Sadržaj

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Ulazni podaci

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Rezultati

- Modalna analiza ____ 18
- Seizmički proračun ____ 19
- Statički proračun ____ 21

Osnovni podaci o modelu

Datoteka:	model RV-Križevci.twp
Datum proračuna:	2.3.2015

Način proračuna: 3D model

[X] Teorija I-og reda	[X] Modalna analiza	[ ] Stabilnost
[ ] Teorija II-og reda	[X] Seizmički proračun	[ ] Faze građenja
[ ] Nelinearni proračun		

Veličina modela

Broj čvorova:	119
Broj pločastih elemenata:	0
Broj grednih elemenata:	190
Broj graničnih elemenata:	168
Broj osnovnih slučajeva opterećenja:	5
Broj kombinacija opterećenja:	4

Jedinice mjera

Dužina:	m [cm,mm]
Sila:	kN
Temperatura:	Celsius

Ulazni podaci - Konstrukcija

Shema nivoa

Naziv	z [m]	h [m]
	6.00	6.00

	0.00	

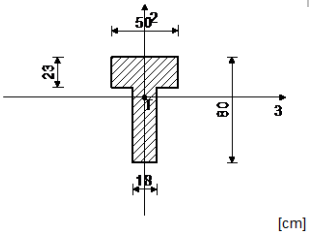
Tabela materijala

No	Naziv materijala	E[kN/m2]	μ	γ[kN/m3]	αt[1/C]	Em[kN/m2]	μm
1	Beton MB 30	3.150e+7	0.20	25.00	1.000e-5	3.150e+7	0.20

Setovi greda

Set: 1 Presjek: T 50/80, Fiktivna ekscentričnost

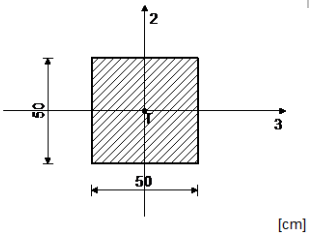
Mat.	A1	A2	A3	I1	I2	I3
1 - Beton MB 30	2.176e-1	1.405e-1	1.833e-1	3.136e-3	2.673e-3	1.196e-2



[cm]

Set: 2 Presjek: b/d=50/50, Fiktivna ekscentričnost

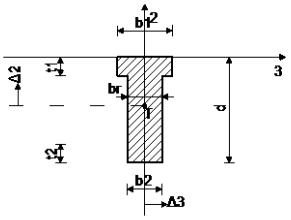
Mat.	A1	A2	A3	I1	I2	I3
1 - Beton MB 30	2.500e-1	2.083e-1	2.083e-1	8.802e-3	5.208e-3	5.208e-3



[cm]

Set: 3 Presjek: Promjenjiv, Fiktivna ekscentričnost

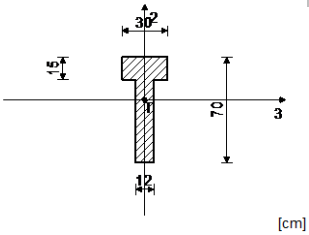
Mat.	Tip promjene
1 - Beton MB 30	Relativna linearna promjena.



No	dL	Δ3 [cm]	Δ2 [cm]	b1 [cm] br [cm]	t1 [cm] d [cm]	b2 [cm]	t2 [cm]
S	0	0.00	-31.11	35.00 22.00	12.00 67.50	22.00	12.00
1	0.5	0.00	0.00	35.00 10.00	12.00 117.00	22.00	12.00
E	1	0.00	-31.11	35.00 22.00	12.00 67.50	22.00	12.00

Set: 4 Presjek: T 30/70, Fiktivna ekscentričnost

Mat.	A1	A2	A3	I1	I2	I3
1 - Beton MB 30	1.110e-1	7.617e-2	9.194e-2	6.543e-4	4.167e-4	5.026e-3



[cm]

Setovi točkastih ležajeva

	K,R1	K,R2	K,R3	K,M1	K,M2	K,M3
1	1.000e+10	1.000e+10	1.000e+10	1.000e+10	1.000e+10	1.000e+10

Konture greda Set 1. T 50/80

No	Čvor I	Čvor J	Oslobađanje utjecaja												M	Ozn. pozicije
			Čvor I						Čvor J							
			M1	M2	M3	N1	T2	T3	M1	M2	M3	N1	T2	T3		
1	2	9		O	O					O	O					
2	8	20		O	O					O	O					
3	19	36		O	O					O	O					
4	21	38		O	O					O	O					
5	35	53		O	O					O	O					
6	37	55		O	O					O	O					
7	52	70		O	O					O	O					
8	54	72		O	O					O	O					
9	69	87		O	O					O	O					
10	71	89		O	O					O	O					
11	86	102		O	O					O	O					
12	88	104		O	O					O	O					
13	103	114		O	O					O	O					
14	113	119		O	O					O	O					

Konture greda Set 2. b/d=50/50

No	Čvor I	Čvor J	Oslobađanje utjecaja												M	Ozn. pozicije
			Čvor I						Čvor J							
			M1	M2	M3	N1	T2	T3	M1	M2	M3	N1	T2	T3		
1	2	1														
2	8	4														
3	9	5														
4	19	12														
5	20	13														
6	21	14														
7	35	25														
8	36	26														
9	37	27														
10	38	28														
11	52	42														
12	53	43														
13	54	44														
14	55	45														
15	69	59														
16	70	60														
17	71	61														
18	72	62														
19	86	76														
20	87	77														
21	88	78														
22	89	79														
23	102	93														
24	103	94														
25	104	95														
26	113	107														
27	114	108														
28	119	116														

Konture greda Set 3. Promjenjiv

No	Čvor I	Čvor J	Oslobađanje utjecaja												M	Ozn. pozicije
			Čvor I						Čvor J							
			M1	M2	M3	N1	T2	T3	M1	M2	M3	N1	T2	T3		
1	9	21		O	O					O	O					
2	20	37		O	O					O	O					
3	36	54		O	O					O	O					
4	53	71		O	O					O	O					
5	70	88		O	O					O	O					
6	87	103		O	O					O	O					
7	102	113		O	O					O	O					

Konture greda Set 4. T 30/70

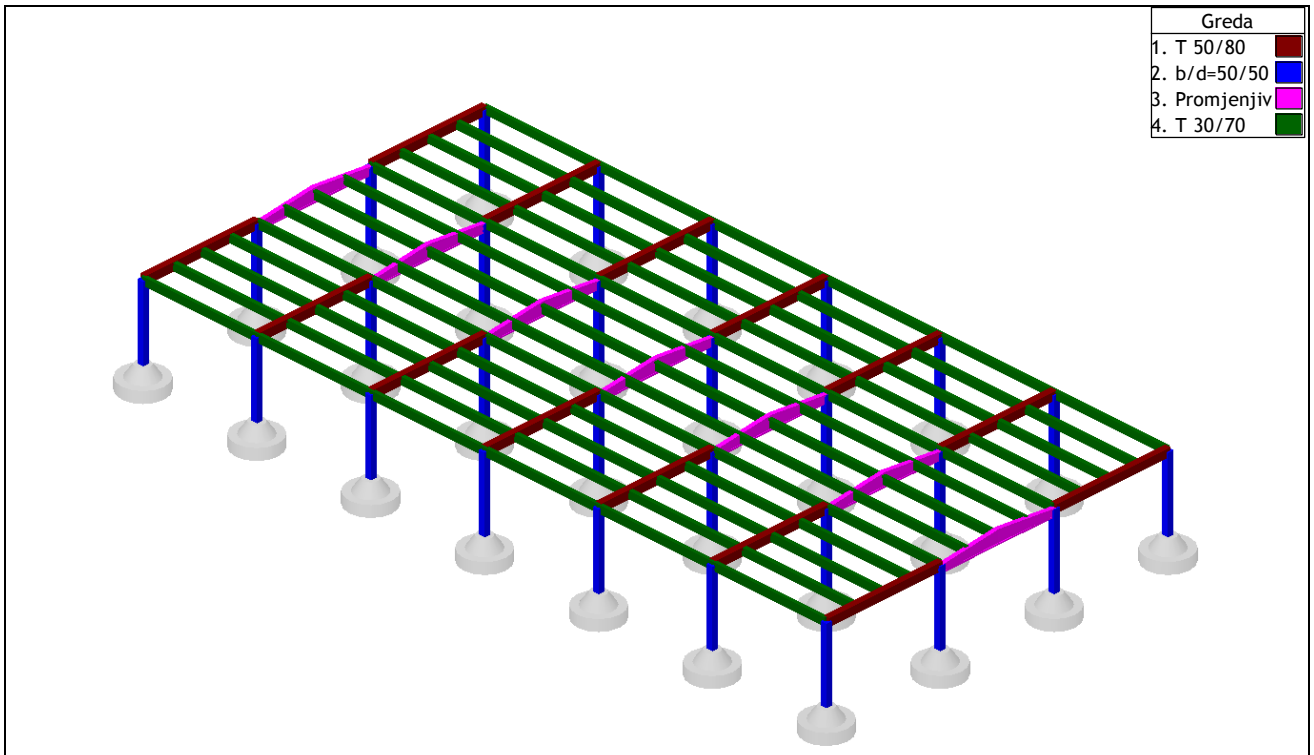
No	Čvor I	Čvor J	Oslobađanje utjecaja												M	Ozn. pozicije
			Čvor I						Čvor J							
			M1	M2	M3	N1	T2	T3	M1	M2	M3	N1	T2	T3		
1	2	8			O						O					
2	3	11			O						O					
3	6	16			O						O					
4	7	17			O						O					
5	8	19			O						O					
6	9	20			O						O					
7	10	22			O						O					
8	11	24			O						O					
9	15	30			O						O					
10	16	31			O						O					
11	17	33			O						O					
12	18	34			O						O					
13	19	35			O						O					
14	20	36			O						O					

15	21	37			O						O					
16	22	39			O						O					
17	23	40			O						O					
18	24	41			O						O					
19	29	46			O						O					
20	30	47			O						O					
21	31	48			O						O					
22	32	49			O						O					
23	33	50			O						O					
24	34	51			O						O					
25	35	52			O						O					
26	36	53			O						O					
27	37	54			O						O					
28	38	55			O						O					
29	39	56			O						O					
30	40	57			O						O					
31	41	58			O						O					
32	46	63			O						O					
33	47	64			O						O					
34	48	65			O						O					
35	49	66			O						O					
36	50	67			O						O					
37	51	68			O						O					
38	52	69			O						O					
39	53	70			O						O					
40	54	71			O						O					
41	55	72			O						O					
42	56	73			O						O					
43	57	74			O						O					
44	58	75			O						O					
45	63	80			O						O					
46	64	81			O						O					
47	65	82			O						O					
48	66	83			O						O					
49	67	84			O						O					
50	68	85			O						O					
51	69	86			O						O					
52	70	87			O						O					
53	71	88			O						O					
54	72	89			O						O					
55	73	90			O						O					
56	74	91			O						O					
57	75	92			O						O					
58	80	96			O						O					
59	81	97			O						O					
60	82	98			O						O					
61	83	99			O						O					
62	84	100			O						O					
63	85	101			O						O					
64	87	102			O						O					
65	88	103			O						O					
66	89	104			O						O					
67	90	105			O						O					
68	91	106			O						O					
69	96	109			O						O					
70	97	110			O						O					
71	99	111			O						O					
72	101	112			O						O					
73	103	113			O						O					
74	104	114			O						O					
75	106	115			O						O					
76	109	117			O						O					
77	111	118			O						O					
78	114	119			O						O					

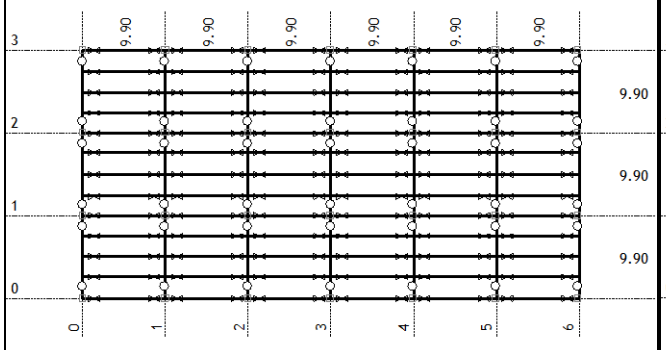
Konture točkastih ležajeva

Čvorovi	Set
1, 4, 5, 12, 13, 14, 25, 26, 27, 28, 42, 43, 44, 45, 59, 60, 61, 62, 76, 77, 78, 79, 93, 94, 95,	1

