 3.321E-01 -2.605E+02 1.221E+01

150 1 -6.589E+02 -3.240E+00 3.371E-01 6.153E-02 -1.214E+01 -8.312E+01  
6.589E+02 3.240E+00 -3.371E-01 -6.153E-02 -1.210E+00 -4.517E+01

151 1 -8.692E+00 -9.375E+00 -1.617E-01 1.302E-01 4.013E+00 -1.380E+02  
8.692E+00 9.375E+00 1.617E-01 -1.302E-01 5.151E-01 -1.245E+02

152 1 6.217E+02 5.578E+00 -9.908E-02 -1.748E-02 -7.792E+00 7.925E+01  
-6.217E+02 -5.578E+00 9.908E-02 1.748E-02 1.172E+01 1.416E+02

153 1 -6.281E+02 -2.827E+00 2.927E-02 1.628E-02 -8.785E+00 -1.958E+01  
6.281E+02 2.827E+00 -2.927E-02 -1.628E-02 7.626E+00 -9.238E+01

154 1 5.425E+02 2.976E+00 -4.045E-03 4.285E-03 -7.981E+00 1.874E+01  
-5.425E+02 -2.976E+00 4.045E-03 -4.285E-03 8.141E+00 9.912E+01

155 1 -5.380E+02 -2.495E+00 -1.775E-02 8.878E-03 -6.872E+00 8.102E+00  
5.380E+02 2.495E+00 1.775E-02 -8.878E-03 7.575E+00 -1.069E+02

156 1 4.650E+02 1.156E+00 1.728E-02 -9.619E-04 -7.449E+00 -4.653E+01  
-4.650E+02 -1.156E+00 -1.728E-02 9.619E-04 6.764E+00 9.231E+01

157 1 -2.467E+03 7.820E-01 1.451E+00 -1.237E-01 -6.289E+02 1.816E+01  
2.467E+03 -7.820E-01 -2.945E+01 1.237E-01 1.963E+02 3.734E+00

158 1 -1.755E+03 7.815E-01 -2.121E+01 -5.425E-02 -2.805E+02 5.914E+00  
1.755E+03 -7.815E-01 -6.795E+00 5.425E-02 4.822E+02 1.597E+01

159 1 -1.757E+03 1.002E+00 6.679E+00 -2.828E-01 -4.995E+02 2.238E+01  
1.757E+03 -1.002E+00 -3.468E+01 2.828E-01 -7.950E+01 5.673E+00

160 1 -9.251E+02 1.027E+00 -2.594E+01 1.639E-01 -3.919E+01 6.310E+00  
9.251E+02 -1.027E+00 -2.057E+00 -1.639E-01 3.736E+02 2.245E+01

161 1 -9.271E+02 7.359E-01 1.408E+00 -5.766E-01 -3.782E+02 1.876E+01  
9.271E+02 -7.359E-01 -2.941E+01 5.766E-01 -5.327E+01 1.842E+00

162 1 4.818E+02 -8.460E-01 1.091E+01 -1.637E-01 -3.389E+02 -7.565E+00  
-4.818E+02 8.460E-01 -1.091E+01 1.637E-01 3.348E+01 -1.612E+01

163 1 1.371E+03 -9.158E-01 4.408E+00 -3.048E-01 -2.906E+02 -2.231E+01  
-1.371E+03 9.158E-01 -4.408E+00 3.048E-01 1.672E+02 -3.336E+00

164 1 1.369E+03 -8.842E-01 4.393E+00 -4.731E-02 -3.986E+02 -6.383E+00  
-1.369E+03 8.842E-01 -4.393E+00 4.731E-02 2.756E+02 -1.838E+01

165 1 2.136E+03 -9.060E-01 7.271E+00 -3.372E-01 -4.765E+02 -2.074E+01  
-2.136E+03 9.060E-01 -7.271E+00 3.372E-01 2.729E+02 -4.626E+00

166 1 2.134E+03 -6.434E-01 7.253E+00 1.679E-02 -6.648E+02 -3.808E+00  
-2.134E+03 6.434E-01 -7.253E+00 -1.679E-02 4.617E+02 -1.421E+01

167 1 3.782E+03 6.265E-01 -3.887E+00 1.806E-01 -6.331E+02 2.656E+00  
-3.782E+03 -6.265E-01 3.887E+00 -1.806E-01 7.419E+02 1.489E+01

168 1 3.781E+03 3.339E-01 -4.123E+00 -1.757E-03 -7.357E+02 4.586E+00  
-3.781E+03 -3.339E-01 4.123E+00 1.757E-03 8.511E+02 4.764E+00

169 1 4.115E+03 3.558E-01 -1.632E+00 1.581E-01 -7.868E+02 -1.508E-02  
-4.115E+03 -3.558E-01 1.632E+00 -1.581E-01 8.325E+02 9.977E+00

170 1 4.115E+03 2.466E-01 -1.649E+00 -3.274E-02 -8.276E+02 3.471E+00  
-4.115E+03 -2.466E-01 1.649E+00 3.274E-02 8.737E+02 3.433E+00

171 1 4.335E+03 2.648E-01 -1.156E+00 1.080E-01 -8.410E+02 -1.703E-01  
-4.335E+03 -2.648E-01 1.156E+00 -1.080E-01 8.733E+02 7.585E+00

172 1 -4.234E+03 -1.802E-01 -1.827E+00 -1.419E-02 -9.768E+02 -3.825E+00  
4.234E+03 1.802E-01 -2.617E+01 1.419E-02 6.359E+02 -1.221E+00

173 1 -4.235E+03 -3.257E-01 -2.986E+01 1.148E-01 -5.380E+02 -1.958E+00  
4.235E+03 3.257E-01 1.865E+00 -1.148E-01 9.822E+02 -7.162E+00

174 1 -3.958E+03 -3.126E-01 -6.382E-01 -1.112E-01 -9.488E+02 -6.645E+00  
3.958E+03 3.126E-01 -2.736E+01 1.112E-01 5.746E+02 -2.107E+00

175 1 -3.959E+03 -4.595E-01 -2.846E+01 2.680E-01 -5.432E+02 -3.401E+00  
3.959E+03 4.595E-01 4.628E-01 -2.680E-01 9.482E+02 -9.465E+00

176 1 -3.585E+03 -4.461E-01 -1.467E+01 1.136E-01 -6.177E+02 -9.901E+00  
3.585E+03 4.461E-01 -1.333E+01 -1.136E-01 6.365E+02 -2.590E+00

177 1 -2.917E+02 -1.453E+00 3.036E-03 -1.105E-02 4.229E+00 -1.192E+02  
2.917E+02 1.453E+00 -3.036E-03 1.105E-02 -4.350E+00 6.171E+01

178 1 2.334E+02 2.275E+00 -1.645E-02 4.714E-03 4.116E+00 1.550E+02  
-2.334E+02 -2.275E+00 1.645E-02 -4.714E-03 -3.464E+00 -6.488E+01

179 1 -2.355E+02 -8.851E-01 -5.405E-03 -6.767E-03 3.250E+00 -1.293E+02  
2.355E+02 8.851E-01 5.405E-03 6.767E-03 -3.036E+00 9.421E+01

180 1 1.546E+02 9.037E-01 -7.734E-03 1.584E-03 2.708E+00 1.308E+02  
-1.546E+02 -9.037E-01 7.734E-03 -1.584E-03 -2.402E+00 -9.504E+01

181 1 -1.550E+02 -5.608E-01 -1.049E-02 -5.384E-03 2.209E+00 -1.278E+02  
1.550E+02 5.608E-01 1.049E-02 5.384E-03 -1.794E+00 1.056E+02

182 1 -8.339E+00 6.258E+00 -9.572E-02 -9.331E-02 2.490E+00 9.217E+01  
8.339E+00 -6.258E+00 9.572E-02 9.331E-02 1.903E-01 8.304E+01

183 1 1.601E+00 8.543E-01 -2.433E-02 -7.367E-03 9.460E-02 -1.085E+02  
-1.601E+00 -8.543E-01 2.433E-02 7.367E-03 8.688E-01 1.423E+02

184 1 -1.857E+00 3.872E-01 -6.379E-03 3.950E-03 4.645E-01 1.296E+02  
1.857E+00 -3.872E-01 6.379E-03 -3.950E-03 -2.119E-01 -1.143E+02

185 1 -7.848E+01 -2.495E-01 -8.972E-03 -3.732E-03 1.055E+00 -1.246E+02  
7.848E+01 2.495E-01 8.972E-03 3.732E-03 -7.000E-01 1.148E+02

186 1 7.780E+01 6.457E-01 -1.142E-02 2.707E-03 1.650E+00 1.319E+02  
-7.780E+01 -6.457E-01 1.142E-02 -2.707E-03 -1.197E+00 -1.063E+02

187 1 -4.399E+03 -2.021E-01 -2.845E+01 8.220E-02 -6.096E+02 -1.216E+00  
4.399E+03 2.021E-01 4.478E-01 -8.220E-02 1.014E+03 -4.444E+00

188 1 -4.399E+03 -5.673E-02 -4.057E-01 -3.050E-02 -1.013E+03 -1.024E+00  
4.399E+03 5.673E-02 -2.759E+01 3.050E-02 6.321E+02 -5.644E-01

189 1 -4.453E+03 -7.208E-02 -2.931E+01 1.306E-01 -6.173E+02 -2.588E-01  
4.453E+03 7.208E-02 1.307E+00 -1.306E-01 1.046E+03 -1.759E+00

190 1 -4.453E+03 7.834E-02 -1.503E+00 -1.351E-01 -1.041E+03 1.555E+00  
4.453E+03 -7.834E-02 -2.650E+01 1.351E-01 6.907E+02 6.381E-01

191 1 -4.405E+03 8.009E-02 -1.827E+01 -5.364E-02 -7.315E+02 6.881E-01  
4.405E+03 -8.009E-02 -9.735E+00 5.364E-02 8.509E+02 1.555E+00

192 1 4.444E+03 -3.267E-01 6.065E-01 -6.213E-02 -8.883E+02 -6.795E+00  
-4.444E+03 3.267E-01 -6.065E-01 6.213E-02 8.713E+02 -2.353E+00

193 1 4.444E+03 4.660E-02 7.226E-01 4.612E-02 -9.077E+02 -1.916E+00  
-4.444E+03 -4.660E-02 -7.226E-01 -4.612E-02 8.874E+02 3.221E+00

194 1 4.446E+03 1.589E-02 -3.366E-01 -4.481E-02 -8.925E+02 -1.690E+00  
-4.446E+03 -1.589E-02 3.366E-01 4.481E-02 9.019E+02 2.135E+00

195 1 4.446E+03 1.267E-01 -3.702E-01 7.288E-02 -8.834E+02 -8.838E-01  
-4.446E+03 -1.267E-01 3.702E-01 -7.288E-02 8.937E+02 4.431E+00

196 1 4.335E+03 1.063E-01 -1.129E+00 -3.223E-02 -8.700E+02 4.992E-01  
-4.335E+03 -1.063E-01 1.129E+00 3.223E-02 9.016E+02 2.477E+00

197 1 -6.473E+01 -6.851E-01 2.609E-02 1.136E-02 -1.003E+00 1.015E+02  
6.473E+01 6.851E-01 -2.609E-02 -1.136E-02 -3.024E-02 -1.287E+02

198 1 -8.498E+00 -1.564E+00 -2.199E-01 2.061E-02 5.429E+00 -2.303E+01  
8.498E+00 1.564E+00 2.199E-01 -2.061E-02 7.272E-01 -2.076E+01



199 1 -8.339E+00 6.258E+00 -9.572E-02 -9.331E-02 2.490E+00 9.217E+01  
8.339E+00 -6.258E+00 9.572E-02 9.331E-02 1.903E-01 8.304E+01

200 1 3.128E+02 5.819E-01 4.674E-03 3.733E-03 4.970E+00 1.085E+02  
-3.128E+02 -5.819E-01 -4.674E-03 -3.733E-03 -5.155E+00 -8.550E+01

201 1 2.134E+03 7.600E-01 -4.944E+00 -8.176E-02 -4.280E+02 1.440E+01  
-2.134E+03 -7.600E-01 4.944E+00 8.176E-02 5.665E+02 6.878E+00

202 1 2.796E+03 7.536E-01 -3.731E+00 3.242E-01 -4.629E+02 2.669E+00  
-2.796E+03 -7.536E-01 3.731E+00 -3.242E-01 5.674E+02 1.843E+01

203 1 2.794E+03 6.328E-01 -3.645E+00 -4.584E-02 -5.555E+02 1.148E+01  
-2.794E+03 -6.328E-01 3.645E+00 4.584E-02 6.576E+02 6.243E+00

204 1 3.342E+03 6.383E-01 -4.905E+00 3.362E-01 -5.659E+02 1.958E+00  
-3.342E+03 -6.383E-01 4.905E+00 -3.362E-01 7.033E+02 1.591E+01

205 1 3.341E+03 4.428E-01 -5.024E+00 -1.037E-01 -6.923E+02 8.227E+00  
-3.341E+03 -4.428E-01 5.024E+00 1.037E-01 8.329E+02 4.172E+00

206 1 -3.574E+03 -5.733E-01 -2.657E+01 9.339E-02 -4.518E+02 -3.702E+00  
3.574E+03 5.733E-01 -1.431E+00 -9.339E-02 8.038E+02 -1.235E+01

207 1 -3.080E+03 -5.707E-01 -4.721E+00 -8.647E-02 -7.585E+02 -1.246E+01  
3.080E+03 5.707E-01 -2.328E+01 8.647E-02 4.986E+02 -3.521E+00

208 1 -3.082E+03 -7.050E-01 -3.254E+01 3.385E-01 -2.515E+02 -4.795E+00  
3.082E+03 7.050E-01 4.535E+00 -3.385E-01 7.705E+02 -1.495E+01

209 1 -2.476E+03 -7.098E-01 -4.138E+00 -7.410E-02 -6.278E+02 -1.578E+01  
2.476E+03 7.098E-01 -2.386E+01 7.410E-02 3.516E+02 -4.093E+00

210 1 -2.479E+03 -8.048E-01 -3.215E+01 3.731E-01 -1.326E+02 -5.594E+00  
2.479E+03 8.048E-01 4.149E+00 -3.731E-01 6.407E+02 -1.694E+01

211 1 4.652E+02 2.671E+00 3.594E-03 4.312E-04 6.885E+00 1.172E+02  
-4.652E+02 -2.671E+00 -3.594E-03 -4.312E-04 -7.028E+00 -1.142E+01

212 1 -4.664E+02 -2.175E+00 2.870E-03 -1.030E-02 6.464E+00 -1.150E+02  
4.664E+02 2.175E+00 -2.870E-03 1.030E-02 -6.578E+00 2.889E+01

213 1 3.870E+02 2.482E+00 1.915E-03 1.323E-03 5.983E+00 1.290E+02  
-3.870E+02 -2.482E+00 -1.915E-03 -1.323E-03 -6.059E+00 -3.069E+01

214 1 -3.842E+02 -1.532E+00 -7.362E-03 -1.060E-02 5.530E+00 -1.224E+02  
3.842E+02 1.532E+00 7.362E-03 1.060E-02 -5.239E+00 6.171E+01

215 1 4.731E+02 1.642E+01 -2.071E-01 -1.582E-01 1.426E+01 2.607E+02  
-4.731E+02 -1.642E+01 2.071E-01 1.582E-01 -8.462E+00 1.992E+02

216 1 -5.418E+02 -2.613E+00 5.893E-03 -1.101E-02 7.267E+00 -1.053E+02  
5.418E+02 2.613E+00 -5.893E-03 1.101E-02 -7.500E+00 1.792E+00

217 1 5.418E+02 2.660E+00 8.500E-03 -1.223E-04 7.637E+00 9.423E+01  
-5.418E+02 -2.660E+00 -8.500E-03 1.223E-04 -7.973E+00 1.111E+01