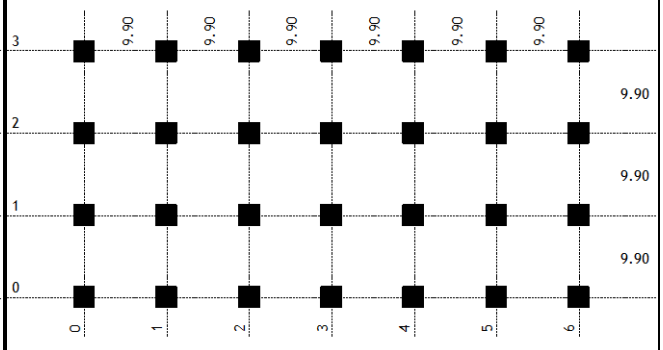
107, 108, 116	



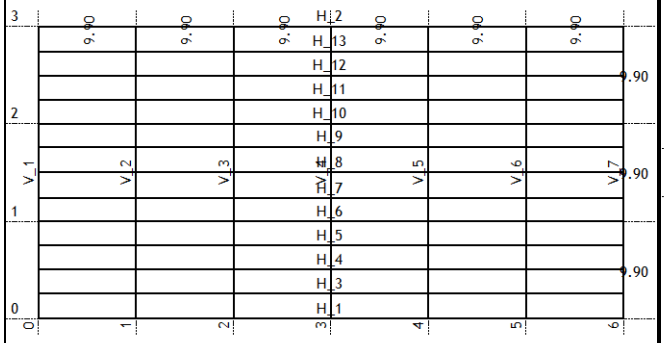
Setovi numeričkih podataka
Greda (1-4)



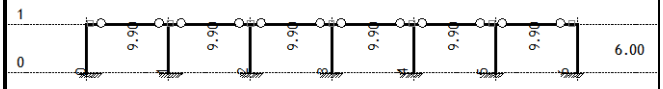
Nivo: [6.00 m]



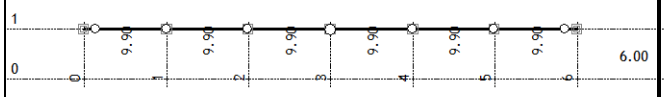
Nivo: [0.00 m]



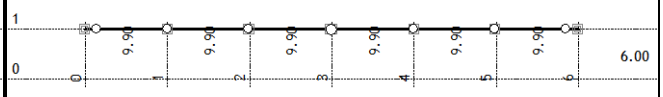
Dispozicija okvira



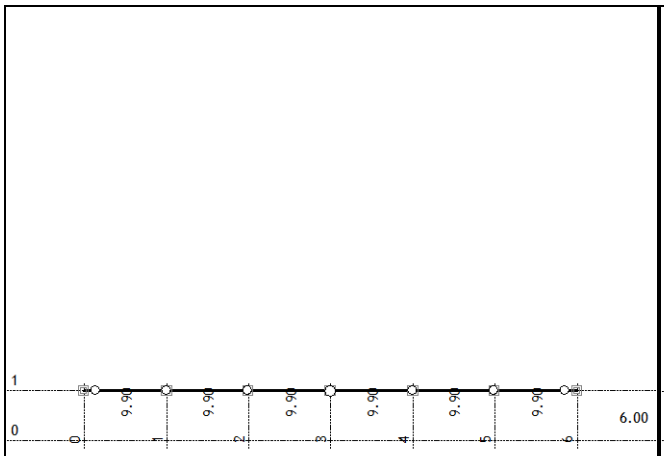
Okvir: H_1



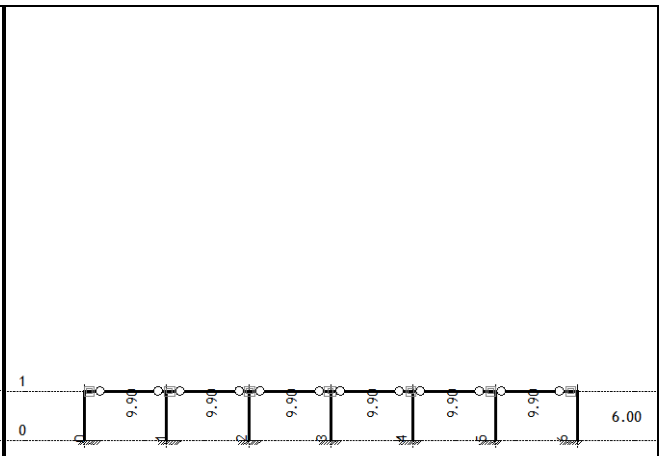
Okvir: H_3



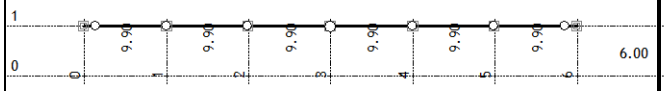
Okvir: H_5



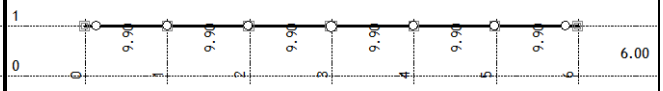
Okvir: H_4



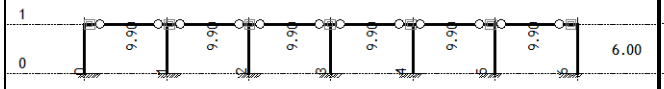
Okvir: H_6



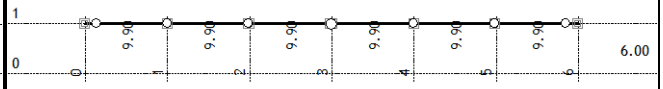
Okvir: H_8



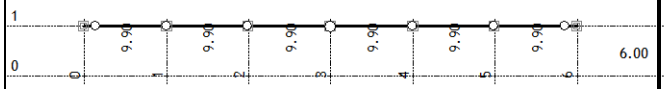
Okvir: H_7



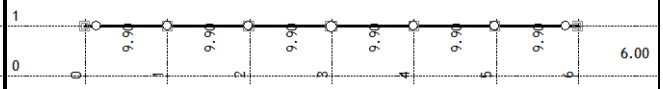
Okvir: H_10



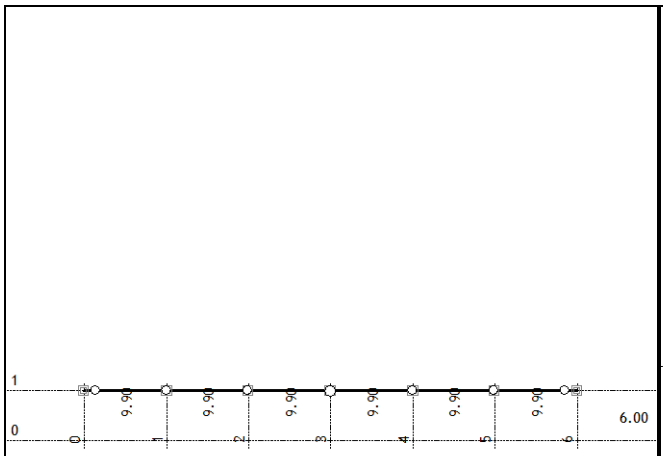
Okvir: H_12



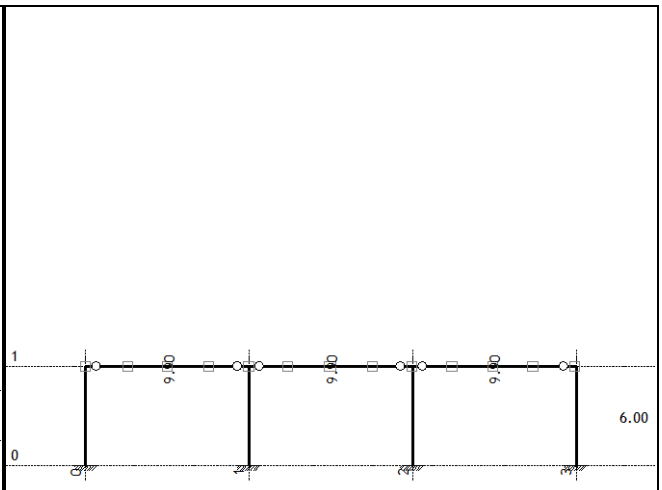
Okvir: H_9



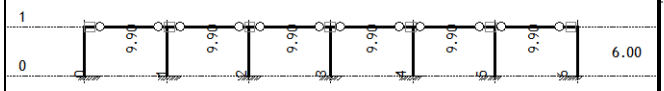
Okvir: H_11



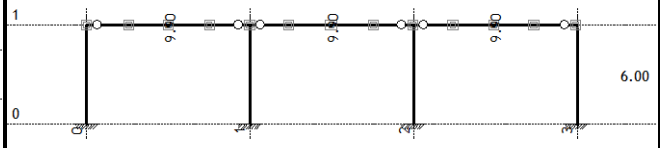
Okvir: H_13



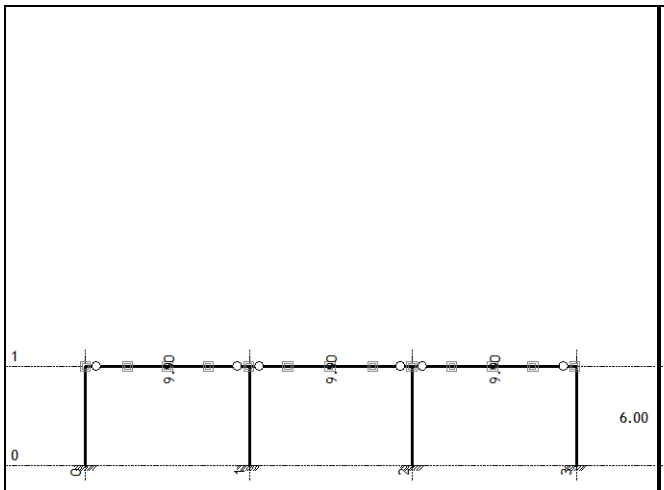
Okvir: V_1



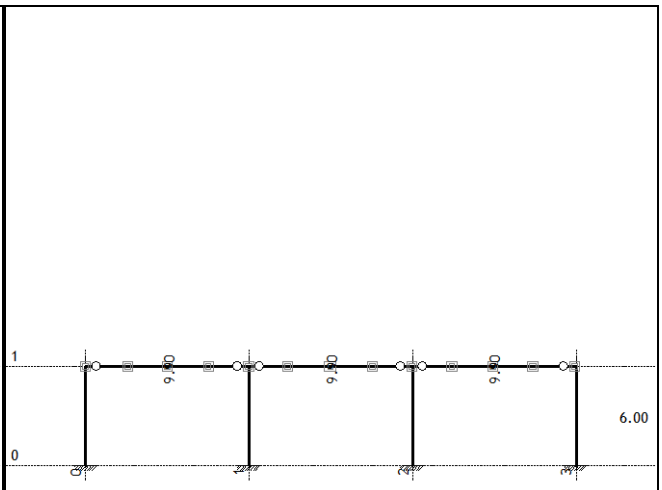
Okvir: H_2



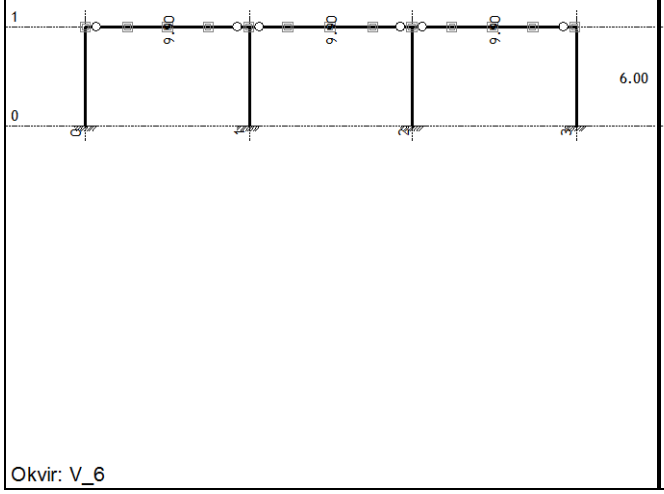
Okvir: V_3



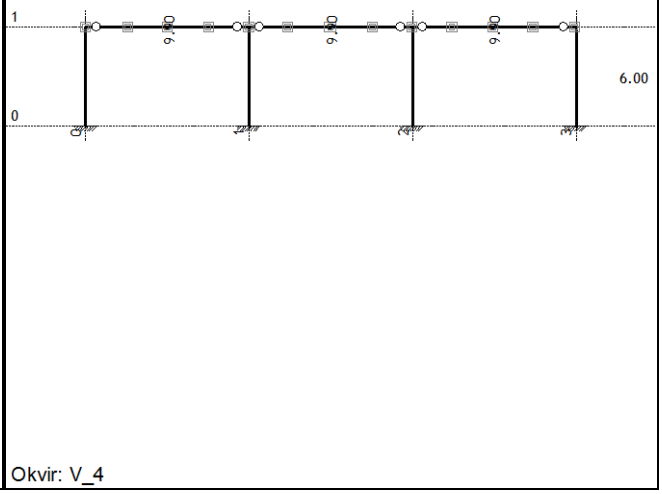
Okvir: V_2



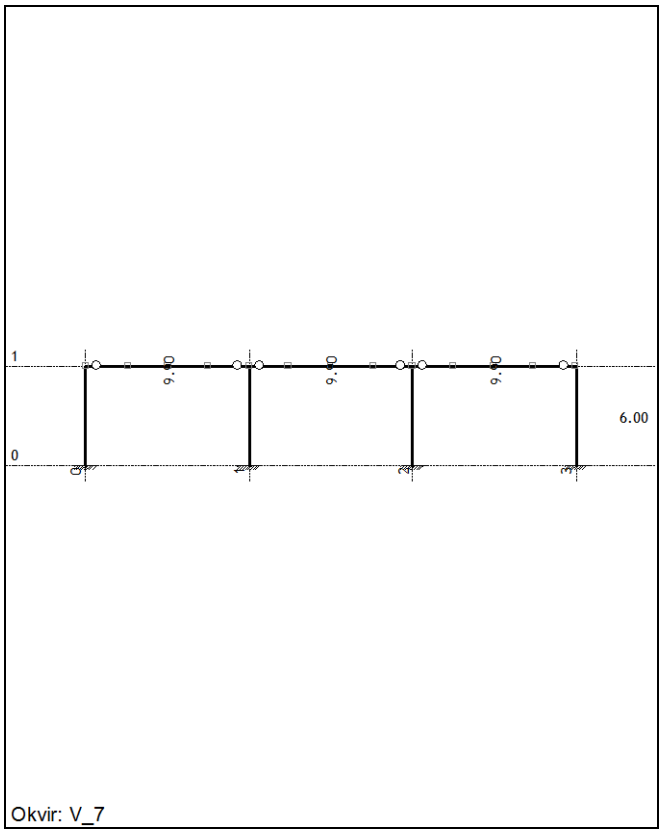
Okvir: V_5



Okvir: V_6



Okvir: V_4


1
0
6.00
Okvir: V_7

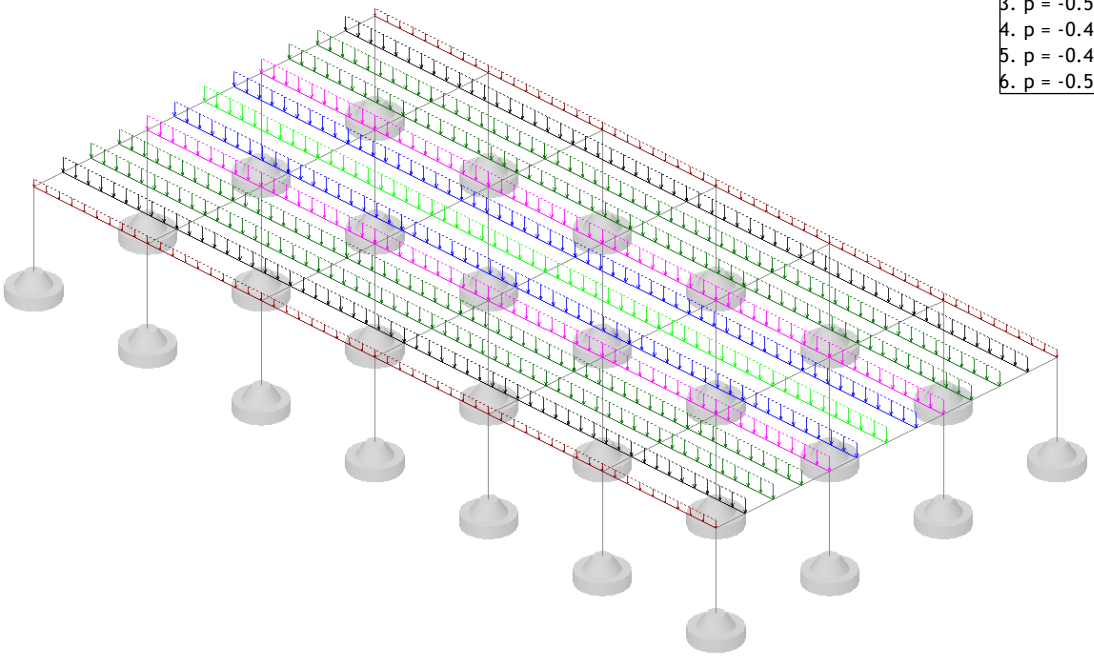
Ulazni podaci - Opterećenje

Lista slučajeva opterećenja

No	Naziv
1	vlastita težina (g)
2	dodatno stalno
3	korisno
4	snijeg
5	vjetar x sl.1
6	vjetar x sl. 2
7	vjetar y sl.3
8	vjetar y sl.4
9	Sx
10	Sy
11	Komb.: 1.35xI+1.35xII+1.5 xIV+0.9xV
12	Komb.: 1.35xI+1.35xII+ +1.5xIV+0.9xVI
13	Komb.: 1.35xI+1.35xII+ +1.5xIV+0.9xVII
14	Komb.: 1.35xI+1.35xII+1.5xIV+ +0.9xVIII
15	Komb.: 1.35xI+1.35xII+0.9 xIV+1.5xV
16	Komb.: 1.35xI+1.35xII+ +0.9xIV+1.5xVI
17	Komb.: 1.35xI+1.35xII+ +0.9xIV+1.5xVII
18	Komb.: 1.35xI+1.35xII+0.9xIV+ +1.5xVIII
19	Komb.: I+II+0.5xIII+IX
20	Komb.: I+II+0.5xIII+X
21	Komb.: I+II+0.5xIII-1xIX
22	Komb.: I+II+0.5xIII-1xX
23	Komb.: I+II+IV+0.6xV
24	Komb.: I+II+IV+0.6xVI
25	Komb.: I+II+IV+0.6xVII
26	Komb.: I+II+IV+0.6xVIII
27	Komb.: I+II+0.3xIV

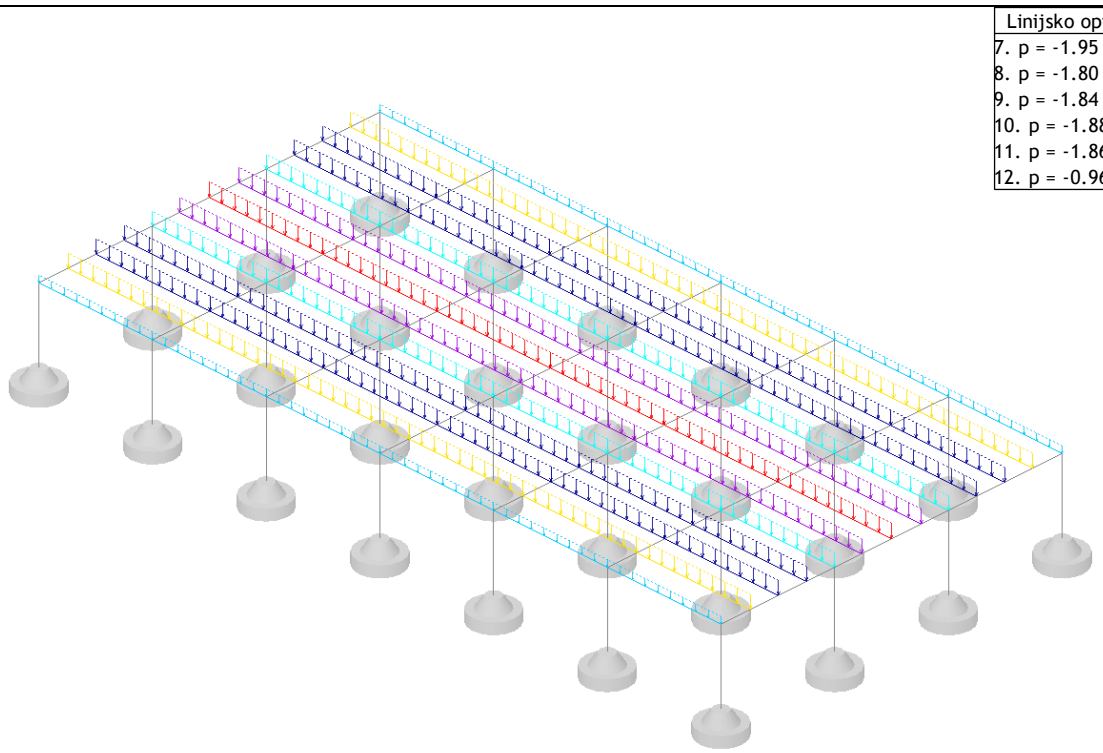
Opt. 2

Linijsko opterećenje
1. p = -0.26 kN/m
2. p = -0.50 kN/m
3. p = -0.50 kN/m
4. p = -0.49 kN/m
5. p = -0.48 kN/m
6. p = -0.52 kN/m



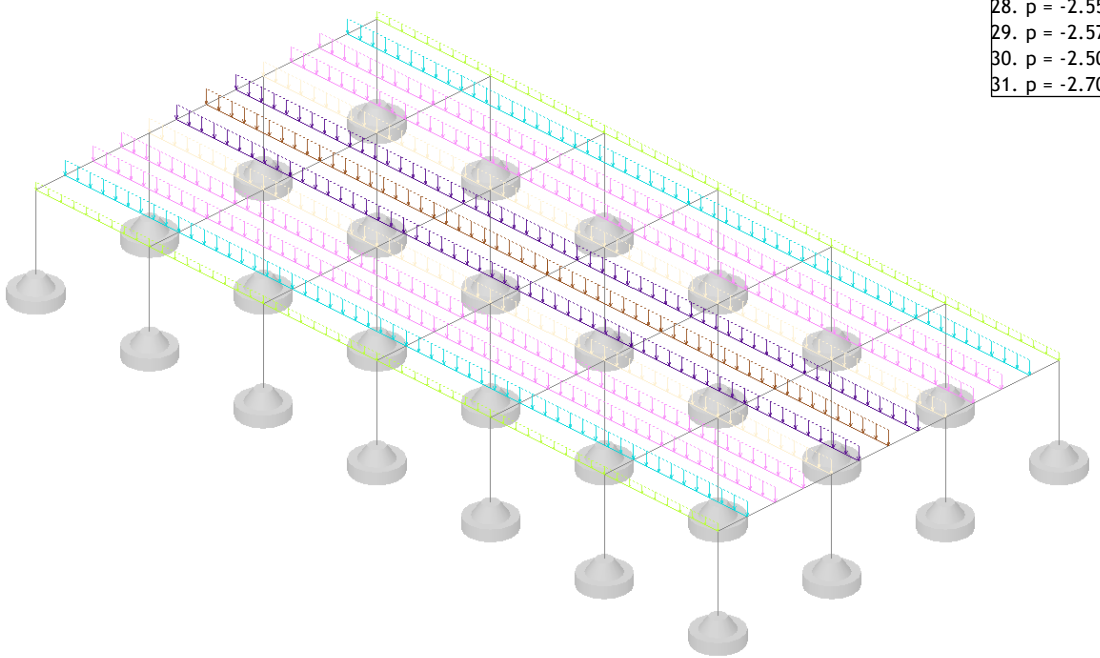
Setovi numeričkih podataka
Linijsko opterećenje (1-6)