218 1 -6.266E+02 -2.861E+00 4.704E-02 -2.201E-02 6.742E+00 -9.381E+01  
6.266E+02 2.861E+00 -4.704E-02 2.201E-02 -8.605E+00 -1.949E+01

219 1 6.208E+02 5.595E+00 -7.868E-02 2.124E-02 1.031E+01 1.418E+02  
-6.208E+02 -5.595E+00 7.868E-02 -2.124E-02 -7.194E+00 7.978E+01

220 1 -6.582E+02 -3.240E+00 3.294E-01 -6.170E-02 -2.147E+00 -4.524E+01  
6.582E+02 3.240E+00 -3.294E-01 6.170E-02 -1.090E+01 -8.307E+01

221 1 -2.950E+01 -9.213E-01 -2.938E+01 2.988E-01 2.596E+02 -1.374E+01  
2.950E+01 9.213E-01 1.381E+00 -2.988E-01 1.710E+02 -1.205E+01

222 1 -9.401E+02 -6.705E-01 -2.950E+01 6.545E-01 5.380E+01 -2.969E+00  
9.401E+02 6.705E-01 1.502E+00 -6.545E-01 3.803E+02 -1.581E+01

223 1 -9.362E+02 -1.052E+00 -2.214E+00 -2.789E-01 -3.748E+02 -2.538E+01  
9.362E+02 1.052E+00 -2.579E+01 2.789E-01 4.479E+01 -4.083E+00

224 1 -1.766E+03 -9.965E-01 -3.401E+01 3.903E-01 6.893E+01 -7.417E+00  
1.766E+03 9.965E-01 6.007E+00 -3.903E-01 4.913E+02 -2.049E+01

225 1 -1.763E+03 -8.143E-01 -5.937E+00 -5.346E-02 -4.737E+02 -1.821E+01  
1.763E+03 8.143E-01 -2.206E+01 5.346E-02 2.480E+02 -4.586E+00

226 1 2.136E+03 8.893E-01 -4.938E+00 3.998E-01 -3.045E+02 3.849E+00  
-2.136E+03 -8.893E-01 4.938E+00 -3.998E-01 4.427E+02 2.105E+01

227 1 1.366E+03 9.037E-01 -4.962E+00 -1.075E-01 -2.819E+02 1.837E+01  
-1.366E+03 -9.037E-01 4.962E+00 1.075E-01 4.208E+02 6.936E+00

228 1 1.369E+03 8.749E-01 -4.833E+00 4.400E-01 -1.627E+02 2.226E+00  
-1.369E+03 -8.749E-01 4.833E+00 -4.400E-01 2.981E+02 2.227E+01

229 1 4.809E+02 8.432E-01 -1.087E+01 8.976E-02 -3.205E+01 1.598E+01  
-4.809E+02 -8.432E-01 1.087E+01 -8.976E-02 3.363E+02 7.629E+00

230 1 4.824E+02 2.174E+00 -1.066E+01 1.705E-01 2.442E+02 3.022E+01  
-4.824E+02 -2.174E+00 1.066E+01 -1.705E-01 5.427E+01 3.065E+01

231 1 2.813E+00 1.110E+00 3.711E-01 -6.396E-03 3.058E-01 2.766E+01  
-2.813E+00 -1.110E+00 -3.711E-01 6.396E-03 -1.500E+01 1.629E+01

232 1 3.132E+00 2.954E+00 -5.804E-01 -6.566E-01 1.577E+01 6.292E+01  
-3.132E+00 -2.954E+00 5.804E-01 6.566E-01 7.217E+00 5.404E+01

233 1 4.161E+00 4.641E+00 4.601E-01 1.076E+00 -8.563E+00 9.554E+01  
-4.161E+00 -4.641E+00 -4.601E-01 -1.076E+00 -9.657E+00 8.825E+01

234 1 6.756E+00 6.317E+00 -5.882E-01 -1.388E+00 1.290E+01 1.289E+02  
-6.756E+00 -6.317E+00 5.882E-01 1.388E+00 1.039E+01 1.212E+02

235 1 7.838E+00 7.887E+00 5.261E-01 1.707E+00 -1.281E+01 1.596E+02  
-7.838E+00 -7.887E+00 -5.261E-01 -1.707E+00 -8.020E+00 1.527E+02

236 1 9.566E+00 9.334E+00 -5.321E-01 -2.021E+00 1.243E+01 1.882E+02  
-9.566E+00 -9.334E+00 5.321E-01 2.021E+00 8.643E+00 1.814E+02

237 1 1.068E+01 1.066E+01 4.527E-01 2.297E+00 -1.236E+01 2.139E+02  
-1.068E+01 -1.066E+01 -4.527E-01 -2.297E+00 -5.570E+00 2.083E+02

238 1 1.204E+01 1.189E+01 -3.669E-01 -2.530E+00 1.092E+01 2.382E+02  
-1.204E+01 -1.189E+01 3.669E-01 2.530E+00 3.606E+00 2.325E+02

239 1 1.310E+01 1.299E+01 3.172E-01 2.783E+00 -8.277E+00 2.595E+02  
-1.310E+01 -1.299E+01 -3.172E-01 -2.783E+00 -4.282E+00 2.549E+02

240 1 1.414E+01 1.398E+01 -4.362E-01 -3.180E+00 1.087E+01 2.791E+02  
-1.414E+01 -1.398E+01 4.362E-01 3.180E+00 6.407E+00 2.744E+02

241 1 1.546E+01 1.488E+01 -3.856E-02 3.167E+00 2.466E+00 2.963E+02  
-1.546E+01 -1.488E+01 3.856E-02 -3.167E+00 -9.394E-01 2.928E+02

242 1 1.551E+01 1.567E+01 -1.978E-01 -3.357E+00 7.721E+00 3.123E+02  
-1.551E+01 -1.567E+01 1.978E-01 3.357E+00 1.109E-01 3.084E+02

243 1 1.674E+01 1.633E+01 1.605E-01 3.506E+00 -6.643E+00 3.246E+02  
-1.674E+01 -1.633E+01 -1.605E-01 -3.506E+00 2.875E-01 3.221E+02



244 1 1.663E+01 1.688E+01 -1.780E-01 -3.610E+00 7.098E+00 3.356E+02  
-1.663E+01 -1.688E+01 1.780E-01 3.610E+00 -4.950E-02 3.330E+02

245 1 1.782E+01 1.733E+01 1.353E-01 3.700E+00 -6.906E+00 3.439E+02  
-1.782E+01 -1.733E+01 -1.353E-01 -3.700E+00 1.549E+00 3.424E+02

246 1 1.740E+01 1.766E+01 -1.086E-01 -3.773E+00 6.122E+00 3.505E+02  
-1.740E+01 -1.766E+01 1.086E-01 3.773E+00 -1.822E+00 3.489E+02

247 1 1.838E+01 1.789E+01 6.100E-02 3.820E+00 -5.452E+00 3.544E+02  
-1.838E+01 -1.789E+01 -6.100E-02 -3.820E+00 3.036E+00 3.539E+02

248 1 1.766E+01 1.800E+01 -2.739E-02 -3.840E+00 4.790E+00 3.566E+02  
-1.766E+01 -1.800E+01 2.739E-02 3.840E+00 -3.705E+00 3.561E+02

249 1 1.859E+01 1.801E+01 -2.190E-02 3.838E+00 -3.657E+00 3.562E+02  
-1.859E+01 -1.801E+01 2.190E-02 -3.838E+00 4.524E+00 3.569E+02

250 1 1.782E+01 1.787E+01 -9.422E-02 -3.850E+00 3.317E+00 3.534E+02  
-1.782E+01 -1.787E+01 9.422E-02 3.850E+00 4.143E-01 3.541E+02

251 1 1.824E+01 1.764E+01 -1.932E-01 3.853E+00 1.130E+00 3.487E+02  
-1.824E+01 -1.764E+01 1.932E-01 -3.853E+00 6.522E+00 3.500E+02

252 1 1.724E+01 1.734E+01 1.083E-01 -3.695E+00 1.237E+00 3.425E+02  
-1.724E+01 -1.734E+01 -1.083E-01 3.695E+00 -5.528E+00 3.440E+02

253 1 1.722E+01 1.689E+01 -1.571E-01 3.596E+00 -1.433E+00 3.332E+02  
-1.722E+01 -1.689E+01 1.571E-01 -3.596E+00 7.655E+00 3.357E+02

254 1 1.616E+01 1.633E+01 2.216E-01 -3.492E+00 -4.320E-01 3.219E+02  
-1.616E+01 -1.633E+01 -2.216E-01 3.492E+00 -8.345E+00 3.247E+02

255 1 1.606E+01 1.567E+01 -2.708E-01 3.353E+00 1.756E+00 3.084E+02  
-1.606E+01 -1.567E+01 2.708E-01 -3.353E+00 8.968E+00 3.119E+02

256 1 1.472E+01 1.488E+01 2.997E-01 -3.183E+00 -2.264E+00 2.928E+02  
-1.472E+01 -1.488E+01 -2.997E-01 3.183E+00 -9.602E+00 2.966E+02

257 1 1.440E+01 1.400E+01 -3.391E-01 3.000E+00 3.693E+00 2.749E+02  
-1.440E+01 -1.400E+01 3.391E-01 -3.000E+00 9.736E+00 2.793E+02

258 1 1.273E+01 1.300E+01 2.996E-01 -2.811E+00 -3.695E+00 2.550E+02  
-1.273E+01 -1.300E+01 -2.996E-01 2.811E+00 -8.169E+00 2.597E+02



259 1 1.241E+01 1.190E+01 -3.508E-01 2.557E+00 2.966E+00 2.328E+02  
-1.241E+01 -1.190E+01 3.508E-01 -2.557E+00 1.093E+01 2.386E+02

260 1 1.067E+01 1.065E+01 1.739E-01 -2.197E+00 -6.104E+00 2.080E+02  
-1.067E+01 -1.065E+01 -1.739E-01 2.197E+00 -7.824E-01 2.138E+02

261 1 9.758E+00 9.308E+00 -4.190E-01 2.216E+00 4.148E+00 1.811E+02  
-9.758E+00 -9.308E+00 4.190E-01 -2.216E+00 1.244E+01 1.875E+02

262 1 7.802E+00 7.881E+00 4.373E-01 -1.693E+00 -8.033E+00 1.526E+02  
-7.802E+00 -7.881E+00 -4.373E-01 1.693E+00 -9.284E+00 1.595E+02

263 1 6.737E+00 6.320E+00 -4.689E-01 1.354E+00 6.669E+00 1.214E+02  
-6.737E+00 -6.320E+00 4.689E-01 -1.354E+00 1.190E+01 1.289E+02

264 1 4.268E+00 4.641E+00 4.836E-01 -1.076E+00 -9.106E+00 8.819E+01  
-4.268E+00 -4.641E+00 -4.836E-01 1.076E+00 -1.004E+01 9.558E+01

265 1 2.951E+00 2.955E+00 -5.751E-01 6.651E-01 8.387E+00 5.412E+01  
-2.951E+00 -2.955E+00 5.751E-01 -6.651E-01 1.438E+01 6.291E+01

266 1 3.012E+00 1.108E+00 3.646E-01 2.468E-03 -1.375E+01 1.624E+01  
-3.012E+00 -1.108E+00 -3.646E-01 -2.468E-03 -6.823E-01 2.762E+01

267 1 -4.497E+00 -1.105E+00 3.713E-01 -2.266E-01 -2.177E+00 -2.728E+01  
4.497E+00 1.105E+00 -3.713E-01 2.266E-01 -1.252E+01 -1.645E+01

268 1 -1.576E+00 -2.912E+00 -2.380E-01 9.054E-01 1.152E+01 -6.232E+01  
1.576E+00 2.912E+00 2.380E-01 -9.054E-01 -2.095E+00 -5.299E+01

269 1 -5.381E+00 -4.585E+00 -4.735E-01 -1.100E+00 5.420E+00 -9.418E+01  
5.381E+00 4.585E+00 4.735E-01 1.100E+00 1.333E+01 -8.737E+01

270 1 -5.537E+00 -6.250E+00 6.432E-01 1.356E+00 -1.509E+01 -1.277E+02  
5.537E+00 6.250E+00 -6.432E-01 -1.356E+00 -1.038E+01 -1.198E+02

271 1 -8.808E+00 -7.837E+00 -5.733E-01 -1.706E+00 1.407E+01 -1.585E+02  
8.808E+00 7.837E+00 5.733E-01 1.706E+00 8.630E+00 -1.519E+02

272 1 -8.648E+00 -9.274E+00 4.622E-01 2.023E+00 -1.173E+01 -1.871E+02  
8.648E+00 9.274E+00 -4.622E-01 -2.023E+00 -6.572E+00 -1.802E+02

273 1 -1.137E+01 -1.061E+01 -4.510E-01 -2.289E+00 1.152E+01 -2.129E+02  
1.137E+01 1.061E+01 4.510E-01 2.289E+00 6.342E+00 -2.073E+02

274	1	-1.129E+01	-1.183E+01	4.017E-01	2.553E+00	-1.054E+01	-2.371E+02	1.129E+01	1.183E+01	-4.017E-01	-2.553E+00	-5.365E+00	-2.313E+02
275	1	-1.368E+01	-1.295E+01	-5.872E-01	-2.856E+00	1.138E+01	-2.587E+02	1.368E+01	1.295E+01	5.872E-01	2.856E+00	1.188E+01	-2.542E+02
276	1	-1.369E+01	-1.393E+01	4.860E-01	3.050E+00	-1.755E+01	-2.780E+02	1.369E+01	1.393E+01	-4.860E-01	-3.050E+00	-1.696E+00	-2.734E+02
277	1	-1.552E+01	-1.483E+01	9.166E-02	-3.038E+00	7.125E-01	-2.955E+02	1.552E+01	1.483E+01	-9.166E-02	3.038E+00	-4.342E+00	-2.918E+02
278	1	-1.554E+01	-1.563E+01	-6.266E-02	3.429E+00	-1.721E+00	-3.114E+02	1.554E+01	1.563E+01	6.266E-02	-3.429E+00	4.202E+00	-3.075E+02
279	1	-1.658E+01	-1.628E+01	-1.127E-01	-3.531E+00	3.294E+00	-3.236E+02	1.658E+01	1.628E+01	1.127E-01	3.531E+00	1.168E+00	-3.211E+02
280	1	-1.667E+01	-1.682E+01	2.022E-01	3.600E+00	-7.955E+00	-3.343E+02	1.667E+01	1.682E+01	-2.022E-01	-3.600E+00	-5.186E-02	-3.319E+02
281	1	-1.763E+01	-1.728E+01	-1.639E-01	-3.698E+00	7.532E+00	-3.429E+02	1.763E+01	1.728E+01	1.639E-01	3.698E+00	-1.040E+00	-3.413E+02
282	1	-1.752E+01	-1.761E+01	8.142E-02	3.770E+00	-6.096E+00	-3.494E+02	1.752E+01	1.761E+01	-8.142E-02	-3.770E+00	2.871E+00	-3.479E+02
283	1	-1.813E+01	-1.783E+01	-3.937E-02	-3.812E+00	4.870E+00	-3.533E+02	1.813E+01	1.783E+01	3.937E-02	3.812E+00	-3.311E+00	-3.527E+02
284	1	-1.783E+01	-1.794E+01	9.216E-02	3.869E+00	-4.054E+00	-3.555E+02	1.783E+01	1.794E+01	-9.216E-02	-3.869E+00	4.046E-01	-3.550E+02
285	1	-1.829E+01	-1.796E+01	-2.885E-01	-3.925E+00	7.765E+00	-3.552E+02	1.829E+01	1.796E+01	2.885E-01	3.925E+00	3.660E+00	-3.558E+02
286	1	-1.794E+01	-1.783E+01	3.719E-01	3.778E+00	-1.121E+01	-3.527E+02	1.794E+01	1.783E+01	-3.719E-01	-3.778E+00	-3.515E+00	-3.533E+02
287	1	-1.823E+01	-1.761E+01	4.711E-01	-3.781E+00	-4.369E+00	-3.479E+02	1.823E+01	1.761E+01	-4.711E-01	3.781E+00	-1.428E+01	-3.493E+02
288	1	-1.708E+01	-1.728E+01	-4.184E-01	3.782E+00	6.798E+00	-3.414E+02	1.708E+01	1.728E+01	4.184E-01	-3.782E+00	9.770E+00	-3.430E+02

289 1 -1.726E+01 -1.684E+01 2.226E-01 -3.625E+00 -2.035E+00 -3.321E+02  
1.726E+01 1.684E+01 -2.226E-01 3.625E+00 -6.777E+00 -3.346E+02

290 1 -1.604E+01 -1.627E+01 -1.989E-01 3.484E+00 -3.724E-02 -3.208E+02  
1.604E+01 1.627E+01 1.989E-01 -3.484E+00 7.913E+00 -3.235E+02

291 1 -1.604E+01 -1.561E+01 2.450E-01 -3.351E+00 -9.328E-01 -3.073E+02  
1.604E+01 1.561E+01 -2.450E-01 3.351E+00 -8.769E+00 -3.108E+02

292 1 -1.465E+01 -1.483E+01 -3.257E-01 3.181E+00 2.499E+00 -2.917E+02  
1.465E+01 1.483E+01 3.257E-01 -3.181E+00 1.040E+01 -2.955E+02

293 1 -1.432E+01 -1.394E+01 3.627E-01 -2.992E+00 -4.090E+00 -2.738E+02  
1.432E+01 1.394E+01 -3.627E-01 2.992E+00 -1.027E+01 -2.782E+02

294 1 -1.271E+01 -1.294E+01 -2.356E-01 2.840E+00 4.653E+00 -2.539E+02  
1.271E+01 1.294E+01 2.356E-01 -2.840E+00 4.677E+00 -2.586E+02

295 1 -1.230E+01 -1.185E+01 4.932E-02 -2.642E+00 1.319E+00 -2.318E+02  
1.230E+01 1.185E+01 -4.932E-02 2.642E+00 -3.272E+00 -2.375E+02

296 1 -1.064E+01 -1.061E+01 6.956E-02 2.114E+00 -1.207E+00 -2.072E+02  
1.064E+01 1.061E+01 -6.956E-02 -2.114E+00 -1.547E+00 -2.131E+02

297 1 -9.820E+00 -9.271E+00 6.395E-01 -2.138E+00 -5.610E+00 -1.803E+02  
9.820E+00 9.271E+00 -6.395E-01 2.138E+00 -1.971E+01 -1.868E+02

298 1 -7.636E+00 -7.830E+00 -7.431E-01 1.777E+00 1.569E+01 -1.515E+02  
7.636E+00 7.830E+00 7.431E-01 -1.777E+00 1.374E+01 -1.586E+02

299 1 -6.764E+00 -6.258E+00 6.274E-01 -1.349E+00 -1.029E+01 -1.202E+02  
6.764E+00 6.258E+00 -6.274E-01 1.349E+00 -1.456E+01 -1.276E+02

300 1 -4.109E+00 -4.584E+00 -4.343E-01 1.091E+00 1.253E+01 -8.702E+01  
4.109E+00 4.584E+00 4.343E-01 -1.091E+00 4.670E+00 -9.448E+01

301 1 -2.972E+00 -2.909E+00 -2.146E-01 -9.068E-01 -1.625E+00 -5.327E+01  
2.972E+00 2.909E+00 2.146E-01 9.068E-01 1.012E+01 -6.193E+01

302 1 -2.927E+00 -1.086E+00 3.659E-01 2.253E-01 -1.129E+01 -1.584E+01  
2.927E+00 1.086E+00 -3.659E-01 -2.253E-01 -3.200E+00 -2.718E+01

303 1 -2.296E+00 1.675E+00 -6.990E-01 2.345E-01 9.854E+00 3.153E+01  
2.296E+00 -1.675E+00 6.990E-01 -2.345E-01 9.718E+00 1.538E+01

```

304  1  0.000E+00  1.551E+00  9.336E-01 -2.755E-01 -1.286E+01  1.370E+01
      0.000E+00 -1.551E+00 -9.336E-01  2.755E-01 -1.328E+01  2.973E+01

305  1 -2.366E+00 -1.669E+00 -7.492E-01 -2.682E-01  1.021E+01 -3.139E+01
      2.366E+00  1.669E+00  7.492E-01  2.682E-01  1.076E+01 -1.533E+01

306  1  0.000E+00 -1.656E+00  8.903E-01  2.414E-01 -1.188E+01 -1.516E+01
      0.000E+00  1.656E+00 -8.903E-01 -2.414E-01 -1.305E+01 -3.121E+01

307  1  1.620E+01 -1.663E+01 -6.199E-02 -1.749E-01  1.173E+01 -2.415E+02
      -1.620E+01  1.663E+01  6.199E-02  1.749E-01 -9.991E+00 -2.243E+02

308  1  4.736E+02 -1.654E+01 -1.613E-01  1.930E-01  1.397E+01 -2.624E+02
      -4.736E+02  1.654E+01  1.613E-01 -1.930E-01 -9.457E+00 -2.007E+02
  
```

#### 1\*\*\*\* BEAM ELEMENT STRESSES

ELEMENT CASE P/A P/A+M2/S2 P/A-M2/S2 P/A+M3/S3 P/A-M3/S3 WORST SUM  
NO. (MODE)

```

-----
1  1  1.042E+02  3.828E+01  1.701E+02  9.820E+01  1.102E+02  1.761E+02
      1.042E+02  1.500E+02  5.842E+01  1.110E+02  9.745E+01  1.567E+02

2  1  1.044E+02  1.535E+02  5.523E+01  1.018E+02  1.070E+02  1.561E+02
      1.044E+02  1.063E+02  1.024E+02  1.063E+02  1.025E+02  1.082E+02

3  1  3.046E+02  2.782E+02  3.310E+02  3.043E+02  3.050E+02  3.313E+02
      3.046E+02  3.900E+02  2.192E+02  3.094E+02  2.998E+02  3.949E+02

4  1  3.043E+02  3.856E+02  2.230E+02  3.009E+02  3.077E+02  3.890E+02
      3.043E+02  3.387E+02  2.700E+02  3.058E+02  3.029E+02  3.401E+02

5  1  4.792E+02  4.885E+02  4.698E+02  4.785E+02  4.799E+02  4.892E+02
      4.792E+02  5.962E+02  3.621E+02  4.837E+02  4.746E+02  6.008E+02

6  1 -4.008E+02 -3.293E+02 -4.723E+02 -3.974E+02 -4.042E+02 -4.756E+02
      -4.008E+02 -2.994E+02 -5.021E+02 -4.017E+02 -3.999E+02 -5.031E+02

7  1 -4.012E+02 -3.566E+02 -4.458E+02 -3.998E+02 -4.026E+02 -4.472E+02
      -4.012E+02 -3.264E+02 -4.761E+02 -4.057E+02 -3.968E+02 -4.805E+02

8  1 -2.138E+02 -1.734E+02 -2.542E+02 -2.092E+02 -2.184E+02 -2.588E+02
      -2.138E+02 -1.433E+02 -2.844E+02 -2.149E+02 -2.128E+02 -2.854E+02
  
```



- 9 1 -2.143E+02 -2.023E+02 -2.262E+02 -2.137E+02 -2.148E+02 -2.268E+02  
-2.143E+02 -1.715E+02 -2.570E+02 -2.181E+02 -2.104E+02 -2.609E+02
- 10 1 -3.519E+00 -4.927E+01 4.223E+01 -9.754E-01 -6.064E+00 -5.182E+01  
-3.519E+00 4.076E+01 -4.780E+01 -6.547E+00 -4.923E-01 -5.082E+01
- 11 1 -2.551E+02 -2.556E+02 -2.547E+02 -3.079E+02 -2.024E+02 -3.083E+02  
-2.551E+02 -2.472E+02 -2.630E+02 -2.095E+02 -3.008E+02 -3.087E+02
- 12 1 2.607E+02 2.688E+02 2.526E+02 3.168E+02 2.045E+02 3.249E+02  
2.607E+02 2.655E+02 2.559E+02 2.333E+02 2.881E+02 2.929E+02
- 13 1 -2.295E+02 -2.244E+02 -2.346E+02 -2.912E+02 -1.679E+02 -2.963E+02  
-2.295E+02 -2.243E+02 -2.347E+02 -2.097E+02 -2.494E+02 -2.546E+02
- 14 1 2.293E+02 2.349E+02 2.237E+02 2.911E+02 1.675E+02 2.967E+02  
2.293E+02 2.339E+02 2.248E+02 2.228E+02 2.359E+02 2.404E+02
- 15 1 -1.987E+02 -1.937E+02 -2.037E+02 -2.709E+02 -1.266E+02 -2.759E+02  
-1.987E+02 -1.946E+02 -2.028E+02 -1.958E+02 -2.017E+02 -2.057E+02
- 16 1 -6.345E+00 -1.457E+01 1.877E+00 -1.613E+02 1.486E+02 -1.695E+02  
-6.345E+00 -1.251E+01 -1.837E-01 1.377E+02 -1.503E+02 -1.565E+02
- 17 1 -1.371E+02 -1.338E+02 -1.405E+02 -2.251E+02 -4.914E+01 -2.284E+02  
-1.371E+02 -1.347E+02 -1.395E+02 -1.608E+02 -1.135E+02 -1.632E+02
- 18 1 1.688E+02 1.725E+02 1.651E+02 2.447E+02 9.294E+01 2.484E+02  
1.688E+02 1.719E+02 1.658E+02 1.945E+02 1.431E+02 1.976E+02
- 19 1 -1.682E+02 -1.641E+02 -1.723E+02 -2.453E+02 -9.107E+01 -2.494E+02  
-1.682E+02 -1.649E+02 -1.715E+02 -1.843E+02 -1.521E+02 -1.876E+02
- 20 1 1.988E+02 2.033E+02 1.943E+02 2.692E+02 1.284E+02 2.737E+02  
1.988E+02 2.025E+02 1.952E+02 2.104E+02 1.872E+02 2.141E+02
- 21 1 -5.632E+02 -4.851E+02 -6.412E+02 -5.622E+02 -5.642E+02 -6.423E+02  
-5.632E+02 -4.587E+02 -6.677E+02 -5.668E+02 -5.595E+02 -6.713E+02
- 22 1 -5.628E+02 -4.613E+02 -6.642E+02 -5.598E+02 -5.658E+02 -6.672E+02  
-5.628E+02 -4.353E+02 -6.902E+02 -5.635E+02 -5.621E+02 -6.909E+02
- 23 1 -7.004E+02 -5.920E+02 -8.089E+02 -6.995E+02 -7.013E+02 -8.098E+02  
-7.004E+02 -5.743E+02 -8.266E+02 -7.035E+02 -6.974E+02 -8.296E+02

24 1 -7.001E+02 -5.757E+02 -8.245E+02 -6.977E+02 -7.025E+02 -8.269E+02  
-7.001E+02 -5.584E+02 -8.418E+02 -7.006E+02 -6.996E+02 -8.423E+02

25 1 -8.106E+02 -6.865E+02 -9.348E+02 -8.100E+02 -8.113E+02 -9.354E+02  
-8.106E+02 -6.380E+02 -9.833E+02 -8.130E+02 -8.083E+02 -9.857E+02

26 1 7.536E+02 9.203E+02 5.868E+02 7.521E+02 7.550E+02 9.217E+02  
7.536E+02 8.693E+02 6.378E+02 7.539E+02 7.532E+02 8.696E+02

27 1 7.537E+02 8.155E+02 6.919E+02 7.534E+02 7.540E+02 8.158E+02  
7.537E+02 9.247E+02 5.827E+02 7.571E+02 7.503E+02 9.281E+02

28 1 6.287E+02 7.685E+02 4.888E+02 6.264E+02 6.309E+02 7.707E+02  
6.287E+02 7.102E+02 5.471E+02 6.298E+02 6.275E+02 7.114E+02

29 1 6.288E+02 6.694E+02 5.883E+02 6.284E+02 6.293E+02 6.699E+02  
6.288E+02 7.711E+02 4.865E+02 6.327E+02 6.250E+02 7.749E+02

30 1 4.790E+02 5.930E+02 3.649E+02 4.764E+02 4.815E+02 5.956E+02  
4.790E+02 5.403E+02 4.176E+02 4.802E+02 4.777E+02 5.416E+02

31 1 1.335E+02 1.362E+02 1.308E+02 2.126E+02 5.443E+01 2.153E+02  
1.335E+02 1.366E+02 1.304E+02 1.849E+02 8.207E+01 1.880E+02

32 1 6.395E-01 1.132E+00 1.474E-01 -5.264E+01 5.392E+01 5.441E+01  
6.395E-01 -2.792E+00 4.071E+00 5.973E+01 -5.845E+01 6.316E+01

33 1 6.528E-01 9.319E-01 3.738E-01 1.396E+01 -1.266E+01 1.424E+01  
6.528E-01 -1.434E+00 2.740E+00 -1.411E+01 1.542E+01 1.750E+01

34 1 -1.543E+01 -1.589E+01 -1.498E+01 5.907E+01 -8.994E+01 -9.039E+01  
-1.543E+01 -1.581E+01 -1.506E+01 6.368E+01 -9.455E+01 -9.492E+01

35 1 9.779E+02 1.182E+03 7.741E+02 9.778E+02 9.780E+02 1.182E+03  
9.779E+02 1.108E+03 8.477E+02 9.783E+02 9.775E+02 1.109E+03

36 1 1.003E+03 1.129E+03 8.762E+02 1.003E+03 1.003E+03 1.130E+03  
1.003E+03 1.212E+03 7.941E+02 1.004E+03 1.002E+03 1.212E+03

37 1 1.003E+03 1.211E+03 7.942E+02 1.003E+03 1.003E+03 1.212E+03  
1.003E+03 1.134E+03 8.715E+02 1.003E+03 1.002E+03 1.135E+03

38 1 1.003E+03 1.135E+03 8.714E+02 1.003E+03 1.003E+03 1.135E+03  
1.003E+03 1.211E+03 7.946E+02 1.004E+03 1.002E+03 1.212E+03

39 1 1.003E+03 1.209E+03 7.968E+02 1.004E+03 1.002E+03 1.211E+03  
1.003E+03 1.127E+03 8.793E+02 1.003E+03 1.003E+03 1.127E+03

40 1 -9.983E+02 -8.172E+02 -1.179E+03 -9.984E+02 -9.982E+02 -1.180E+03  
-9.983E+02 -8.163E+02 -1.180E+03 -9.981E+02 -9.986E+02 -1.181E+03

41 1 -1.011E+03 -8.287E+02 -1.193E+03 -1.011E+03 -1.010E+03 -1.193E+03  
-1.011E+03 -8.299E+02 -1.192E+03 -1.011E+03 -1.011E+03 -1.192E+03

42 1 -1.011E+03 -8.279E+02 -1.194E+03 -1.011E+03 -1.011E+03 -1.194E+03  
-1.011E+03 -8.289E+02 -1.193E+03 -1.011E+03 -1.011E+03 -1.193E+03

43 1 -9.984E+02 -8.182E+02 -1.179E+03 -9.982E+02 -9.986E+02 -1.179E+03  
-9.984E+02 -8.139E+02 -1.183E+03 -9.984E+02 -9.984E+02 -1.183E+03

44 1 -9.986E+02 -8.224E+02 -1.175E+03 -9.983E+02 -9.989E+02 -1.175E+03  
-9.986E+02 -8.179E+02 -1.179E+03 -9.995E+02 -9.977E+02 -1.180E+03

45 1 4.587E+01 4.695E+01 4.480E+01 1.264E+02 -3.466E+01 1.275E+02  
4.587E+01 4.638E+01 4.537E+01 1.180E+02 -2.623E+01 1.185E+02