Opt. 3



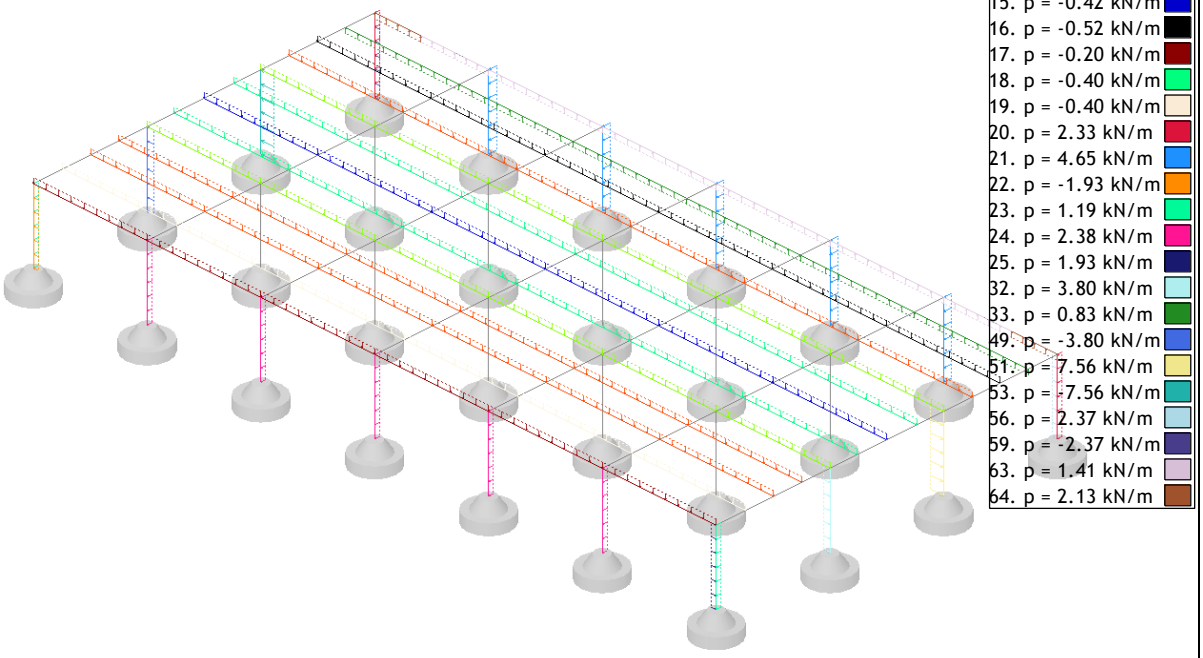
Setovi numeričkih podataka
Linijsko opterećenje (7-12)

Opt. 4



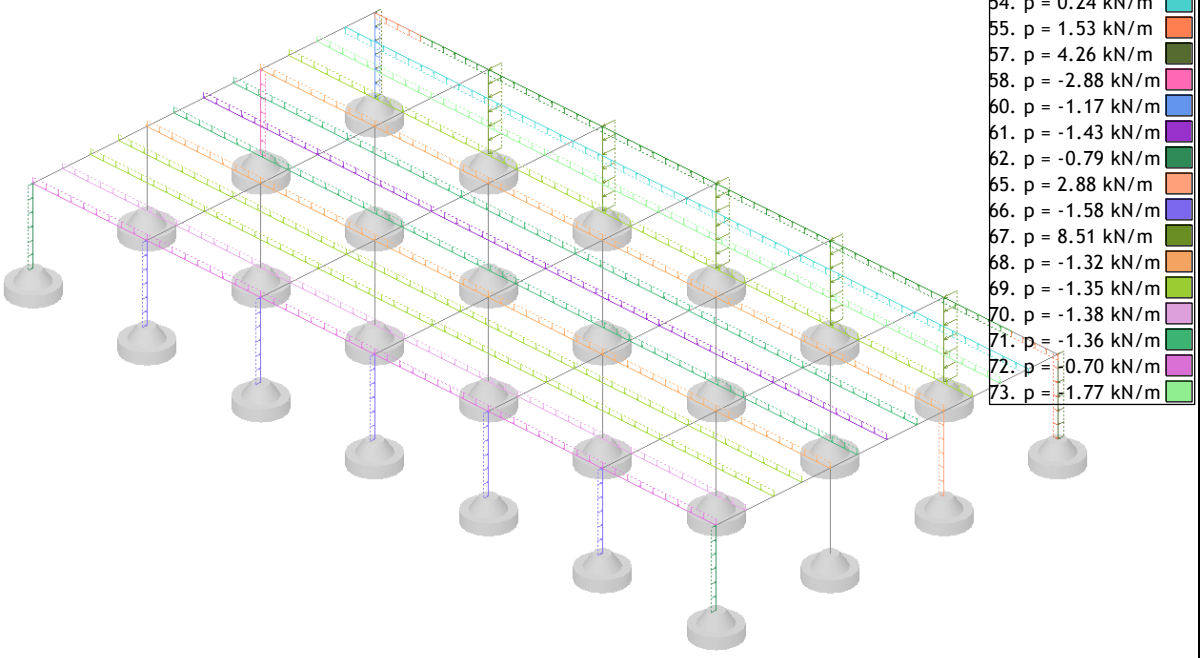
Setovi numeričkih podataka
Linijsko opterećenje (26-31)

Opt. 5



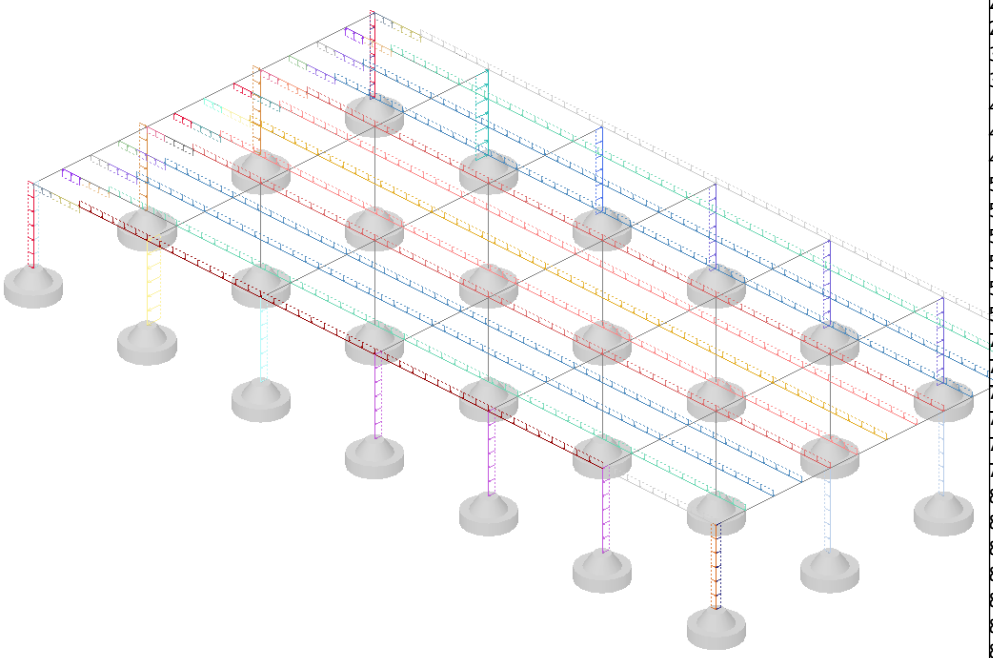
Setovi numeričkih podataka
Linijsko opterećenje (13-25,32,33,49,51,53,56,59,63,64)

Opt. 6



Setovi numeričkih podataka
Linijsko opterećenje (33,34,54,55,57,58,60-62,65-73)

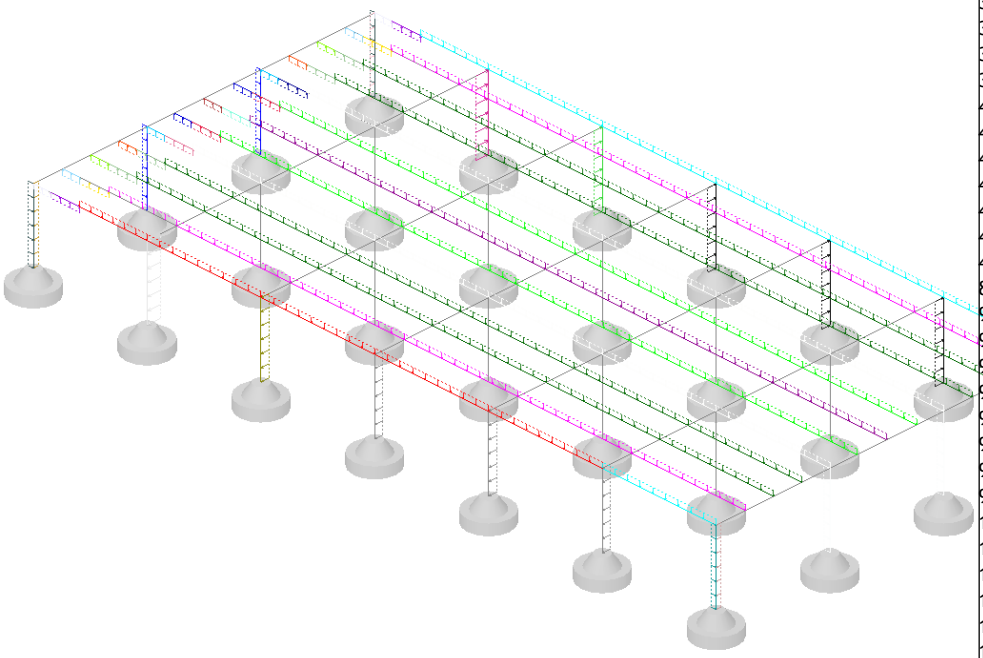
Opt. 7



Linijsko opterećenje
17. p = -0.20 kN/m
20. p = 2.33 kN/m
22. p = -1.93 kN/m
25. p = 1.93 kN/m
32. p = 3.80 kN/m
35. p = 2.44 kN/m
46. p = 1.43 kN/m
47. p = 3.87 kN/m
49. p = -3.80 kN/m
50. p = -0.42 kN/m
51. p = 7.56 kN/m
52. p = 1.19 kN/m
53. p = -7.56 kN/m
56. p = 2.37 kN/m
59. p = -2.37 kN/m
74. p = 3.86 kN/m
75. p = 2.38 kN/m
76. p = -3.86 kN/m
77. p = 4.65 kN/m
78. p = -0.38 kN/m
79. p = -0.39 kN/m
80. p = -0.40 kN/m
81. p = -0.40 kN/m
82. p = -0.20 kN/m
83. p = 1.32 kN/m
84. p = 1.32 kN/m
85. p = 1.35 kN/m
86. p = 1.37 kN/m
87. p = 1.36 kN/m
88. p = 0.70 kN/m
89. p = 2.26 kN/m

Setovi numeričkih podataka
Linijsko opterećenje (17,20,22,25,32,35,46,47,49-53,56,59,74-92)

Opt. 8



Linijsko opterećenje

20. p = 2.33 kN/m
35. p = 2.44 kN/m
36. p = 3.48 kN/m
37. p = 4.93 kN/m
38. p = -7.70 kN/m
39. p = -0.62 kN/m
40. p = 12.24 kN/m
41. p = 7.70 kN/m
42. p = 3.12 kN/m
43. p = -3.54 kN/m
44. p = -12.24 kN/m
45. p = 0.40 kN/m
48. p = 3.54 kN/m
89. p = 2.26 kN/m
90. p = 2.30 kN/m
93. p = 7.82 kN/m
94. p = 3.91 kN/m
95. p = 6.24 kN/m
96. p = -7.82 kN/m
97. p = -3.91 kN/m
98. p = 0.79 kN/m
99. p = -0.58 kN/m
100. p = -0.59 kN/m
101. p = -0.60 kN/m
102. p = -0.59 kN/m
103. p = -0.31 kN/m
104. p = -0.31 kN/m
105. p = 2.26 kN/m
106. p = 2.35 kN/m
107. p = 1.20 kN/m
108. p = 3.22 kN/m

Setovi numeričkih podataka
Linijsko opterećenje (20,35-45,48,89,90,93-112)

Modalna analiza

Napredne opcije seizmičkog proračuna:

Spriječeno osciliranje u Z pravcu

Faktori opterećenja za proračun masa

No	Naziv	Koeficijent			
1	vlastita težina (g)	1.00	5	vjetar x sl.1	0.00
2	dodatno stalno	1.00	6	vjetar x sl. 2	0.00
3	korisno	0.50	7	vjetar y sl.3	0.00
4	snijeg	0.00	8	vjetar y sl.4	0.00

Raspored masa po visini objekta

Nivo	Z [m]	X [m]	Y [m]	Masa [T]	T/m2
	6.00	2431.45	1345.88	482.85	
	0.00	2431.45	1345.88	53.54	
Ukupno:	5.40	2431.45	1345.88	536.39	