46 1 -1.514E+01 -1.441E+01 -1.588E+01 -9.853E+01 6.824E+01 -9.927E+01  
-1.514E+01 -1.494E+01 -1.535E+01 -8.647E+01 5.618E+01 -8.667E+01

47 1 1.541E+01 1.583E+01 1.499E+01 9.151E+01 -6.069E+01 9.193E+01  
1.541E+01 1.537E+01 1.545E+01 9.492E+01 -6.410E+01 9.497E+01

48 1 1.511E+01 1.524E+01 1.498E+01 -6.380E+01 9.402E+01 9.415E+01  
1.511E+01 1.453E+01 1.569E+01 -6.035E+01 9.058E+01 9.116E+01

49 1 6.395E-01 1.132E+00 1.474E-01 -5.264E+01 5.392E+01 5.441E+01  
6.395E-01 -2.792E+00 4.071E+00 5.973E+01 -5.845E+01 6.316E+01

50 1 -4.570E+01 -4.430E+01 -4.710E+01 -1.316E+02 4.019E+01 -1.330E+02  
-4.570E+01 -4.485E+01 -4.655E+01 -1.094E+02 1.796E+01 -1.102E+02

51 1 7.656E+01 7.825E+01 7.486E+01 1.582E+02 -5.107E+00 1.599E+02  
7.656E+01 7.772E+01 7.539E+01 1.410E+02 1.216E+01 1.421E+02

52 1 -7.651E+01 -7.460E+01 -7.842E+01 -1.656E+02 1.261E+01 -1.675E+02  
-7.651E+01 -7.505E+01 -7.798E+01 -1.299E+02 -2.311E+01 -1.314E+02

53 1 1.063E+02 1.089E+02 1.038E+02 1.899E+02 2.276E+01 1.924E+02  
1.063E+02 1.080E+02 1.047E+02 1.573E+02 5.529E+01 1.590E+02



54 1 -1.047E+02 -1.028E+02 -1.067E+02 -1.778E+02 -3.159E+01 -1.798E+02  
-1.047E+02 -1.023E+02 -1.071E+02 -1.537E+02 -5.572E+01 -1.561E+02

55 1 -8.131E+02 -6.786E+02 -9.477E+02 -8.110E+02 -8.152E+02 -9.498E+02  
-8.131E+02 -6.513E+02 -9.750E+02 -8.135E+02 -8.127E+02 -9.754E+02

56 1 -8.992E+02 -7.483E+02 -1.050E+03 -8.985E+02 -8.999E+02 -1.051E+03  
-8.992E+02 -7.360E+02 -1.062E+03 -9.011E+02 -8.973E+02 -1.064E+03

57 1 -8.989E+02 -7.367E+02 -1.061E+03 -8.975E+02 -9.003E+02 -1.063E+03  
-8.989E+02 -7.246E+02 -1.073E+03 -8.992E+02 -8.987E+02 -1.074E+03

58 1 -9.615E+02 -7.961E+02 -1.127E+03 -9.610E+02 -9.619E+02 -1.127E+03  
-9.615E+02 -7.874E+02 -1.136E+03 -9.629E+02 -9.600E+02 -1.137E+03

59 1 -9.612E+02 -7.881E+02 -1.134E+03 -9.604E+02 -9.620E+02 -1.135E+03  
-9.612E+02 -7.796E+02 -1.143E+03 -9.613E+02 -9.610E+02 -1.143E+03

60 1 9.779E+02 1.096E+03 8.601E+02 9.779E+02 9.779E+02 1.096E+03  
9.779E+02 1.182E+03 7.734E+02 9.795E+02 9.764E+02 1.184E+03

61 1 9.280E+02 1.123E+03 7.328E+02 9.272E+02 9.288E+02 1.124E+03  
9.280E+02 1.053E+03 8.033E+02 9.286E+02 9.274E+02 1.053E+03

62 1 9.281E+02 1.036E+03 8.202E+02 9.281E+02 9.281E+02 1.036E+03  
9.281E+02 1.125E+03 7.316E+02 9.300E+02 9.262E+02 1.127E+03

63 1 8.534E+02 1.031E+03 6.760E+02 8.526E+02 8.542E+02 1.032E+03  
8.534E+02 9.734E+02 7.334E+02 8.542E+02 8.526E+02 9.742E+02

64 1 8.535E+02 9.285E+02 7.785E+02 8.527E+02 8.544E+02 9.293E+02  
8.535E+02 1.031E+03 6.764E+02 8.567E+02 8.503E+02 1.034E+03

65 1 4.806E+02 5.619E+02 3.993E+02 4.815E+02 4.797E+02 5.628E+02  
4.806E+02 6.004E+02 3.608E+02 4.777E+02 4.835E+02 6.034E+02

66 1 4.812E+02 6.062E+02 3.562E+02 4.854E+02 4.769E+02 6.104E+02  
4.812E+02 4.844E+02 4.780E+02 4.802E+02 4.822E+02 4.854E+02

67 1 3.065E+02 3.375E+02 2.754E+02 3.076E+02 3.053E+02 3.386E+02  
3.065E+02 3.868E+02 2.261E+02 3.026E+02 3.103E+02 3.907E+02

68 1 3.071E+02 3.914E+02 2.229E+02 3.116E+02 3.027E+02 3.958E+02  
3.071E+02 2.822E+02 3.321E+02 3.065E+02 3.078E+02 3.328E+02



69	1	1.072E+02	1.100E+02	1.044E+02	1.086E+02	1.059E+02	1.114E+02
		1.072E+02	1.566E+02	5.785E+01	1.040E+02	1.105E+02	1.598E+02
70	1	-2.139E+02	-1.702E+02	-2.575E+02	-2.177E+02	-2.100E+02	-2.614E+02
		-2.139E+02	-2.020E+02	-2.257E+02	-2.135E+02	-2.142E+02	-2.261E+02
71	1	-2.134E+02	-1.412E+02	-2.856E+02	-2.145E+02	-2.123E+02	-2.867E+02
		-2.134E+02	-1.725E+02	-2.543E+02	-2.088E+02	-2.180E+02	-2.589E+02
72	1	-4.009E+02	-3.285E+02	-4.732E+02	-4.054E+02	-3.964E+02	-4.778E+02
		-4.009E+02	-3.541E+02	-4.477E+02	-3.997E+02	-4.021E+02	-4.489E+02
73	1	-4.005E+02	-3.051E+02	-4.959E+02	-4.016E+02	-3.993E+02	-4.970E+02
		-4.005E+02	-3.304E+02	-4.705E+02	-3.972E+02	-4.037E+02	-4.737E+02
74	1	-5.600E+02	-4.228E+02	-6.973E+02	-5.637E+02	-5.563E+02	-7.009E+02
		-5.600E+02	-4.894E+02	-6.307E+02	-5.592E+02	-5.608E+02	-6.315E+02
75	1	1.930E+02	1.886E+02	1.973E+02	1.660E+02	2.199E+02	2.243E+02
		1.930E+02	1.887E+02	1.973E+02	1.252E+02	2.608E+02	2.651E+02
76	1	-1.977E+02	-2.019E+02	-1.936E+02	-2.078E+02	-1.876E+02	-2.120E+02
		-1.977E+02	-2.025E+02	-1.930E+02	-1.194E+02	-2.760E+02	-2.808E+02
77	1	2.298E+02	2.251E+02	2.344E+02	2.391E+02	2.205E+02	2.437E+02
		2.298E+02	2.246E+02	2.350E+02	1.675E+02	2.920E+02	2.973E+02
78	1	-2.293E+02	-2.343E+02	-2.243E+02	-2.470E+02	-2.116E+02	-2.520E+02
		-2.293E+02	-2.339E+02	-2.247E+02	-1.692E+02	-2.894E+02	-2.940E+02
79	1	2.602E+02	2.557E+02	2.647E+02	2.875E+02	2.329E+02	2.920E+02
		2.602E+02	2.530E+02	2.675E+02	2.035E+02	3.170E+02	3.242E+02
80	1	6.373E-01	8.792E-01	3.955E-01	8.039E+01	-7.911E+01	8.063E+01
		6.373E-01	-1.118E+00	2.393E+00	-8.789E+01	8.917E+01	9.092E+01
81	1	-2.547E+02	-2.619E+02	-2.475E+02	-3.003E+02	-2.092E+02	-3.075E+02
		-2.547E+02	-2.534E+02	-2.560E+02	-2.020E+02	-3.074E+02	-3.087E+02
82	1	-3.482E+00	4.088E+01	-4.784E+01	-6.400E+00	-5.638E-01	-5.076E+01
		-3.482E+00	-4.931E+01	4.235E+01	-9.430E-01	-6.020E+00	-5.185E+01
83	1	1.075E+02	1.539E+02	6.114E+01	1.137E+02	1.014E+02	1.600E+02
		1.075E+02	4.164E+01	1.734E+02	1.014E+02	1.136E+02	1.795E+02

84 1 6.373E-01 8.792E-01 3.955E-01 8.039E+01 -7.911E+01 8.063E+01  
6.373E-01 -1.118E+00 2.393E+00 -8.789E+01 8.917E+01 9.092E+01

85 1 -1.642E+02 -1.680E+02 -1.604E+02 -1.415E+02 -1.868E+02 -1.907E+02  
-1.642E+02 -1.679E+02 -1.604E+02 -1.048E+02 -2.236E+02 -2.273E+02

86 1 8.541E+02 1.037E+03 6.714E+02 8.567E+02 8.515E+02 1.039E+03  
8.541E+02 9.414E+02 7.667E+02 8.536E+02 8.545E+02 9.419E+02

87 1 7.542E+02 8.554E+02 6.531E+02 7.550E+02 7.534E+02 8.562E+02  
7.542E+02 9.182E+02 5.902E+02 7.522E+02 7.562E+02 9.202E+02

88 1 7.546E+02 9.208E+02 5.885E+02 7.576E+02 7.517E+02 9.237E+02  
7.546E+02 8.247E+02 6.846E+02 7.542E+02 7.551E+02 8.251E+02

89 1 6.300E+02 7.201E+02 5.399E+02 6.310E+02 6.290E+02 7.212E+02  
6.300E+02 7.646E+02 4.954E+02 6.279E+02 6.321E+02 7.667E+02

90 1 6.305E+02 7.654E+02 4.955E+02 6.345E+02 6.264E+02 7.694E+02  
6.305E+02 6.508E+02 6.101E+02 6.295E+02 6.315E+02 6.518E+02

91 1 -5.639E+02 -4.370E+02 -6.909E+02 -5.648E+02 -5.631E+02 -6.917E+02  
-5.639E+02 -4.837E+02 -6.442E+02 -5.609E+02 -5.669E+02 -6.472E+02

92 1 -6.991E+02 -5.707E+02 -8.276E+02 -7.023E+02 -6.960E+02 -8.308E+02  
-6.991E+02 -5.904E+02 -8.079E+02 -6.983E+02 -7.000E+02 -8.088E+02

93 1 -6.989E+02 -5.527E+02 -8.452E+02 -6.997E+02 -6.982E+02 -8.459E+02  
-6.989E+02 -5.721E+02 -8.258E+02 -6.966E+02 -7.013E+02 -8.281E+02

94 1 -8.115E+02 -6.638E+02 -9.592E+02 -8.141E+02 -8.088E+02 -9.618E+02  
-8.115E+02 -6.812E+02 -9.418E+02 -8.108E+02 -8.121E+02 -9.424E+02

95 1 -8.113E+02 -6.484E+02 -9.742E+02 -8.118E+02 -8.107E+02 -9.748E+02  
-8.113E+02 -6.655E+02 -9.570E+02 -8.095E+02 -8.130E+02 -9.588E+02

96 1 -1.068E+02 -1.091E+02 -1.045E+02 -6.368E+01 -1.498E+02 -1.521E+02  
-1.068E+02 -1.096E+02 -1.039E+02 -2.129E+01 -1.922E+02 -1.951E+02

97 1 1.377E+02 1.351E+02 1.404E+02 9.559E+01 1.798E+02 1.825E+02  
1.377E+02 1.346E+02 1.408E+02 5.852E+01 2.169E+02 2.200E+02

98 1 -1.378E+02 -1.408E+02 -1.349E+02 -1.088E+02 -1.669E+02 -1.698E+02  
-1.378E+02 -1.412E+02 -1.344E+02 -5.197E+01 -2.237E+02 -2.270E+02

99 1 1.671E+02 1.639E+02 1.703E+02 1.445E+02 1.897E+02 1.929E+02  
1.671E+02 1.633E+02 1.710E+02 8.727E+01 2.470E+02 2.509E+02

100 1 6.528E-01 9.319E-01 3.738E-01 1.396E+01 -1.266E+01 1.424E+01  
6.528E-01 -1.434E+00 2.740E+00 -1.411E+01 1.542E+01 1.750E+01

101 1 1.069E+02 1.050E+02 1.089E+02 5.359E+01 1.603E+02 1.623E+02  
1.069E+02 1.045E+02 1.094E+02 2.456E+01 1.893E+02 1.918E+02

102 1 -7.630E+01 -7.791E+01 -7.468E+01 -2.125E+01 -1.313E+02 -1.330E+02  
-7.630E+01 -7.846E+01 -7.414E+01 1.022E+01 -1.628E+02 -1.650E+02

103 1 7.671E+01 7.534E+01 7.809E+01 1.309E+01 1.403E+02 1.417E+02  
7.671E+01 7.489E+01 7.854E+01 -5.042E+00 1.585E+02 1.603E+02

104 1 -4.571E+01 -4.653E+01 -4.489E+01 1.485E+01 -1.063E+02 -1.071E+02  
-4.571E+01 -4.723E+01 -4.419E+01 4.238E+01 -1.338E+02 -1.353E+02

105 1 4.409E+01 4.303E+01 4.514E+01 -2.959E+01 1.178E+02 1.188E+02  
4.409E+01 4.314E+01 4.504E+01 -3.793E+01 1.261E+02 1.271E+02

106 1 -9.976E+02 -8.061E+02 -1.189E+03 -9.984E+02 -9.967E+02 -1.190E+03  
-9.976E+02 -8.258E+02 -1.169E+03 -9.974E+02 -9.978E+02 -1.169E+03

107 1 -9.609E+02 -7.823E+02 -1.139E+03 -9.611E+02 -9.606E+02 -1.140E+03  
-9.609E+02 -7.885E+02 -1.133E+03 -9.602E+02 -9.616E+02 -1.134E+03

108 1 -9.609E+02 -7.880E+02 -1.134E+03 -9.624E+02 -9.594E+02 -1.135E+03  
-9.609E+02 -7.944E+02 -1.127E+03 -9.606E+02 -9.613E+02 -1.128E+03

109 1 -8.984E+02 -7.235E+02 -1.073E+03 -8.988E+02 -8.980E+02 -1.074E+03  
-8.984E+02 -7.363E+02 -1.061E+03 -8.972E+02 -8.997E+02 -1.062E+03

110 1 -8.986E+02 -7.350E+02 -1.062E+03 -9.006E+02 -8.965E+02 -1.064E+03  
-8.986E+02 -7.481E+02 -1.049E+03 -8.981E+02 -8.991E+02 -1.049E+03

111 1 8.537E+02 9.699E+02 7.375E+02 8.544E+02 8.530E+02 9.706E+02  
8.537E+02 1.035E+03 6.727E+02 8.524E+02 8.550E+02 1.036E+03

112 1 9.286E+02 1.124E+03 7.331E+02 9.305E+02 9.266E+02 1.126E+03  
9.286E+02 1.034E+03 8.229E+02 9.283E+02 9.288E+02 1.034E+03

113 1 9.283E+02 1.053E+03 8.035E+02 9.289E+02 9.276E+02 1.054E+03  
9.283E+02 1.123E+03 7.338E+02 9.274E+02 9.291E+02 1.124E+03



114 1 9.783E+02 1.185E+03 7.716E+02 9.800E+02 9.766E+02 1.187E+03  
9.783E+02 1.095E+03 8.613E+02 9.783E+02 9.783E+02 1.095E+03