Položaj centara krutosti po visini objekta

Nivo	Z [m]	X [m]	Y [m]
	6.00	2431.45	1345.88
	0.00	2431.45	1345.88

Ekscentricitet po visini objekta

Nivo	Z [m]	eox [m]	eoy [m]
	6.00	0.00	0.00
	0.00	0.00	0.00

Periodi osciliranja konstrukcije

No	T [s]	f [Hz]
1	0.6340	1.5773
2	0.5663	1.7658
3	0.5365	1.8640
4	0.5055	1.9782
5	0.4958	2.0170
6	0.4561	2.1927
7	0.4245	2.3555
8	0.4082	2.4496
9	0.4008	2.4950
10	0.3982	2.5115
11	0.2808	3.5613
12	0.2444	4.0918
13	0.1726	5.7931
14	0.1621	6.1707
15	0.1163	8.6020

Seizmički proračun

Seizmički proračun: EUROCODE

Razred tla:	B
Razred važnosti:	III (γ=1.0)
Odnos ag/g:	0.16
Faktor ponašanja:	1.5
Koeficijent prigušenja	0.05
S:	1.2
Tb:	0.15
Tc:	0.5
Td:	2

Faktori pravca potresa:

Naziv	Kx	Ky	Kz
Sx	1.000	0.300	0.000
Sy	0.300	1.000	0.000

Sx

Nivo	Z [m]	Ton 1			Ton 2			Ton 3		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	1075.5	-0.00	0.00	0.00	351.37	-0.00	0.00	0.00	0.00
	0.00	0.00	-0.00	0.00	0.00	0.00	-0.00	0.00	0.00	-0.00
	Σ=	1075.5	-0.00	0.00	0.00	351.37	-0.00	0.00	0.00	0.00

Nivo	Z [m]	Ton 4			Ton 5			Ton 6		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	0.00	-0.00	-0.00	-0.00	34.41	-0.00	0.00	-0.00	-0.00
	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.00
	Σ=	0.00	-0.00	-0.00	-0.00	34.41	-0.00	0.00	-0.00	-0.00

Nivo	Z [m]	Ton 7			Ton 8			Ton 9		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	0.00	10.04	-0.00	128.31	-0.00	0.00	0.01	-0.00	-0.00
	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	-0.00
	Σ=	0.00	10.04	-0.00	128.31	-0.00	0.00	0.01	-0.00	-0.00

Nivo	Z [m]	Ton 10			Ton 11			Ton 12		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	-0.00	12.16	-0.00	0.00	-0.00	0.00	0.40	-0.00	-0.00
	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00
	Σ=	-0.00	12.16	-0.00	0.00	-0.00	0.00	0.40	-0.00	-0.00

Nivo	Z [m]	Ton 13			Ton 14			Ton 15		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	0.00	0.00	0.00	22.83	-0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Σ=	0.00	0.00	0.00	22.83	-0.00	0.00	0.00	0.00	0.00

Nivo	Z [m]	Svi tonovi		
		Px [kN]	Py [kN]	Pz [kN]
	6.00	1227.0	407.98	0.00
	0.00	0.00	0.00	0.00
	Σ=	1227.0	407.98	0.00

Sy

Nivo	Z [m]	Ton 1			Ton 2			Ton 3		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	322.64	-0.00	0.00	0.00	1171.2	-0.00	0.00	0.00	0.00
	0.00	0.00	-0.00	0.00	0.00	0.00	-0.00	0.00	0.00	-0.00
	Σ=	322.64	-0.00	0.00	0.00	1171.2	-0.00	0.00	0.00	0.00

Nivo	Z [m]	Ton 4			Ton 5			Ton 6		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	0.00	-0.00	-0.00	-0.00	114.70	-0.00	0.00	-0.00	-0.00
	0.00	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.00
	Σ=	0.00	-0.00	-0.00	-0.00	114.70	-0.00	0.00	-0.00	-0.00

Nivo	Z [m]	Ton 7			Ton 8			Ton 9		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	0.00	33.48	-0.00	38.49	-0.00	0.00	0.00	-0.00	-0.00
	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	-0.00
	Σ=	0.00	33.48	-0.00	38.49	-0.00	0.00	0.00	-0.00	-0.00

Nivo	Z [m]	Ton 10			Ton 11			Ton 12		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]
	6.00	-0.00	40.54	-0.00	0.00	-0.00	0.00	0.12	-0.00	-0.00
	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.00	0.00	-0.00	-0.00
	Σ=	-0.00	40.54	-0.00	0.00	-0.00	0.00	0.12	-0.00	-0.00

Nivo	Z [m]	Ton 13			Ton 14			Ton 15		
		Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]	Px [kN]	Py [kN]	Pz [kN]

	6.00	0.00	0.00	0.00	6.85	-0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Σ=	0.00	0.00	0.00	6.85	-0.00	0.00	0.00	0.00	0.00

Nivo	Z [m]	Svi tonovi		
		Px [kN]	Py [kN]	Pz [kN]
	6.00	368.11	1359.9	0.00
	0.00	0.00	0.00	0.00
	Σ=	368.11	1359.9	0.00

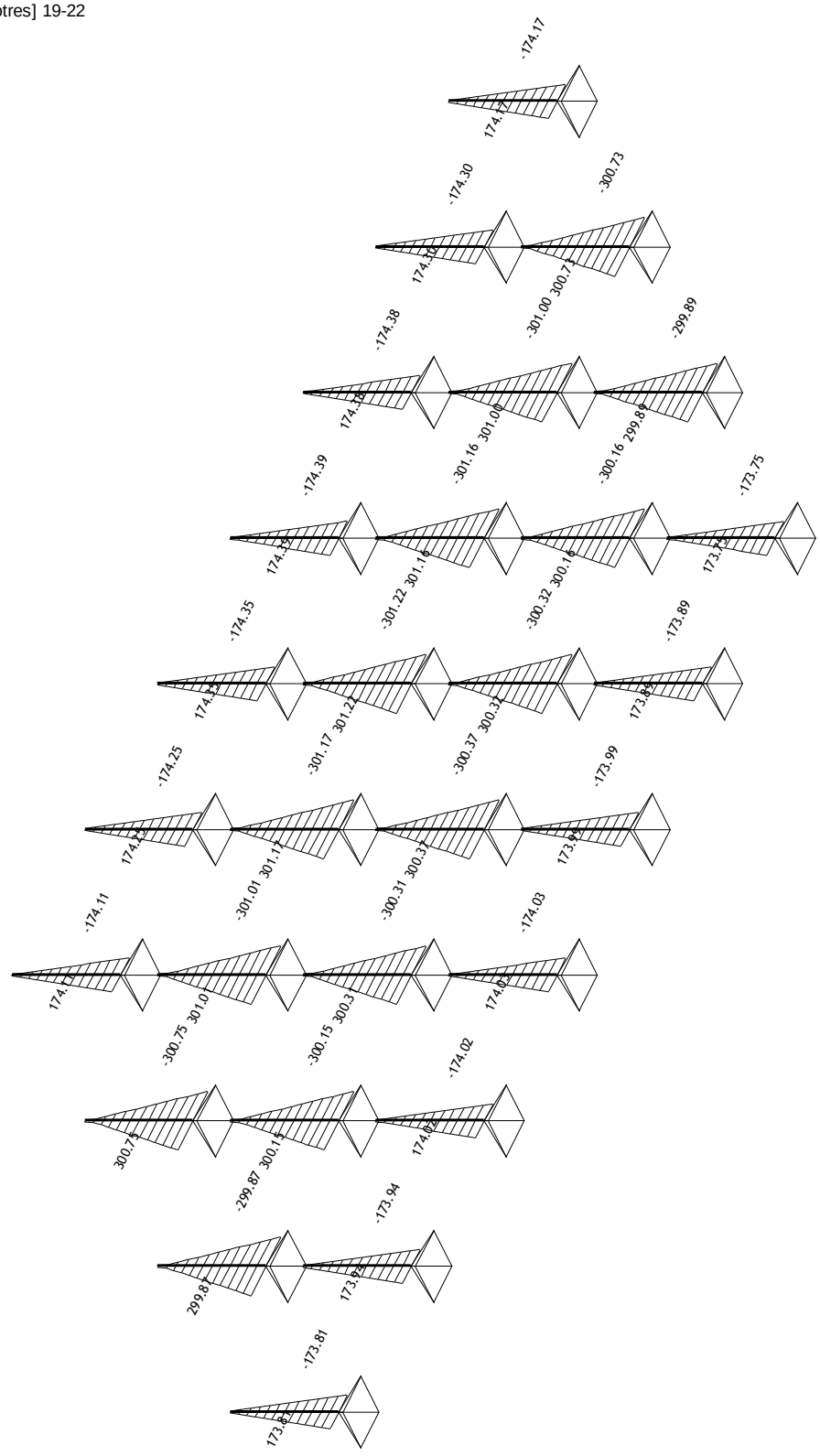
Faktori participacije - Relativno učešće

Ton \ Naziv	1. Sx	2. Sy
1	0.797	0.066
2	0.078	0.797
3	0.000	0.000
4	0.000	0.000
5	0.008	0.078
6	0.000	0.000
7	0.002	0.023
8	0.095	0.008
9	0.000	0.000
10	0.003	0.028
11	0.000	0.000
12	0.000	0.000
13	0.000	0.000
14	0.017	0.001
15	0.000	0.000

Faktori participacije - Sudjelujuće mase

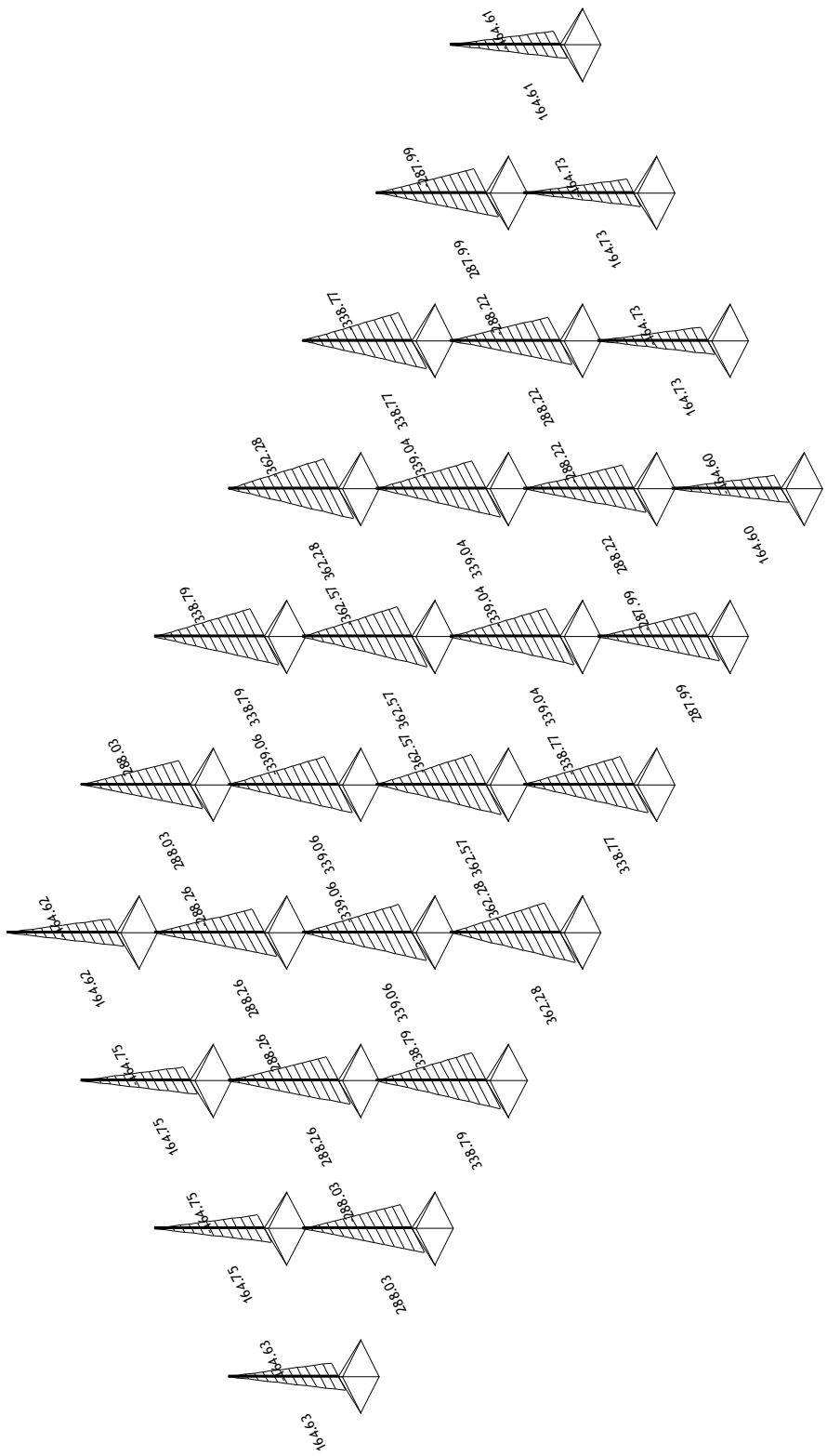
Ton	UX (%)	UY (%)	UZ (%)	ΣUX (%)	ΣUY (%)	ΣUZ (%)
1	81.01	0.00	0.00	81.01	0.00	0.00
2	0.00	78.81	0.00	81.01	78.81	0.00
3	0.00	0.00	0.00	81.01	78.81	0.00
4	0.00	0.00	0.00	81.01	78.81	0.00
5	0.00	6.81	0.00	81.01	85.62	0.00
6	0.00	0.00	0.00	81.01	85.62	0.00
7	0.00	1.99	0.00	81.01	87.61	0.00
8	7.62	0.00	0.00	88.64	87.61	0.00
9	0.00	0.00	0.00	88.64	87.61	0.00
10	0.00	2.41	0.00	88.64	90.02	0.00
11	0.00	0.00	0.00	88.64	90.02	0.00
12	0.02	0.00	0.00	88.66	90.02	0.00
13	0.00	0.00	0.00	88.66	90.02	0.00
14	1.36	0.00	0.00	90.02	90.02	0.00
15	0.00	0.00	0.00	90.02	90.02	0.00

Opt. 28: [dominantan potres] 19-22



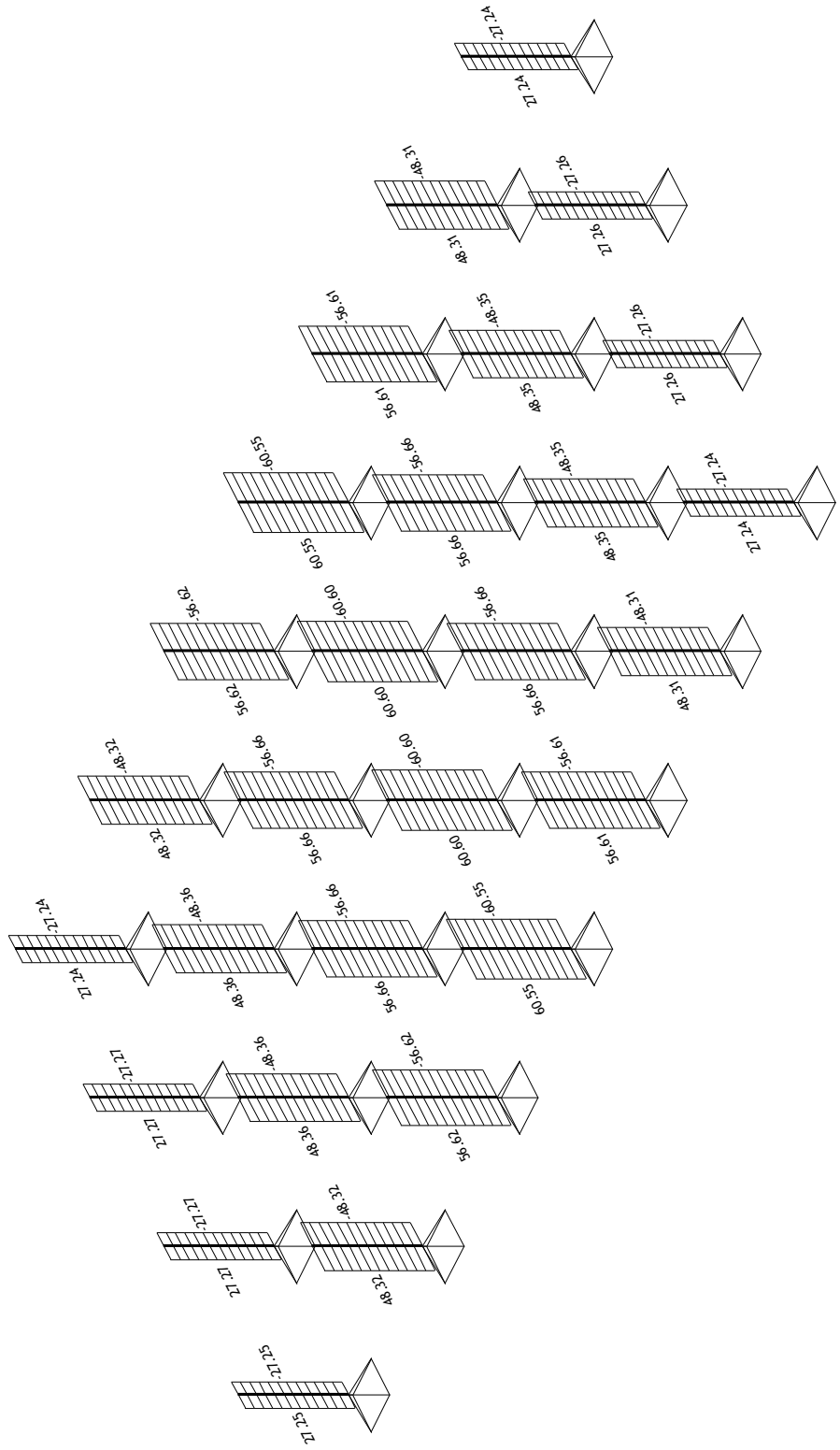
Grupa: stupovi
Utjecaji u gredi: max M3= 301.22 / min M3= -301.22 kNm

Opt. 28: [dominantan potres] 19-22



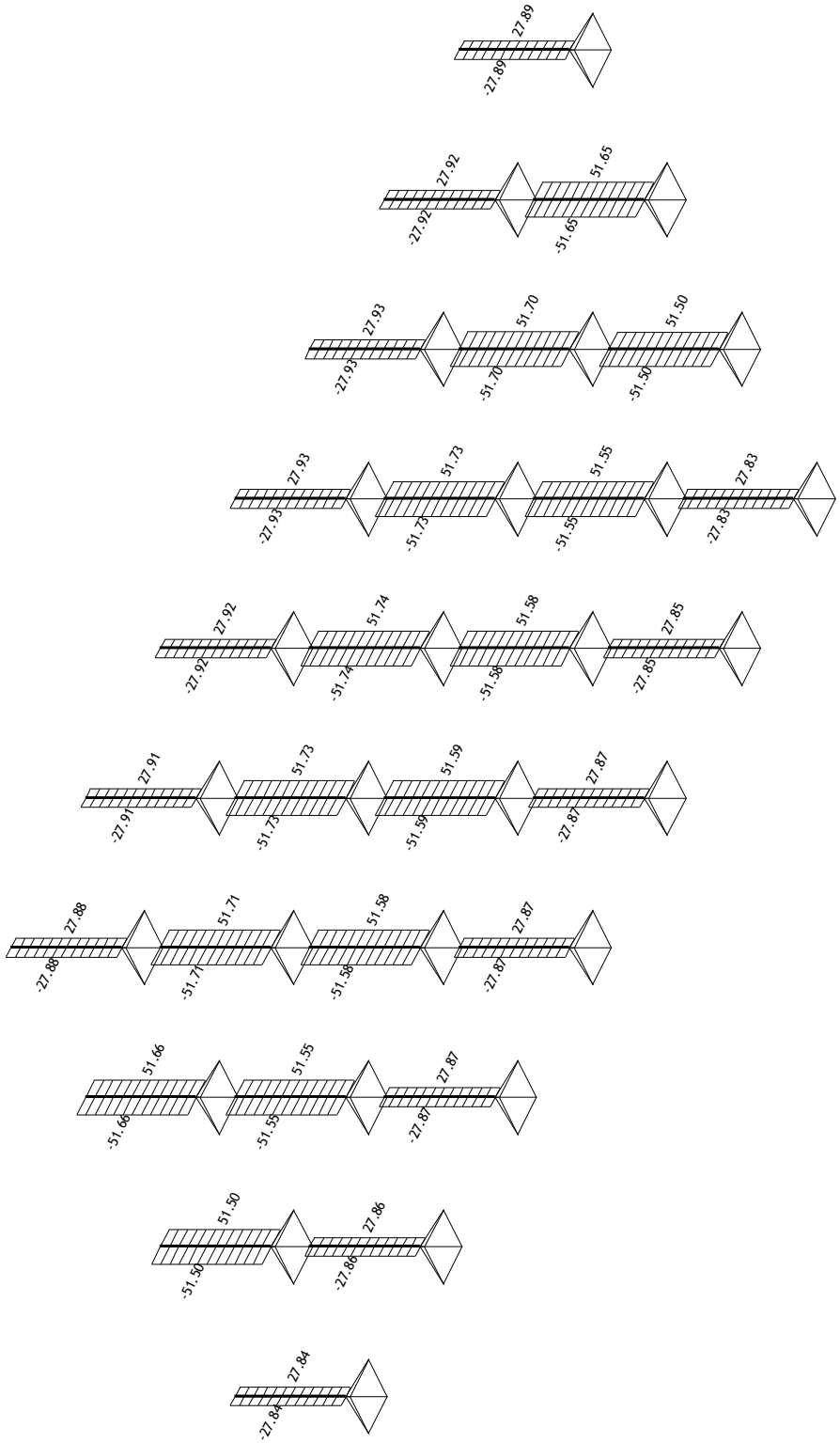
Grupa: stupovi
Utjecaji u gredi: max M2= 362.57 / min M2= -362.57 kNm

Opt. 28: [dominantan potres] 19-22



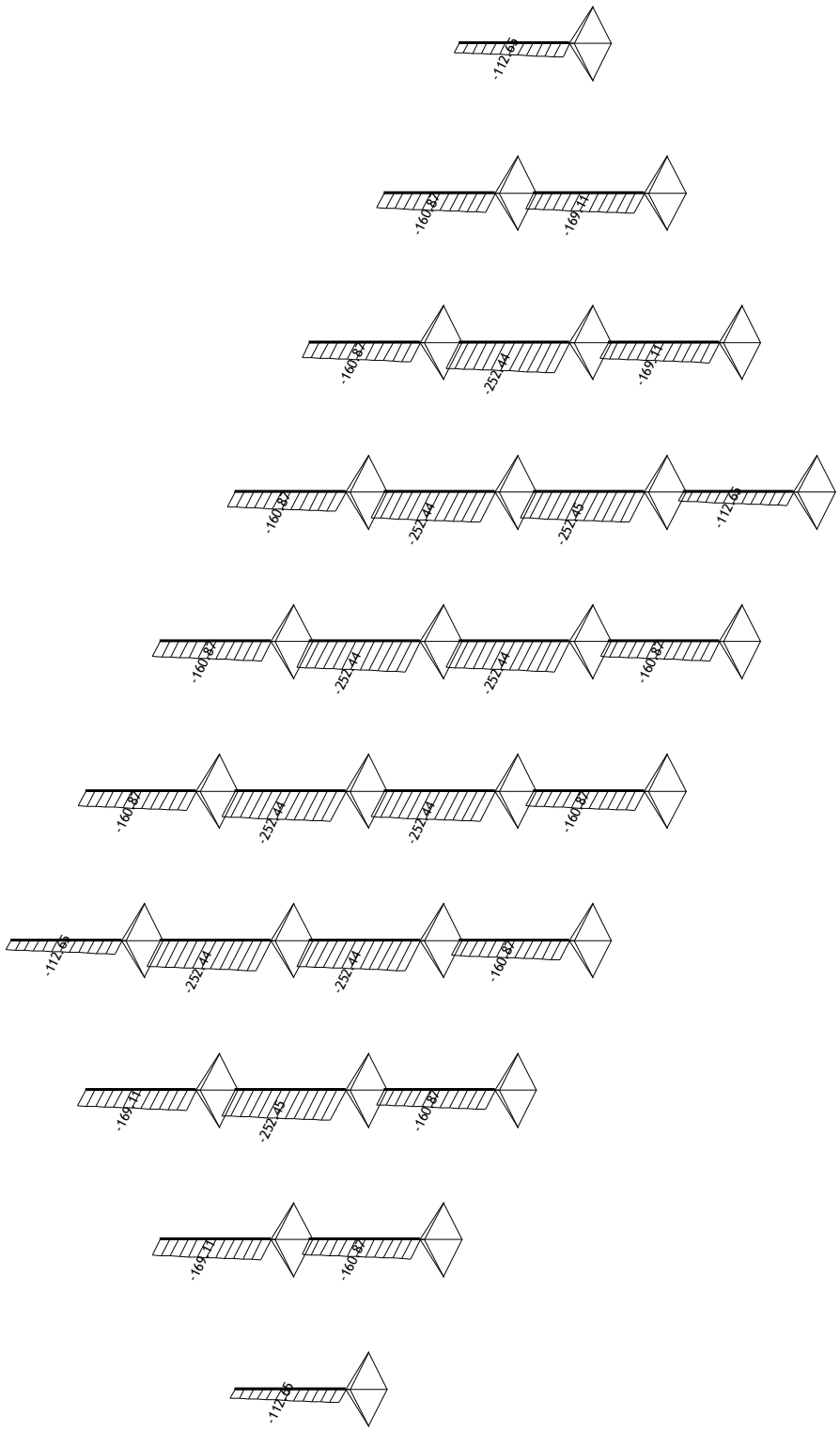
Grupa: stupovi
Utjecaji u gredi: max T3= 60.60 / min T3= -60.60 kN