115 1 9.781E+02 1.112E+03 8.441E+02 9.782E+02 9.780E+02 1.112E+03  
9.781E+02 1.182E+03 7.744E+02 9.781E+02 9.780E+02 1.182E+03

116 1 -9.805E+02 -7.929E+02 -1.168E+03 -9.807E+02 -9.803E+02 -1.168E+03  
-9.805E+02 -8.022E+02 -1.159E+03 -9.803E+02 -9.807E+02 -1.159E+03

117 1 -9.807E+02 -8.016E+02 -1.160E+03 -9.790E+02 -9.824E+02 -1.162E+03  
-9.807E+02 -8.104E+02 -1.151E+03 -9.807E+02 -9.808E+02 -1.151E+03

118 1 -9.314E+02 -7.543E+02 -1.109E+03 -9.308E+02 -9.321E+02 -1.109E+03  
-9.314E+02 -7.638E+02 -1.099E+03 -9.322E+02 -9.306E+02 -1.100E+03

119 1 -9.317E+02 -7.629E+02 -1.101E+03 -9.297E+02 -9.337E+02 -1.102E+03  
-9.317E+02 -7.727E+02 -1.091E+03 -9.319E+02 -9.315E+02 -1.091E+03

120 1 -8.566E+02 -6.870E+02 -1.026E+03 -8.559E+02 -8.574E+02 -1.027E+03  
-8.566E+02 -7.021E+02 -1.011E+03 -8.579E+02 -8.553E+02 -1.012E+03

121 1 8.954E+02 1.085E+03 7.059E+02 8.933E+02 8.974E+02 1.087E+03  
8.954E+02 9.937E+02 7.970E+02 8.958E+02 8.949E+02 9.942E+02

122 1 8.952E+02 1.015E+03 7.760E+02 8.948E+02 8.957E+02 1.015E+03  
8.952E+02 1.083E+03 7.071E+02 8.965E+02 8.940E+02 1.085E+03

123 1 9.576E+02 1.162E+03 7.537E+02 9.561E+02 9.591E+02 1.163E+03  
9.576E+02 1.067E+03 8.484E+02 9.579E+02 9.573E+02 1.067E+03

124 1 9.576E+02 1.096E+03 8.192E+02 9.574E+02 9.578E+02 1.096E+03  
9.576E+02 1.160E+03 7.553E+02 9.583E+02 9.569E+02 1.161E+03

125 1 9.959E+02 1.179E+03 8.131E+02 9.951E+02 9.967E+02 1.179E+03  
9.959E+02 1.135E+03 8.563E+02 9.960E+02 9.957E+02 1.136E+03

126 1 -3.404E+01 -3.267E+01 -3.542E+01 4.300E+01 -1.111E+02 -1.125E+02  
-3.404E+01 -3.335E+01 -3.474E+01 3.858E+01 -1.067E+02 -1.074E+02

127 1 6.019E+01 6.096E+01 5.943E+01 -1.612E+01 1.365E+02 1.373E+02  
6.019E+01 6.157E+01 5.881E+01 -1.854E+01 1.389E+02 1.403E+02

128 1 -6.058E+01 -5.911E+01 -6.204E+01 -3.219E+00 -1.179E+02 -1.194E+02  
-6.058E+01 -5.896E+01 -6.220E+01 2.817E+01 -1.493E+02 -1.509E+02



129 1 9.205E+01 9.380E+01 9.030E+01 3.477E+01 1.493E+02 1.511E+02  
9.205E+01 9.406E+01 9.004E+01 9.013E+00 1.751E+02 1.771E+02

130 1 -9.171E+01 -8.962E+01 -9.379E+01 -4.228E+01 -1.411E+02 -1.432E+02  
-9.171E+01 -8.934E+01 -9.408E+01 -5.271E+00 -1.781E+02 -1.805E+02

131 1 3.346E+00 -1.344E-01 6.826E+00 1.811E+01 -1.142E+01 2.159E+01  
3.346E+00 3.812E+00 2.880E+00 -9.965E+00 1.666E+01 1.712E+01

132 1 -1.527E+02 -1.493E+02 -1.562E+02 -1.395E+02 -1.660E+02 -1.694E+02  
-1.527E+02 -1.487E+02 -1.567E+02 -5.709E+01 -2.484E+02 -2.524E+02

133 1 1.540E+02 1.572E+02 1.508E+02 1.180E+02 1.901E+02 1.933E+02  
1.540E+02 1.574E+02 1.507E+02 7.447E+01 2.336E+02 2.369E+02

134 1 -1.220E+02 -1.192E+02 -1.249E+02 -8.339E+01 -1.607E+02 -1.635E+02  
-1.220E+02 -1.190E+02 -1.250E+02 -4.060E+01 -2.035E+02 -2.065E+02

135 1 1.221E+02 1.245E+02 1.196E+02 7.496E+01 1.692E+02 1.716E+02  
1.221E+02 1.248E+02 1.193E+02 4.052E+01 2.036E+02 2.064E+02

136 1 8.080E+02 9.189E+02 6.972E+02 8.074E+02 8.086E+02 9.195E+02  
8.080E+02 9.796E+02 6.364E+02 8.098E+02 8.063E+02 9.814E+02

137 1 8.082E+02 9.819E+02 6.345E+02 8.056E+02 8.109E+02 9.846E+02  
8.082E+02 8.828E+02 7.337E+02 8.088E+02 8.076E+02 8.834E+02

138 1 6.955E+02 7.845E+02 6.065E+02 6.947E+02 6.963E+02 7.853E+02  
6.955E+02 8.534E+02 5.377E+02 6.978E+02 6.932E+02 8.557E+02

139 1 6.957E+02 8.541E+02 5.374E+02 6.926E+02 6.989E+02 8.572E+02  
6.957E+02 7.644E+02 6.271E+02 6.966E+02 6.949E+02 7.652E+02

140 1 5.620E+02 6.569E+02 4.672E+02 5.611E+02 5.630E+02 6.578E+02  
5.620E+02 6.333E+02 4.907E+02 5.651E+02 5.590E+02 6.364E+02

141 1 -6.328E+02 -5.232E+02 -7.423E+02 -6.286E+02 -6.369E+02 -7.464E+02  
-6.328E+02 -5.586E+02 -7.069E+02 -6.339E+02 -6.316E+02 -7.081E+02

142 1 -6.323E+02 -4.889E+02 -7.757E+02 -6.312E+02 -6.334E+02 -7.768E+02  
-6.323E+02 -5.253E+02 -7.393E+02 -6.344E+02 -6.302E+02 -7.414E+02

143 1 -7.577E+02 -6.185E+02 -8.970E+02 -7.547E+02 -7.607E+02 -9.000E+02  
-7.577E+02 -6.354E+02 -8.800E+02 -7.581E+02 -7.573E+02 -8.804E+02

144 1 -7.573E+02 -6.028E+02 -9.117E+02 -7.564E+02 -7.582E+02 -9.126E+02  
-7.573E+02 -6.200E+02 -8.946E+02 -7.593E+02 -7.553E+02 -8.966E+02

145 1 -8.570E+02 -7.008E+02 -1.013E+03 -8.544E+02 -8.595E+02 -1.016E+03  
-8.570E+02 -7.162E+02 -9.978E+02 -8.574E+02 -8.566E+02 -9.982E+02

146 1 1.743E+02 1.784E+02 1.702E+02 1.611E+02 1.874E+02 1.916E+02  
1.743E+02 1.780E+02 1.706E+02 1.114E+02 2.371E+02 2.408E+02

147 1 3.422E+00 8.499E-01 5.994E+00 9.186E+01 -8.502E+01 9.443E+01  
3.422E+00 3.752E+00 3.092E+00 -7.641E+01 8.325E+01 8.358E+01

148 1 -1.093E+02 -9.832E+01 -1.203E+02 -1.031E+02 -1.155E+02 -1.265E+02  
-1.093E+02 -1.593E+02 -5.926E+01 -1.156E+02 -1.030E+02 -1.656E+02

149 1 3.474E+00 3.840E+01 -3.145E+01 4.078E-01 6.541E+00 4.147E+01  
3.474E+00 -4.958E+01 5.653E+01 5.962E+00 9.872E-01 5.902E+01

150 1 2.594E+02 2.672E+02 2.516E+02 3.127E+02 2.061E+02 3.205E+02  
2.594E+02 2.586E+02 2.602E+02 2.304E+02 2.884E+02 2.891E+02

151 1 3.422E+00 8.499E-01 5.994E+00 9.186E+01 -8.502E+01 9.443E+01  
3.422E+00 3.752E+00 3.092E+00 -7.641E+01 8.325E+01 8.358E+01

152 1 -2.447E+02 -2.398E+02 -2.497E+02 -2.955E+02 -1.939E+02 -3.005E+02  
-2.447E+02 -2.372E+02 -2.523E+02 -1.540E+02 -3.355E+02 -3.430E+02

153 1 2.473E+02 2.529E+02 2.416E+02 2.598E+02 2.347E+02 2.655E+02  
2.473E+02 2.522E+02 2.424E+02 1.881E+02 3.065E+02 3.114E+02

154 1 -2.136E+02 -2.085E+02 -2.187E+02 -2.256E+02 -2.016E+02 -2.307E+02  
-2.136E+02 -2.084E+02 -2.188E+02 -1.500E+02 -2.771E+02 -2.823E+02

155 1 2.118E+02 2.162E+02 2.074E+02 2.066E+02 2.170E+02 2.214E+02  
2.118E+02 2.167E+02 2.069E+02 1.433E+02 2.803E+02 2.852E+02

156 1 -1.831E+02 -1.783E+02 -1.878E+02 -1.532E+02 -2.129E+02 -2.177E+02  
-1.831E+02 -1.787E+02 -1.874E+02 -1.239E+02 -2.422E+02 -2.466E+02

157 1 5.581E+02 6.862E+02 4.301E+02 5.544E+02 5.618E+02 6.899E+02  
5.581E+02 5.981E+02 5.182E+02 5.589E+02 5.574E+02 5.989E+02

158 1 3.971E+02 4.542E+02 3.400E+02 3.959E+02 3.983E+02 4.554E+02  
3.971E+02 4.953E+02 2.989E+02 4.004E+02 3.939E+02 4.986E+02

159 1 3.975E+02 4.992E+02 2.958E+02 3.929E+02 4.021E+02 5.038E+02  
3.975E+02 3.813E+02 4.137E+02 3.986E+02 3.963E+02 4.148E+02

160 1 2.093E+02 2.173E+02 2.013E+02 2.080E+02 2.106E+02 2.186E+02  
2.093E+02 2.854E+02 1.332E+02 2.139E+02 2.047E+02 2.900E+02

161 1 2.097E+02 2.868E+02 1.327E+02 2.059E+02 2.136E+02 2.906E+02  
2.097E+02 1.989E+02 2.206E+02 2.101E+02 2.094E+02 2.210E+02

162 1 -1.090E+02 -3.999E+01 -1.780E+02 -1.075E+02 -1.105E+02 -1.796E+02  
-1.090E+02 -1.022E+02 -1.158E+02 -1.123E+02 -1.057E+02 -1.191E+02

163 1 -3.103E+02 -2.511E+02 -3.695E+02 -3.057E+02 -3.148E+02 -3.740E+02  
-3.103E+02 -2.762E+02 -3.443E+02 -3.110E+02 -3.096E+02 -3.450E+02

164 1 -3.096E+02 -2.284E+02 -3.908E+02 -3.083E+02 -3.109E+02 -3.921E+02  
-3.096E+02 -2.535E+02 -3.657E+02 -3.134E+02 -3.059E+02 -3.695E+02

165 1 -4.833E+02 -3.863E+02 -5.804E+02 -4.791E+02 -4.876E+02 -5.846E+02  
-4.833E+02 -4.278E+02 -5.389E+02 -4.843E+02 -4.824E+02 -5.399E+02

166 1 -4.828E+02 -3.474E+02 -6.182E+02 -4.820E+02 -4.836E+02 -6.190E+02  
-4.828E+02 -3.888E+02 -5.768E+02 -4.857E+02 -4.799E+02 -5.797E+02

167 1 -8.556E+02 -7.267E+02 -9.846E+02 -8.562E+02 -8.551E+02 -9.851E+02  
-8.556E+02 -7.045E+02 -1.007E+03 -8.526E+02 -8.587E+02 -1.010E+03

168 1 -8.555E+02 -7.057E+02 -1.005E+03 -8.564E+02 -8.546E+02 -1.006E+03  
-8.555E+02 -6.822E+02 -1.029E+03 -8.545E+02 -8.565E+02 -1.030E+03

169 1 -9.310E+02 -7.708E+02 -1.091E+03 -9.310E+02 -9.310E+02 -1.091E+03  
-9.310E+02 -7.615E+02 -1.101E+03 -9.290E+02 -9.331E+02 -1.103E+03

170 1 -9.310E+02 -7.624E+02 -1.100E+03 -9.317E+02 -9.303E+02 -1.100E+03  
-9.310E+02 -7.530E+02 -1.109E+03 -9.303E+02 -9.317E+02 -1.110E+03

171 1 -9.807E+02 -8.094E+02 -1.152E+03 -9.807E+02 -9.808E+02 -1.152E+03  
-9.807E+02 -8.029E+02 -1.159E+03 -9.792E+02 -9.823E+02 -1.160E+03

172 1 9.579E+02 1.157E+03 7.589E+02 9.586E+02 9.571E+02 1.158E+03  
9.579E+02 1.087E+03 8.283E+02 9.576E+02 9.581E+02 1.088E+03

173 1 9.581E+02 1.068E+03 8.485E+02 9.585E+02 9.577E+02 1.068E+03  
9.581E+02 1.158E+03 7.580E+02 9.566E+02 9.595E+02 1.160E+03



174 1 8.954E+02 1.089E+03 7.022E+02 8.967E+02 8.940E+02 1.090E+03  
8.954E+02 1.012E+03 7.784E+02 8.950E+02 8.958E+02 1.013E+03

175 1 8.957E+02 1.006E+03 7.850E+02 8.963E+02 8.950E+02 1.007E+03  
8.957E+02 1.089E+03 7.025E+02 8.937E+02 8.976E+02 1.091E+03

176 1 8.111E+02 9.369E+02 6.853E+02 8.131E+02 8.090E+02 9.389E+02  
8.111E+02 9.407E+02 6.814E+02 8.105E+02 8.116E+02 9.412E+02

177 1 1.148E+02 1.121E+02 1.175E+02 1.913E+02 3.840E+01 1.940E+02  
1.148E+02 1.120E+02 1.176E+02 1.544E+02 7.527E+01 1.572E+02

178 1 -9.188E+01 -9.452E+01 -8.924E+01 -1.912E+02 7.460E+00 -1.939E+02  
-9.188E+01 -9.410E+01 -8.966E+01 -1.335E+02 -5.029E+01 -1.357E+02

179 1 9.272E+01 9.064E+01 9.481E+01 1.756E+02 9.867E+00 1.777E+02  
9.272E+01 9.078E+01 9.467E+01 1.531E+02 3.233E+01 1.551E+02

180 1 -6.087E+01 -6.260E+01 -5.913E+01 -1.447E+02 2.299E+01 -1.465E+02  
-6.087E+01 -6.241E+01 -5.933E+01 -1.218E+02 5.609E+02 -1.233E+02

181 1 6.101E+01 5.959E+01 6.242E+01 1.429E+02 -2.093E+01 1.444E+02  
6.101E+01 5.986E+01 6.216E+01 1.287E+02 -6.696E+00 1.299E+02

182 1 3.283E+00 1.687E+00 4.879E+00 -5.580E+01 6.237E+01 6.396E+01  
3.283E+00 3.405E+00 3.161E+00 5.651E+01 -4.995E+01 5.664E+01

183 1 -6.302E-01 -6.909E-01 -5.696E-01 6.891E+01 -7.018E+01 -7.024E+01  
-6.302E-01 -7.333E-02 -1.187E+00 9.060E+01 -9.186E+01 -9.242E+01

184 1 7.312E-01 4.335E-01 1.029E+00 -8.235E+01 8.381E+01 8.411E+01  
7.312E-01 5.954E-01 8.670E-01 -7.252E+01 7.398E+01 7.412E+01

185 1 3.090E+01 3.022E+01 3.157E+01 1.108E+02 -4.900E+01 1.115E+02  
3.090E+01 3.045E+01 3.134E+01 1.045E+02 -4.267E+01 1.049E+02

186 1 -3.063E+01 -3.169E+01 -2.957E+01 -1.152E+02 5.393E+01 -1.163E+02  
-3.063E+01 -3.140E+01 -2.986E+01 -9.880E+01 3.754E+01 -9.957E+01

187 1 9.953E+02 1.119E+03 8.711E+02 9.955E+02 9.950E+02 1.120E+03  
9.953E+02 1.202E+03 7.887E+02 9.944E+02 9.962E+02 1.203E+03

188 1 9.952E+02 1.201E+03 7.889E+02 9.954E+02 9.949E+02 1.202E+03  
9.952E+02 1.124E+03 8.664E+02 9.950E+02 9.953E+02 1.124E+03



189 1 1.008E+03 1.133E+03 8.818E+02 1.008E+03 1.007E+03 1.133E+03  
1.008E+03 1.221E+03 7.945E+02 1.007E+03 1.008E+03 1.221E+03

190 1 1.007E+03 1.219E+03 7.955E+02 1.007E+03 1.008E+03 1.220E+03  
1.007E+03 1.148E+03 8.668E+02 1.008E+03 1.007E+03 1.148E+03

191 1 9.966E+02 1.146E+03 8.476E+02 9.964E+02 9.967E+02 1.146E+03  
9.966E+02 1.170E+03 8.233E+02 9.969E+02 9.963E+02 1.170E+03

192 1 -1.005E+03 -8.246E+02 -1.186E+03 -1.004E+03 -1.007E+03 -1.188E+03  
-1.005E+03 -8.280E+02 -1.183E+03 -1.006E+03 -1.005E+03 -1.183E+03

193 1 -1.005E+03 -8.205E+02 -1.190E+03 -1.005E+03 -1.006E+03 -1.191E+03  
-1.005E+03 -8.246E+02 -1.186E+03 -1.005E+03 -1.006E+03 -1.187E+03

194 1 -1.006E+03 -8.242E+02 -1.188E+03 -1.006E+03 -1.006E+03 -1.188E+03  
-1.006E+03 -8.223E+02 -1.190E+03 -1.006E+03 -1.006E+03 -1.190E+03

195 1 -1.006E+03 -8.260E+02 -1.186E+03 -1.006E+03 -1.006E+03 -1.186E+03  
-1.006E+03 -8.239E+02 -1.188E+03 -1.005E+03 -1.007E+03 -1.189E+03

196 1 -9.807E+02 -8.035E+02 -1.158E+03 -9.808E+02 -9.806E+02 -1.158E+03  
-9.807E+02 -7.971E+02 -1.164E+03 -9.802E+02 -9.812E+02 -1.165E+03

197 1 2.549E+01 2.613E+01 2.484E+01 -3.960E+01 9.057E+01 9.122E+01  
2.549E+01 2.547E+01 2.551E+01 -5.699E+01 1.080E+02 1.080E+02

198 1 3.346E+00 -1.344E-01 6.826E+00 1.811E+01 -1.142E+01 2.159E+01  
3.346E+00 3.812E+00 2.880E+00 -9.965E+00 1.666E+01 1.712E+01

199 1 3.283E+00 1.687E+00 4.879E+00 -5.580E+01 6.237E+01 6.396E+01  
3.283E+00 3.405E+00 3.161E+00 5.651E+01 -4.995E+01 5.664E+01

200 1 -1.231E+02 -1.263E+02 -1.200E+02 -1.927E+02 -5.356E+01 -1.959E+02  
-1.231E+02 -1.264E+02 -1.198E+02 -1.779E+02 -6.833E+01 -1.812E+02

201 1 -4.827E+02 -3.955E+02 -5.699E+02 -4.856E+02 -4.798E+02 -5.728E+02  
-4.827E+02 -3.673E+02 -5.981E+02 -4.813E+02 -4.841E+02 -5.995E+02

202 1 -6.325E+02 -5.382E+02 -7.268E+02 -6.331E+02 -6.320E+02 -7.273E+02  
-6.325E+02 -5.170E+02 -7.481E+02 -6.288E+02 -6.363E+02 -7.518E+02

203 1 -6.321E+02 -5.190E+02 -7.453E+02 -6.344E+02 -6.298E+02 -7.476E+02  
-6.321E+02 -4.982E+02 -7.660E+02 -6.308E+02 -6.334E+02 -7.673E+02

204	1	-7.561E+02	-6.409E+02	-8.714E+02	-7.565E+02	-7.557E+02	-8.718E+02	-7.561E+02	-6.129E+02	-8.993E+02	-7.529E+02	-7.594E+02	-9.026E+02
205	1	-7.558E+02	-6.148E+02	-8.968E+02	-7.575E+02	-7.541E+02	-8.985E+02	-7.558E+02	-5.862E+02	-9.254E+02	-7.549E+02	-7.566E+02	-9.263E+02
206	1	8.087E+02	9.007E+02	7.167E+02	8.094E+02	8.079E+02	9.014E+02	8.087E+02	9.724E+02	6.450E+02	8.062E+02	8.112E+02	9.749E+02
207	1	6.968E+02	8.513E+02	5.424E+02	6.994E+02	6.943E+02	8.538E+02	6.968E+02	7.984E+02	5.953E+02	6.961E+02	6.975E+02	7.991E+02
208	1	6.974E+02	7.486E+02	6.462E+02	6.984E+02	6.964E+02	7.496E+02	6.974E+02	8.543E+02	5.405E+02	6.943E+02	7.004E+02	8.574E+02
209	1	5.601E+02	6.880E+02	4.323E+02	5.633E+02	5.569E+02	6.912E+02	5.601E+02	6.317E+02	4.885E+02	5.593E+02	5.610E+02	6.326E+02
210	1	5.608E+02	5.878E+02	5.338E+02	5.619E+02	5.596E+02	5.889E+02	5.608E+02	6.913E+02	4.303E+02	5.573E+02	5.642E+02	6.947E+02
211	1	-1.831E+02	-1.876E+02	-1.787E+02	-2.583E+02	-1.080E+02	-2.627E+02	-1.831E+02	-1.876E+02	-1.786E+02	-1.905E+02	-1.758E+02	-1.950E+02
212	1	1.836E+02	1.795E+02	1.878E+02	2.573E+02	1.099E+02	2.615E+02	1.836E+02	1.794E+02	1.878E+02	2.021E+02	1.651E+02	2.064E+02
213	1	-1.523E+02	-1.562E+02	-1.485E+02	-2.350E+02	-6.966E+01	-2.389E+02	-1.523E+02	-1.562E+02	-1.485E+02	-1.720E+02	-1.327E+02	-1.759E+02
214	1	1.513E+02	1.477E+02	1.548E+02	2.297E+02	7.282E+01	2.333E+02	1.513E+02	1.479E+02	1.546E+02	1.908E+02	1.117E+02	1.942E+02
215	1	-1.862E+02	-1.954E+02	-1.771E+02	-3.534E+02	-1.912E+01	-3.625E+02	-1.862E+02	-1.917E+02	-1.808E+02	-5.858E+01	-3.139E+02	-3.193E+02
216	1	2.133E+02	2.086E+02	2.180E+02	2.808E+02	1.458E+02	2.854E+02	2.133E+02	2.085E+02	2.181E+02	2.145E+02	2.122E+02	2.193E+02
217	1	-2.133E+02	-2.182E+02	-2.084E+02	-2.737E+02	-1.529E+02	-2.786E+02	-2.133E+02	-2.184E+02	-2.082E+02	-2.062E+02	-2.204E+02	-2.255E+02
218	1	2.467E+02	2.424E+02	2.510E+02	3.068E+02	1.865E+02	3.111E+02	2.467E+02	2.412E+02	2.522E+02	2.342E+02	2.592E+02	2.647E+02

219 1 -2.444E+02 -2.510E+02 -2.378E+02 -3.353E+02 -1.535E+02 -3.419E+02  
-2.444E+02 -2.490E+02 -2.398E+02 -1.933E+02 -2.955E+02 -3.002E+02

220 1 2.591E+02 2.605E+02 2.578E+02 2.881E+02 2.301E+02 2.895E+02  
2.591E+02 2.521E+02 2.661E+02 2.059E+02 3.124E+02 3.194E+02

221 1 6.675E+00 -4.620E+01 5.955E+01 9.474E+00 3.877E+00 6.235E+01  
6.675E+00 4.151E+01 -2.816E+01 4.220E+00 9.130E+00 4.397E+01

222 1 2.127E+02 2.017E+02 2.237E+02 2.133E+02 2.121E+02 2.243E+02  
2.127E+02 2.901E+02 1.352E+02 2.095E+02 2.159E+02 2.934E+02

223 1 2.118E+02 2.882E+02 1.355E+02 2.170E+02 2.066E+02 2.933E+02  
2.118E+02 2.209E+02 2.027E+02 2.110E+02 2.126E+02 2.218E+02

224 1 3.996E+02 3.856E+02 4.137E+02 4.011E+02 3.981E+02 4.152E+02  
3.996E+02 4.997E+02 2.996E+02 3.954E+02 4.038E+02 5.038E+02

225 1 3.988E+02 4.953E+02 3.024E+02 4.025E+02 3.951E+02 4.990E+02  
3.988E+02 4.493E+02 3.483E+02 3.979E+02 3.998E+02 4.503E+02

226 1 -4.832E+02 -4.212E+02 -5.452E+02 -4.840E+02 -4.824E+02 -5.460E+02  
-4.832E+02 -3.930E+02 -5.734E+02 -4.789E+02 -4.875E+02 -5.777E+02

227 1 -3.090E+02 -2.516E+02 -3.664E+02 -3.128E+02 -3.053E+02 -3.702E+02  
-3.090E+02 -2.233E+02 -3.947E+02 -3.076E+02 -3.104E+02 -3.961E+02

228 1 -3.097E+02 -2.766E+02 -3.428E+02 -3.102E+02 -3.093E+02 -3.433E+02  
-3.097E+02 -2.490E+02 -3.704E+02 -3.052E+02 -3.142E+02 -3.749E+02

229 1 -1.088E+02 -1.023E+02 -1.153E+02 -1.121E+02 -1.055E+02 -1.186E+02  
-1.088E+02 -4.030E+01 -1.773E+02 -1.073E+02 -1.104E+02 -1.789E+02

230 1 -1.092E+02 -1.589E+02 -5.942E+01 -1.153E+02 -1.030E+02 -1.650E+02  
-1.092E+02 -9.810E+01 -1.202E+02 -1.029E+02 -1.154E+02 -1.264E+02

231 1 -1.107E+00 -1.303E+00 -9.114E-01 -1.884E+01 1.662E+01 -1.903E+01  
-1.107E+00 -1.072E+01 8.509E+00 9.334E+00 -1.155E+01 -2.117E+01

232 1 -1.233E+00 -1.134E+01 8.874E+00 -4.156E+01 3.910E+01 -5.167E+01  
-1.233E+00 3.393E+00 -5.859E+00 3.341E+01 -3.588E+01 -4.050E+01

233 1 -1.638E+00 3.851E+00 -7.127E+00 -6.288E+01 5.961E+01 -6.837E+01  
-1.638E+00 -7.828E+00 4.552E+00 5.493E+01 -5.821E+01 -6.440E+01



234 1 -2.660E+00 -1.093E+01 5.606E+00 -8.528E+01 7.996E+01 -9.354E+01  
-2.660E+00 4.004E+00 -9.323E+00 7.506E+01 -8.038E+01 -8.705E+01

235 1 -3.086E+00 5.127E+00 -1.130E+01 -1.054E+02 9.921E+01 -1.136E+02  
-3.086E+00 -8.227E+00 2.055E+00 9.482E+01 -1.010E+02 -1.061E+02

236 1 -3.766E+00 -1.173E+01 4.201E+00 -1.244E+02 1.169E+02 -1.324E+02  
-3.766E+00 1.774E+00 -9.306E+00 1.125E+02 -1.201E+02 -1.256E+02

237 1 -4.206E+00 3.714E+00 -1.213E+01 -1.414E+02 1.329E+02 -1.493E+02  
-4.206E+00 -7.777E+00 -6.359E+01 1.293E+02 -1.377E+02 -1.413E+02

238 1 -4.739E+00 -1.174E+01 2.261E+00 -1.574E+02 1.480E+02 -1.644E+02  
-4.739E+00 -2.427E+00 -7.051E+00 1.443E+02 -1.538E+02 -1.561E+02

239 1 -5.159E+00 1.461E+01 -1.046E+01 -1.715E+02 1.612E+02 -1.768E+02  
-5.159E+00 -7.905E+00 -2.414E+00 1.583E+02 -1.686E+02 -1.713E+02

240 1 -5.567E+00 -1.253E+01 1.399E+00 -1.845E+02 1.733E+02 -1.914E+02  
-5.567E+00 -1.460E+00 -9.674E+00 1.703E+02 -1.815E+02 -1.856E+02

241 1 -6.086E+00 -7.667E+00 -4.505E+00 -1.960E+02 1.839E+02 -1.976E+02  
-6.086E+00 -6.688E+00 -5.484E+00 1.816E+02 -1.938E+02 -1.944E+02

242 1 -6.105E+00 -1.105E+01 -1.156E+00 -2.063E+02 1.941E+02 -2.112E+02  
-6.105E+00 -6.034E+00 -6.176E+00 1.916E+02 -2.038E+02 -2.039E+02

243 1 -6.590E+00 -2.331E+00 -1.085E+01 -2.147E+02 2.015E+02 -2.189E+02  
-6.590E+00 -6.405E+00 -6.774E+00 1.999E+02 -2.131E+02 -2.133E+02

244 1 -6.549E+00 -1.110E+01 -1.999E+00 -2.217E+02 2.086E+02 -2.262E+02  
-6.549E+00 -6.580E+00 -6.517E+00 2.069E+02 -2.200E+02 -2.200E+02

245 1 -7.015E+00 -2.588E+00 -1.144E+01 -2.275E+02 2.135E+02 -2.319E+02  
-7.015E+00 -6.022E+00 -8.008E+00 2.125E+02 -2.265E+02 -2.275E+02

246 1 -6.851E+00 -1.078E+01 -2.927E+00 -2.315E+02 2.178E+02 -2.354E+02  
-6.851E+00 -8.019E+00 -5.683E+00 2.168E+02 -2.305E+02 -2.317E+02

247 1 -7.236E+00 -3.742E+00 -1.073E+01 -2.344E+02 2.200E+02 -2.379E+02  
-7.236E+00 -5.290E+00 -9.183E+00 2.196E+02 -2.341E+02 -2.360E+02

248 1 -6.953E+00 -1.002E+01 -3.883E+00 -2.355E+02 2.216E+02 -2.386E+02  
-6.953E+00 -9.329E+00 -4.578E+00 2.213E+02 -2.352E+02 -2.376E+02



249 1 -7.317E+00 -4.973E+00 -9.661E+00 -2.357E+02 2.210E+02 -2.380E+02  
-7.317E+00 -4.417E+00 -1.022E+01 2.215E+02 -2.361E+02 -2.390E+02

250 1 -7.015E+00 -9.141E+00 -4.889E+00 -2.335E+02 2.195E+02 -2.357E+02  
-7.015E+00 -6.749E+00 -7.280E+00 2.200E+02 -2.340E+02 -2.342E+02