Opt. 28: [dominantan potres] 19-22



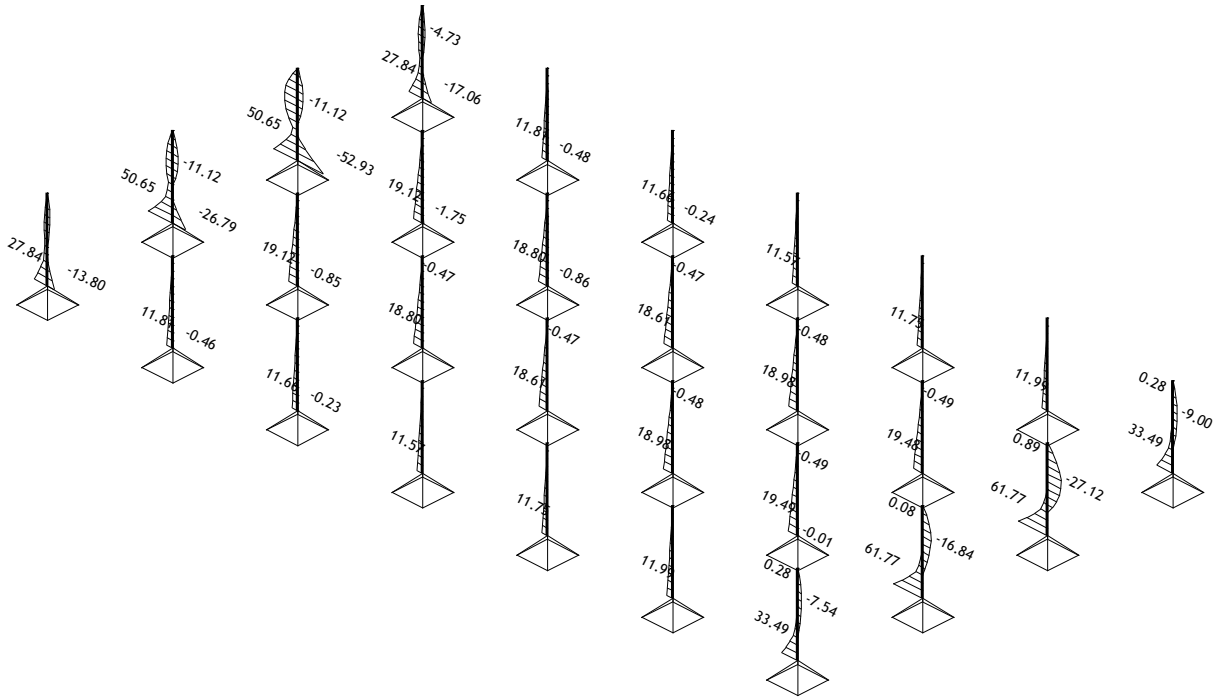
Grupa: stupovi
Utjecaji u gredi: max T2= 89.76 / min T2= -89.76 kN

Opt. 28: [dominantan potres] 19-22



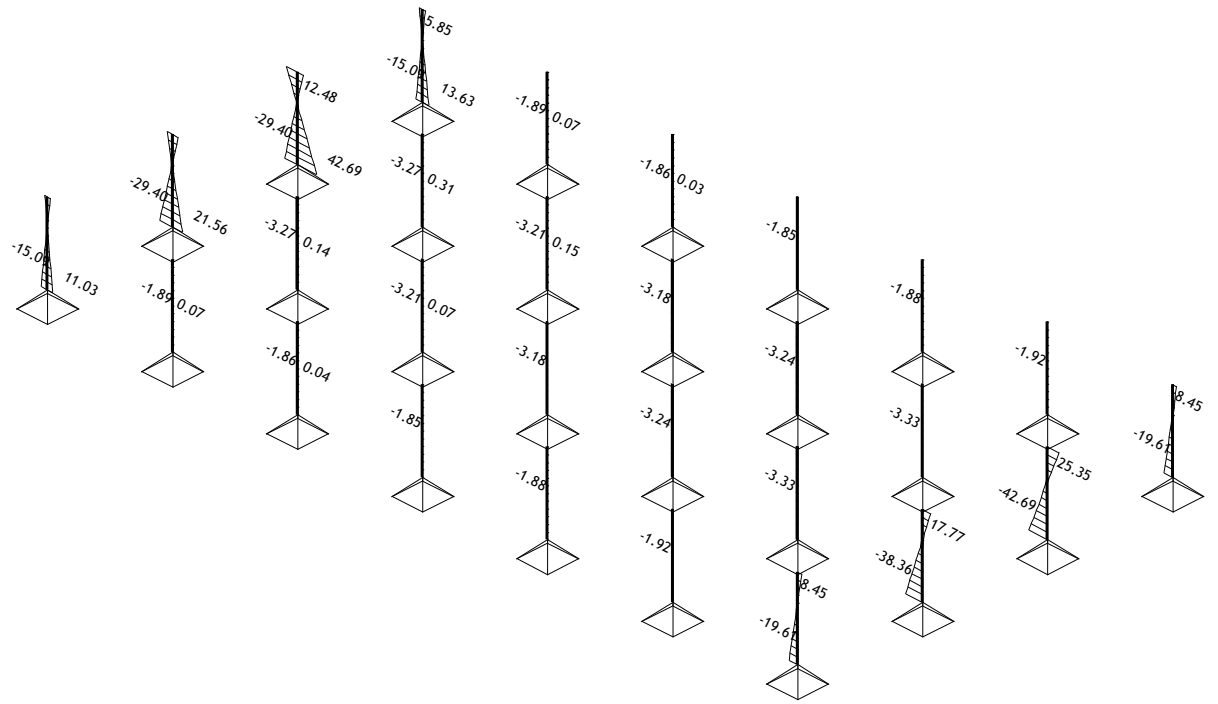
Grupa: stupovi
Utjecaji u gredi: max N1= 41.41 / min N1= -252.45 kN

Opt. 30: [dominantan vjetar] 15-18



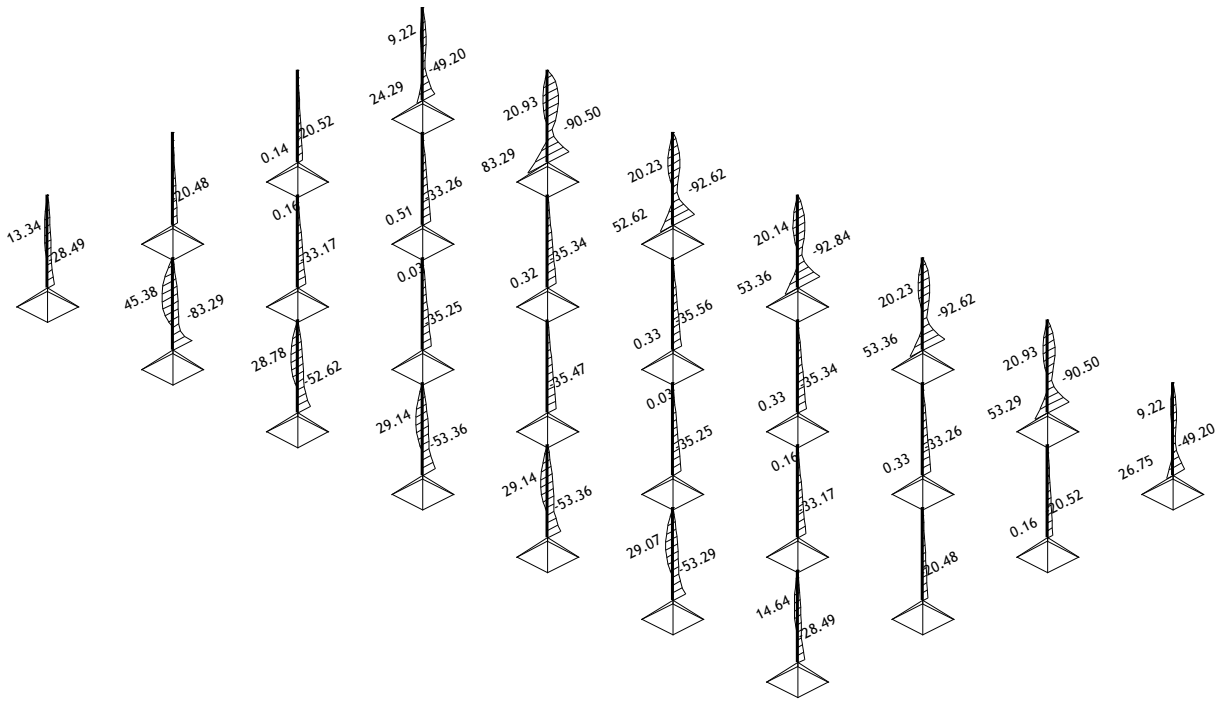
Grupa: stupovi
Utjecaji u gredi: max M3= 520.76 / min M3= -52.93 kNm

Opt. 30: [dominantan vjetar] 15-18



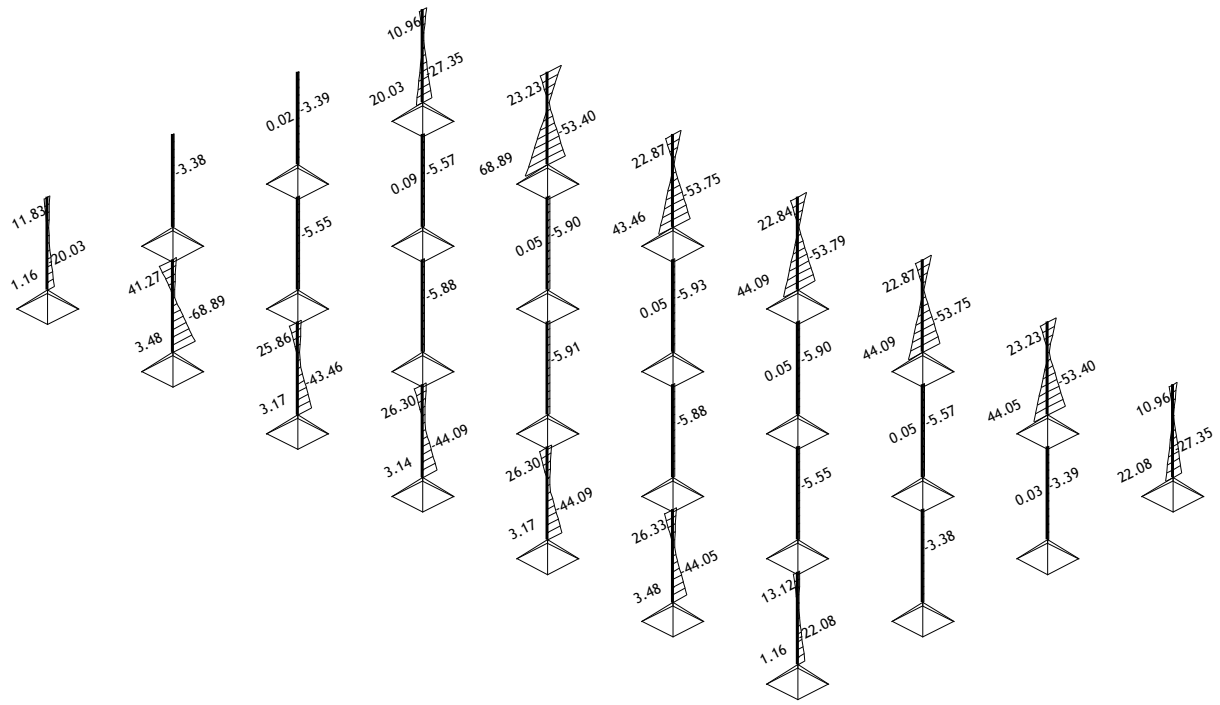
Grupa: stupovi
Utjecaji u gredi: max T2= 167.45 / min T2= -165.32 kN