251 1 -7.180E+00 -7.904E+00 -6.455E+00 -2.307E+02 2.163E+02 -2.314E+02  
-7.180E+00 -2.999E+00 -1.136E+01 2.172E+02 -2.315E+02 -2.357E+02

252 1 -6.787E+00 -7.580E+00 -5.994E+00 -2.263E+02 2.128E+02 -2.271E+02  
-6.787E+00 -1.033E+01 -3.244E+00 2.137E+02 -2.273E+02 -2.308E+02

253 1 -6.781E+00 -5.863E+00 -7.700E+00 -2.203E+02 2.068E+02 -2.213E+02  
-6.781E+00 -1.875E+00 -1.169E+01 2.084E+02 -2.219E+02 -2.269E+02

254 1 -6.364E+00 -6.087E+00 -6.641E+00 -2.127E+02 2.000E+02 -2.130E+02  
-6.364E+00 -1.171E+01 -1.015E+00 2.017E+02 -2.145E+02 -2.198E+02

255 1 -6.323E+00 -7.449E+00 -5.198E+00 -2.040E+02 1.914E+02 -2.052E+02  
-6.323E+00 -5.747E+00 -1.207E+01 1.936E+02 -2.063E+02 -2.120E+02

256 1 -5.793E+00 -4.342E+00 -7.244E+00 -1.935E+02 1.819E+02 -1.950E+02  
-5.793E+00 -1.195E+01 3.621E+01 1.843E+02 -1.959E+02 -2.021E+02

257 1 -5.668E+00 -8.036E+00 -3.301E+00 -1.819E+02 1.705E+02 -1.842E+02  
-5.668E+00 5.725E+01 -1.191E+01 1.734E+02 -1.847E+02 -1.910E+02

258 1 -5.011E+00 -2.643E+00 -7.379E+00 -1.684E+02 1.584E+02 -1.708E+02  
-5.011E+00 -1.025E+01 2.259E+01 1.615E+02 -1.715E+02 -1.767E+02

259 1 -4.885E+00 -6.786E+00 -2.983E+00 -1.541E+02 1.443E+02 -1.560E+02  
-4.885E+00 2.119E+00 -1.189E+01 1.481E+02 -1.578E+02 -1.648E+02

260 1 -4.200E+00 -2.872E+01 -8.113E+00 -1.375E+02 1.291E+02 -1.414E+02  
-4.200E+00 -4.702E+00 -3.699E+00 1.329E+02 -1.413E+02 -1.418E+02

261 1 -3.842E+00 -6.501E+00 -1.183E+00 -1.199E+02 1.122E+02 -1.226E+02  
-3.842E+00 4.134E+00 -1.182E+01 1.164E+02 -1.240E+02 -1.320E+02

262 1 -3.072E+00 2.077E+00 -8.221E+00 -1.009E+02 9.472E+01 -1.060E+02  
-3.072E+00 -9.023E+00 2.879E+00 9.917E+01 -1.053E+02 -1.113E+02

263 1 -2.653E+00 -6.927E+00 1.622E+00 -8.046E+01 7.516E+01 -8.474E+01  
-2.653E+00 4.976E+00 -1.028E+01 7.996E+01 -8.527E+01 -9.289E+01

264 1 -1.680E+00 4.157E+00 -7.518E+00 -5.822E+01 5.485E+01 -6.405E+01  
-1.680E+00 -8.119E+00 4.758E+00 5.959E+01 -6.295E+01 -6.939E+01

265 1 -1.162E+00 -6.538E+00 4.214E+00 -3.585E+01 3.353E+01 -4.123E+01  
-1.162E+00 8.059E+00 -1.038E+01 3.917E+01 -4.149E+01 -5.071E+01

266 1 -1.186E+00 7.631E+00 -1.000E+01 -1.160E+01 9.224E+00 -2.041E+01  
-1.186E+00 -1.623E+00 -7.486E-01 1.652E+01 -1.889E+01 -1.933E+01

267 1 1.770E+00 3.166E+00 3.751E-01 1.926E+01 -1.572E+01 2.066E+01  
1.770E+00 -6.258E+00 9.799E+00 -8.776E+00 1.232E+01 2.034E+01

268 1 6.206E-01 -6.765E+00 8.006E+00 4.057E+01 -3.933E+01 4.795E+01  
6.206E-01 -7.225E-01 1.964E+00 -3.335E+01 3.459E+01 3.593E+01

269 1 2.119E+00 -1.356E+00 5.593E+00 6.249E+01 -5.825E+01 6.596E+01  
2.119E+00 1.066E+01 -6.426E+00 -5.389E+01 5.812E+01 6.667E+01

270 1 2.180E+00 1.185E+01 -7.493E+00 8.404E+01 -7.968E+01 9.372E+01  
2.180E+00 -4.475E+00 8.835E+00 -7.461E+01 7.897E+01 8.562E+01

271 1 3.468E+00 -5.552E+00 1.249E+01 1.051E+02 -9.812E+01 1.141E+02  
3.468E+00 9.000E+00 -2.065E+00 -9.388E+01 1.008E+02 1.063E+02

272 1 3.405E+00 1.092E+01 -4.113E+00 1.233E+02 -1.165E+02 1.308E+02  
3.405E+00 -8.081E-01 7.618E+00 -1.121E+02 1.189E+02 1.231E+02

273 1 4.477E+00 -2.905E+00 1.186E+01 1.409E+02 -1.320E+02 1.483E+02  
4.477E+00 8.542E+00 4.118E-01 -1.284E+02 1.374E+02 1.414E+02

274 1 4.445E+00 1.120E+01 -2.312E+00 1.564E+02 -1.475E+02 1.632E+02  
4.445E+00 1.005E+00 7.884E+00 -1.438E+02 1.527E+02 1.562E+02

275 1 5.387E+00 -1.905E+00 1.268E+01 1.712E+02 -1.605E+02 1.785E+02  
5.387E+00 1.300E+01 -2.225E+00 -1.576E+02 1.684E+02 1.760E+02

276 1 5.388E+00 1.664E+01 -5.861E+00 1.836E+02 -1.728E+02 1.948E+02  
5.388E+00 4.301E+00 6.475E+00 -1.699E+02 1.807E+02 1.818E+02

277 1 6.111E+00 5.654E+00 6.568E+00 1.955E+02 -1.833E+02 1.960E+02  
6.111E+00 3.328E+00 8.894E+00 -1.809E+02 1.932E+02 1.960E+02

278 1 6.119E+00 7.222E+00 5.016E+00 2.057E+02 -1.935E+02 2.068E+02  
6.119E+00 8.813E+00 3.426E+00 -1.910E+02 2.032E+02 2.059E+02

279 1 6.526E+00 4.414E+00 8.638E+00 2.140E+02 -2.009E+02 2.161E+02  
6.526E+00 7.275E+00 5.777E+00 -1.993E+02 2.123E+02 2.131E+02

280 1 6.565E+00 1.166E+01 1.465E+00 2.209E+02 -2.078E+02 2.260E+02  
6.565E+00 6.531E+00 6.598E+00 -2.062E+02 2.193E+02 2.193E+02

281 1 6.942E+00 2.114E+00 1.177E+01 2.267E+02 -2.128E+02 2.316E+02  
6.942E+00 6.275E+00 7.609E+00 -2.118E+02 2.257E+02 2.264E+02

282 1 6.896E+00 1.080E+01 2.989E+00 2.309E+02 -2.171E+02 2.348E+02  
6.896E+00 8.737E+00 5.056E+00 -2.161E+02 2.299E+02 2.317E+02

283 1 7.137E+00 4.015E+00 1.026E+01 2.336E+02 -2.194E+02 2.367E+02  
7.137E+00 5.014E+00 9.259E+00 -2.190E+02 2.332E+02 2.354E+02

284 1 7.018E+00 9.617E+00 4.419E+00 2.349E+02 -2.209E+02 2.375E+02  
7.018E+00 7.278E+00 6.759E+00 -2.206E+02 2.346E+02 2.349E+02

285 1 7.200E+00 2.222E+00 1.218E+01 2.349E+02 -2.205E+02 2.399E+02  
7.200E+00 9.546E+00 4.853E+00 -2.209E+02 2.353E+02 2.376E+02

286 1 7.064E+00 1.425E+01 -1.230E-01 2.331E+02 -2.190E+02 2.403E+02  
7.064E+00 4.811E+00 9.318E+00 -2.194E+02 2.335E+02 2.358E+02

287 1 7.176E+00 9.977E+00 4.376E+00 2.302E+02 -2.158E+02 2.330E+02  
7.176E+00 -1.981E+00 1.633E+01 -2.167E+02 2.311E+02 2.402E+02

288 1 6.723E+00 2.365E+00 1.108E+01 2.256E+02 -2.121E+02 2.299E+02  
6.723E+00 1.299E+01 4.599E-01 -2.131E+02 2.266E+02 2.328E+02

289 1 6.794E+00 8.099E+00 5.489E+00 2.197E+02 -2.061E+02 2.210E+02  
6.794E+00 2.449E+00 1.114E+01 -2.077E+02 2.213E+02 2.256E+02

290 1 6.316E+00 6.340E+00 6.293E+00 2.120E+02 -1.993E+02 2.120E+02  
6.316E+00 1.139E+01 1.244E+00 -2.011E+02 2.137E+02 2.188E+02

291 1 6.316E+00 6.914E+00 5.718E+00 2.033E+02 -1.907E+02 2.039E+02  
6.316E+00 6.950E-01 1.194E+01 -1.929E+02 2.056E+02 2.112E+02

292 1 5.769E+00 4.167E+00 7.372E+00 1.928E+02 -1.812E+02 1.944E+02  
5.769E+00 1.243E+01 -8.951E-01 -1.836E+02 1.952E+02 2.018E+02

293 1 5.638E+00 8.260E+00 3.016E+00 1.811E+02 -1.698E+02 1.837E+02  
5.638E+00 -9.459E-01 1.222E+01 -1.727E+02 1.840E+02 1.905E+02



294 1 5.004E+00 2.021E+00 7.986E+00 1.677E+02 -1.577E+02 1.707E+02  
5.004E+00 8.002E+00 2.005E+00 -1.608E+02 1.708E+02 1.738E+02

295 1 4.842E+00 3.996E+00 5.687E+00 1.534E+02 -1.438E+02 1.543E+02  
4.842E+00 2.744E+00 6.939E+00 -1.474E+02 1.571E+02 1.592E+02

296 1 4.190E+00 4.964E+00 3.416E+00 1.370E+02 -1.287E+02 1.378E+02  
4.190E+00 3.198E+00 5.182E+00 -1.324E+02 1.408E+02 1.418E+02

297 1 3.866E+00 7.463E+00 2.696E+01 1.195E+02 -1.117E+02 1.230E+02  
3.866E+00 -8.770E+00 1.650E+01 -1.159E+02 1.236E+02 1.362E+02

298 1 3.006E+00 -7.051E+00 1.306E+01 1.001E+02 -9.411E+01 1.102E+02  
3.006E+00 1.181E+01 -5.799E+00 -9.863E+01 1.046E+02 1.135E+02

299 1 2.663E+00 9.257E+00 -3.931E+00 7.972E+01 -7.440E+01 8.632E+01  
2.663E+00 -6.669E+00 1.200E+01 -7.913E+01 8.446E+01 9.379E+01

300 1 1.618E+00 -6.413E+00 9.648E+00 5.740E+01 -5.417E+01 6.543E+01  
1.618E+00 4.611E+00 -1.376E+00 -5.895E+01 6.218E+01 6.518E+01

301 1 1.170E+00 2.212E+00 1.282E+01 3.532E+01 -3.298E+01 3.636E+01  
1.170E+00 7.659E+00 -5.318E+00 -3.853E+01 4.087E+01 4.736E+01

302 1 1.152E+00 8.389E+00 -6.084E+00 1.131E+01 -9.004E+00 1.854E+01  
1.152E+00 -8.991E+01 3.204E+00 -1.627E+01 1.857E+01 2.062E+01

303 1 9.040E-01 -5.413E+00 7.220E+00 -1.931E+01 2.112E+01 2.744E+01  
9.040E-01 7.133E+00 -5.325E+00 1.076E+01 -8.953E+00 1.699E+01

304 1 0.000E+00 8.243E+00 -8.243E+00 -8.783E+00 8.783E+00 1.703E+01  
0.000E+00 -8.514E+00 8.514E+00 1.906E+01 -1.906E+01 2.757E+01

305 1 9.314E-01 -5.616E+00 7.479E+00 2.105E+01 -1.919E+01 2.760E+01  
9.314E-01 7.831E+00 -5.968E+00 -8.897E+00 1.076E+01 1.766E+01

306 1 0.000E+00 7.617E+00 -7.617E+00 9.716E+00 -9.716E+00 1.733E+01  
0.000E+00 -8.363E+00 8.363E+00 -2.001E+01 2.001E+01 2.837E+01

307 1 -6.378E+00 -1.390E+01 1.139E+00 1.484E+02 -1.612E+02 -1.687E+02  
-6.378E+00 -1.278E+01 2.591E+02 -1.502E+02 1.374E+02 -1.566E+02

308 1 -1.864E+02 -1.954E+02 -1.775E+02 -1.825E+01 -3.546E+02 -3.636E+02  
-1.864E+02 -1.925E+02 -1.804E+02 -3.151E+02 -5.777E+01 -3.212E+02



\*\*\*\*\* End of file

## BUCKLING ANALYSIS

### CONTROL INFORMATION

MAXIMUM ITERATION CYCLES = 50

CONVERGENCE TOLERANCE = 1.00000D-05

ITERATION	EIGENVALUE	REL. ERROR
1	-2.34072D+04	
2	-1.73101D+03	9.26048D-01
3	-1.75568D+02	8.98575D-01
4	-1.08907D+02	3.79690D-01
5	-9.64961D+01	1.13956D-01
6	-8.99057D+01	6.82971D-02
7	-8.41405D+01	6.41246D-02
8	-7.86255D+01	6.55452D-02
9	-7.34962D+01	6.52373D-02
10	-6.88824D+01	6.27756D-02
11	-6.48012D+01	5.92488D-02
12	-6.11960D+01	5.56357D-02
13	-5.79845D+01	5.24785D-02
14	-5.50871D+01	4.99690D-02
15	-5.24375D+01	4.80983D-02
16	-4.99851D+01	4.67682D-02
17	-4.76929D+01	4.58561D-02
18	-4.55350D+01	4.52458D-02
19	-4.34933D+01	4.48388D-02
20	-4.15554D+01	4.45564D-02
21	-3.97129D+01	4.43378D-02
22	-3.79601D+01	4.41368D-02
23	-3.62929D+01	4.39192D-02
24	-3.47084D+01	4.36596D-02
25	-3.32041D+01	4.33400D-02
26	-3.17781D+01	4.29482D-02
27	-3.04283D+01	4.24763D-02
28	-2.91527D+01	4.19203D-02
29	-2.79493D+01	4.12792D-02
30	-2.68158D+01	4.05546D-02
31	-2.57499D+01	3.97498D-02
32	-2.47490D+01	3.88701D-02

33	-2.38105D+01	3.79219D-02
34	-2.29316D+01	3.69127D-02
35	-2.21095D+01	3.58504D-02
36	-2.13413D+01	3.47436D-02
37	-2.06242D+01	3.36011D-02
38	-1.99553D+01	3.24314D-02
39	-1.93319D+01	3.12432D-02
40	-1.87511D+01	3.00444D-02
41	-1.82102D+01	2.88430D-02
42	-1.77068D+01	2.76459D-02
43	-1.72383D+01	2.64598D-02
44	-1.68023D+01	2.52905D-02
45	-1.63966D+01	2.41433D-02
46	-1.60191D+01	2.30225D-02
47	-1.56678D+01	2.19320D-02
48	-1.53407D+01	2.08749D-02
49	-1.50362D+01	1.98537D-02
50	-1.47524D+01	1.88703D-02

LIMIT OF 50 ITERATIONS REACHED, ACCEPT THE CURRENT VALUE

BUCKLING ANALYSIS

BUCKLING LOAD MULTIPLIER = -14.7524

I\*\*\*\* TEMPORARY FILE STORAGE (MEGABYTES)

-----  
UNIT NO. 7 : .414  
UNIT NO. 8 : .037  
UNIT NO. 9 : .406  
UNIT NO. 10 : .022  
UNIT NO. 11 : 1.281  
UNIT NO. 12 : .502  
UNIT NO. 13 : .035  
UNIT NO. 14 : .009  
UNIT NO. 15 : .000  
UNIT NO. 17 : .000

TOTAL : 2.706

I\*\*\*\* END OF FILE

## 7- PRESCRIZIONI

I calcoli sono stati eseguiti considerando carichi teorici aventi le seguenti caratteristiche:

il carico è considerato statico;

Per gli elementi utilizzati come trave:

il carico è applicato ai nodi del corrente inferiore simmetricamente rispetto all'asse della trave;

il carico è perpendicolare e centrato rispetto ad un lato della sezione "quadrata" della trave;

non è previsto carico accidentale di alcun genere (vento neve sisma od altri);

Per gli elementi utilizzati come puntone:

il carico è applicato uniformemente ai quattro correnti dell'elemento e la risultante è una forza coassiale con l'elemento stesso (eccentricità nulla).

Nei calcoli è stata considerata una trave perfettamente integra con tolleranza dimensionali nella sezione di 1 mm e nello spessore dei profilati del 5%.

Nel caso i cui l'elemento fosse utilizzato come componente strutturale :

- Assicurarsi di ottemperare alle norme di sicurezza previste in normativa per il montaggio e lo smontaggio delle strutture. ( A titolo indicativo si ricorda che le norme più significative sono D.P.R. 164/56 , D.P.R. 547/55, Legge 494/96 , Legge 626/94 e successive)
- Assicurarsi di utilizzare i normali mezzi di protezione: casco di protezione, scarpe antinfortunistica, cinture di sicurezza anticaduta.
- Trattandosi di struttura metallica assicurarsi di ottemperare alle normative vigenti nazionali e locali. (A titolo indicativo si ricorda la Legge 1086/71)
- Prima di montare la struttura assicurarsi essere in possesso di tutte le autorizzazioni degli enti preposti al controllo o previsti dalla normativa.
- Prima di procedere al montaggio della struttura effettuare un controllo minuzioso di ogni particolare e non procedere al montaggio se un qualunque pezzo della struttura presenta deformazioni, fessurazioni o segni che mostrino un decadimento delle caratteristiche di resistenza. In tale circostanza sostituire i particolari danneggiati prima di utilizzare nuovamente la struttura.

- La struttura è soggetta alla redazione di un certificato di corretto montaggio e collaudo statico da effettuarsi a cura di un tecnico abilitato prima dell'utilizzo della stessa. Tale tecnico deve valutare di volta in volta le azioni reali agenti sulla struttura in base al sito di utilizzo ed applicare gli ancoraggi e le zavorre che si rendessero necessarie. Le tabelle allegate e gli schemi di utilizzo sono comunque da verificare e confermare da parte di un tecnico abilitato prima di ogni utilizzo della struttura.
- Come ogni struttura temporanea soggetta a smontaggio e rimontaggio l'integrità strutturale deve essere sottoposta a continuo controllo e la vita utile, in assenza di manutenzione straordinaria è fissata in T=3 anni. (Normativa UNI).
- Ogni struttura temporanea deve essere collaudata con cadenza annuale e ne deve essere certificata l'integrità da un tecnico abilitato.

Il tecnico incaricato.



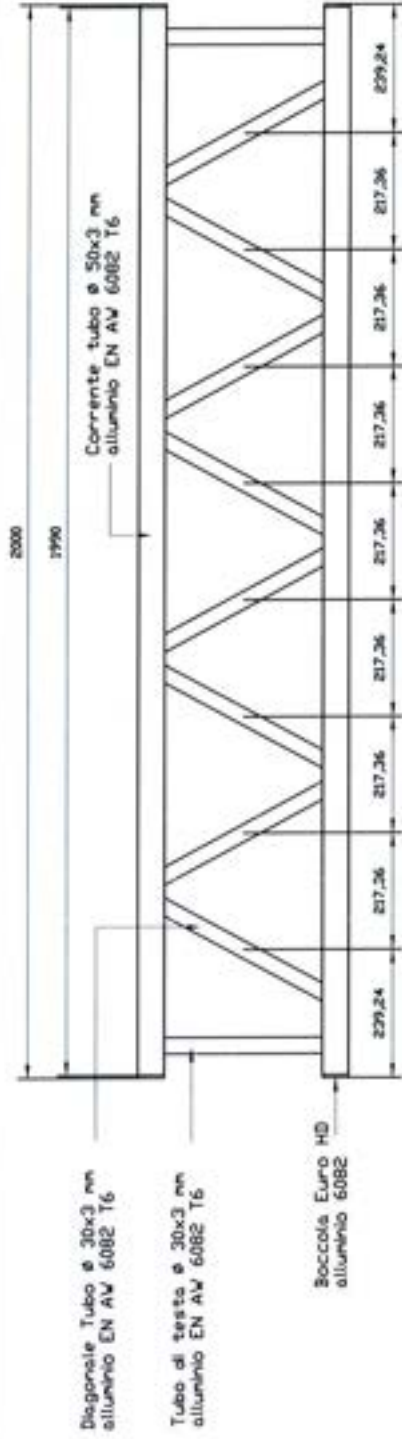
## **8- TAVOLE DI PROGETTO STRUTTURALE**

Elenco delle tavole di progetto allegate.

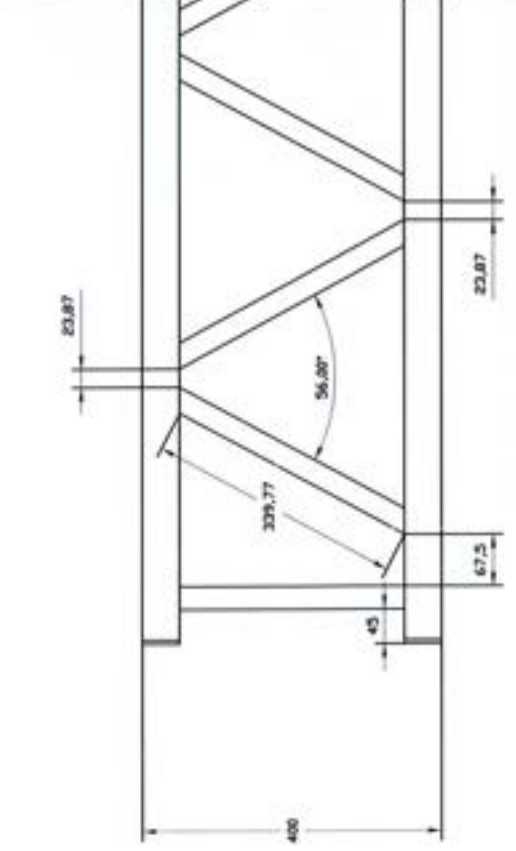
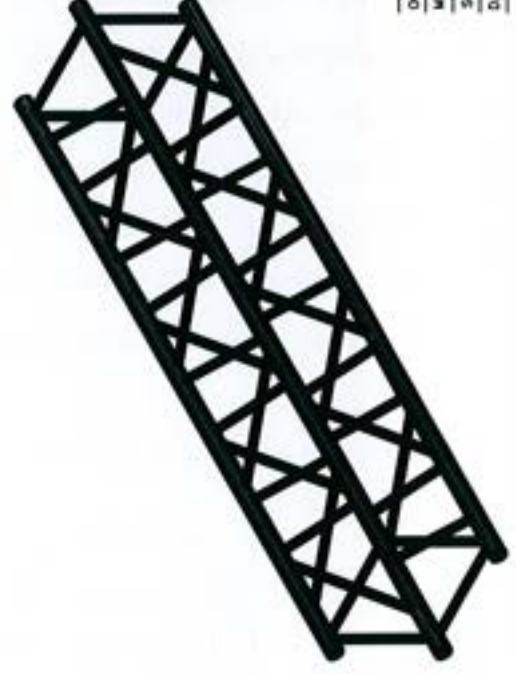
- 1 disegno del modulo di lunghezza 2,0 m con interassi diagonali e sezione trasversale.
- 2 disegno quotato della femmina di accoppiamento
- 3 disegno quotato del giunto maschio
- 4 disegno quotato della spina conica
- 5 disegno quotato delle saldature diagonali-correnti e flangia-tubolare

Ogni tavola è firmata in originale.





## Saldatura Tubi Classe 1



TEL. +39 0543 383311  
FAX +39 0543 383355

OGGETTO:	Traliccio Euro 40 HD - sez. Quadrato - 2 m
MATERIALE:	Alluminio EN AW 6062 T6
SCALA:	-----
DATA REV:	01-09-2009

Technical drawing of a mechanical part, likely a bush or sleeve, showing a cross-section. The part has an outer diameter of 50 mm and an inner diameter of 30.08 mm. The total length is 43.55 mm. The inner bore has a diameter of 35.24 mm at the right end. The part is shown with a cross-section of the material, indicated by hatching. A dimension of 60 is shown at the bottom, and a dimension of 5 is shown at the bottom right.

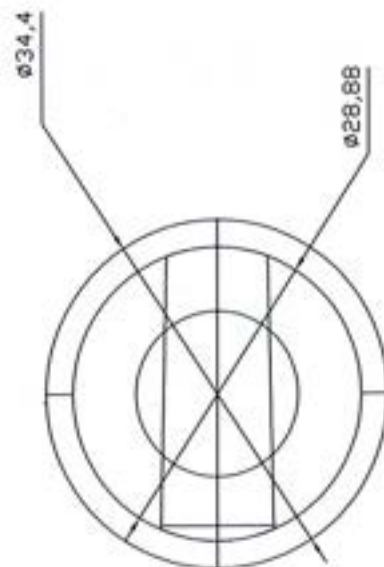
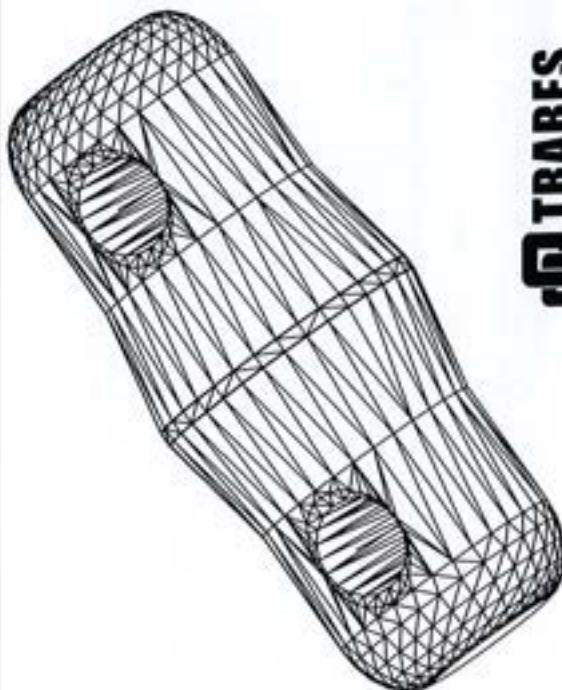
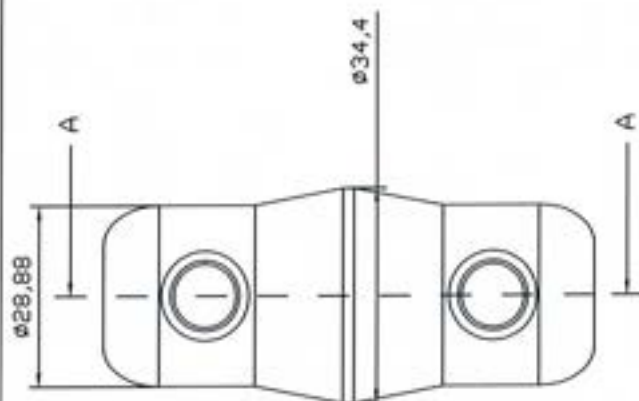
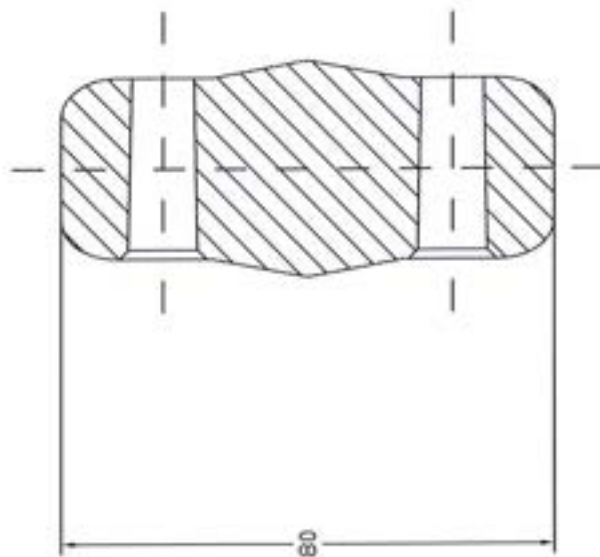


**CTRABES**

**Tel. +39 0543 783511**  
**Fax. +39 0543 783558**

Oggetto: Boccola Euro HD			
Materiale:	AL 6082		
Scala:	—	Data: 08-01-2009	
		Togliere gli spigoli con astuccio e raggio... 0,5	TOLLERANZE ± 0,05 

SEZ: A-A



**TRABES**

Tel. +39 0543 783511  
Fax. +39 0543 783558

Oggetto: Giunto Euro

Materiale: AL 6082

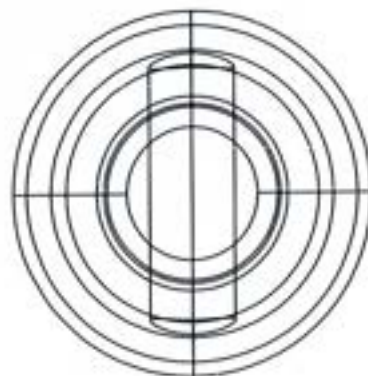
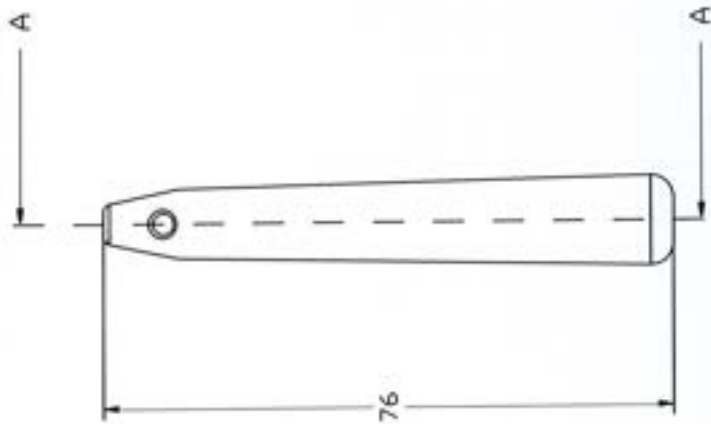
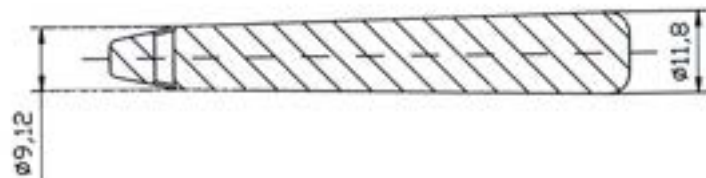
Scala: - Data: 08-01-2009

Tolleranze  
+ rapp. 0,5  
+ rapp. +0,6





SEZ: A-A



**TRABES**

Tel. +39 0543 783511  
Fax. +39 0543 783550

Oggetto: Spina Euro HD

Materiale:

Scala: -

Data: 03-03-2009

Tolleranze  
in mm  
+0,5  
-0,5