Opt. 30: [dominantan vjetar] 15-18



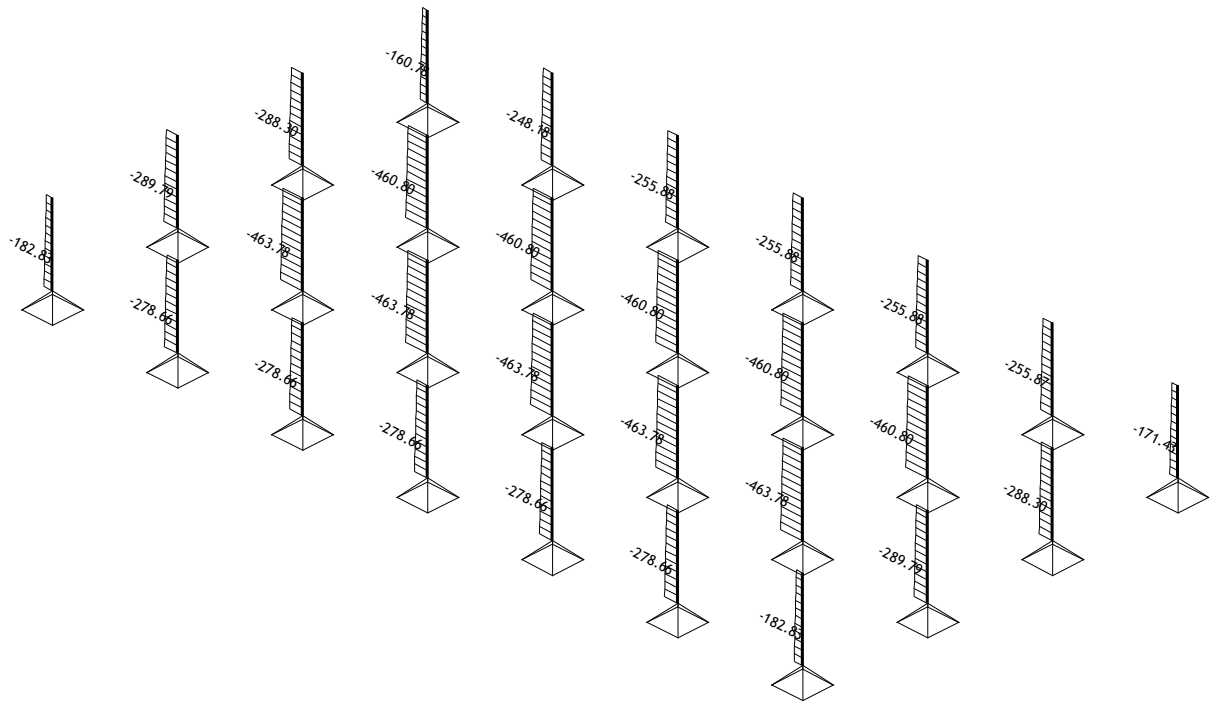
Grupa: stupovi
Utjecaji u gredi: max M2= 83.29 / min M2= -92.84 kNm

Opt. 30: [dominantan vjetar] 15-18



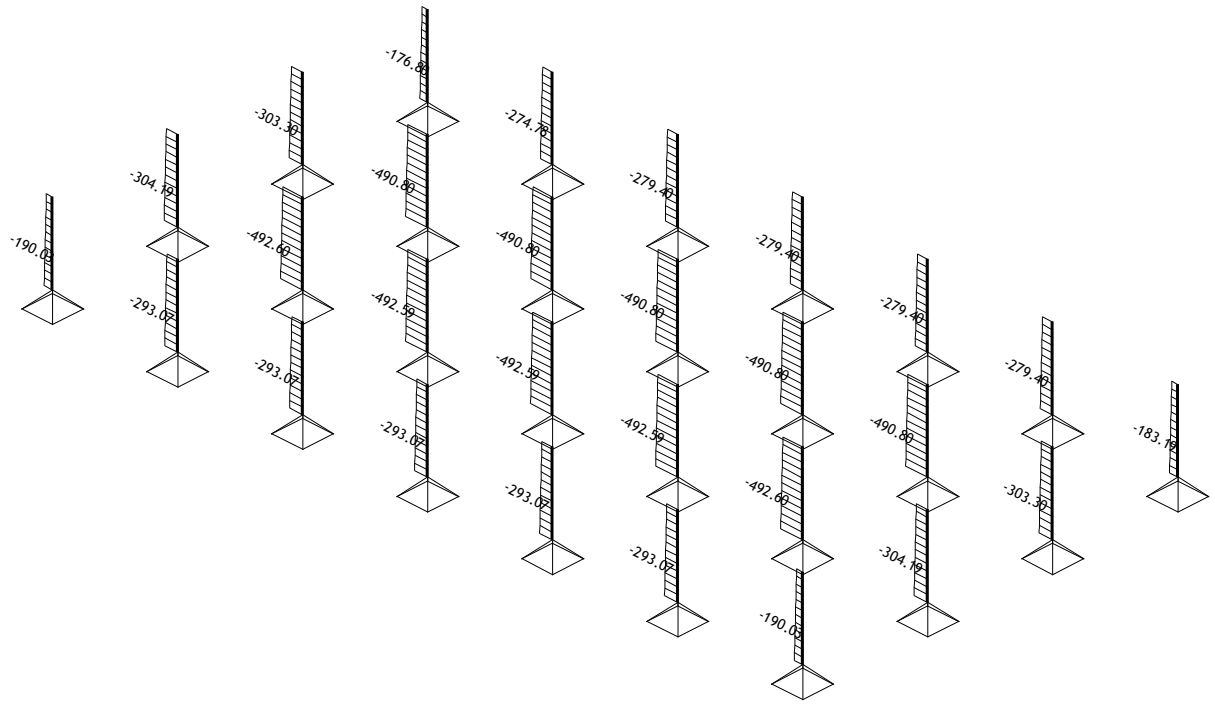
Grupa: stupovi
Utjecaji u gredi: max T3= 68.89 / min T3= -68.89 kN

Opt. 30: [dominantan vjetar] 15-18



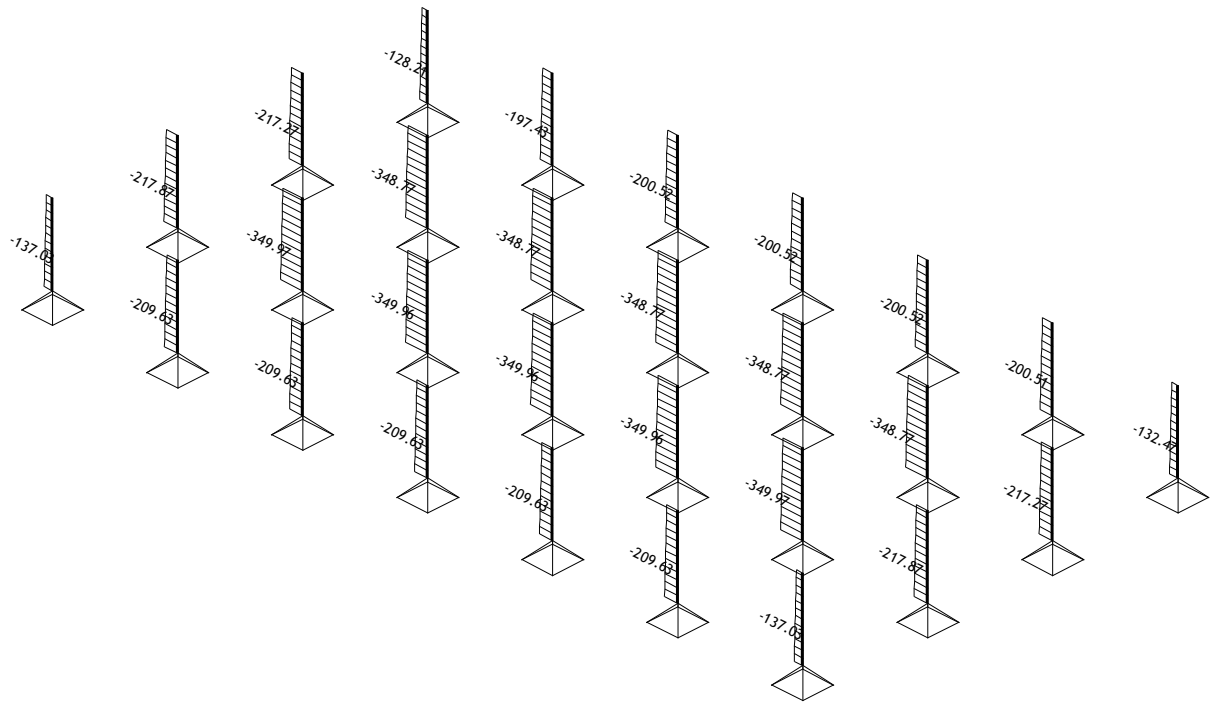
Grupa: stupovi
Utjecaji u gredi: max N1= 41.26 / min N1= -463.78 kN

Opt. 29: [dominantan snijeg] 11-14



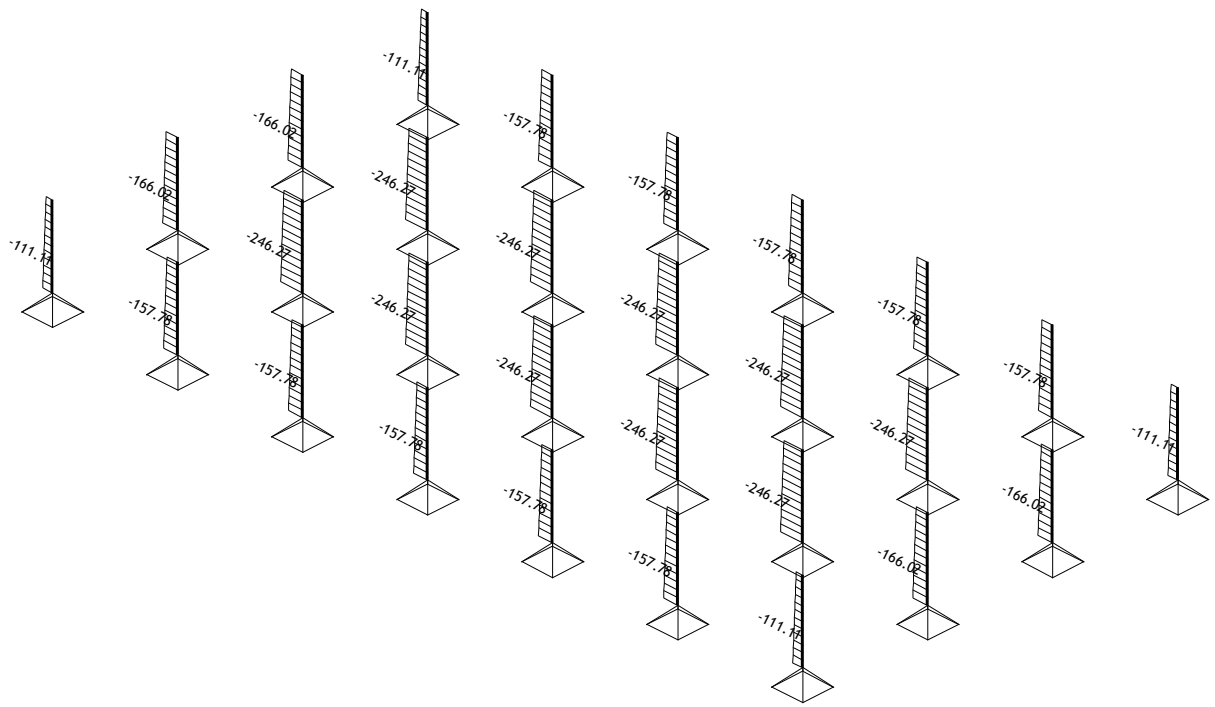
Grupa: stupovi
Utjecaji u gredi: max N1= 24.76 / min N1= -492.60 kN

Opt. 31: [rijetka komb] 23-26



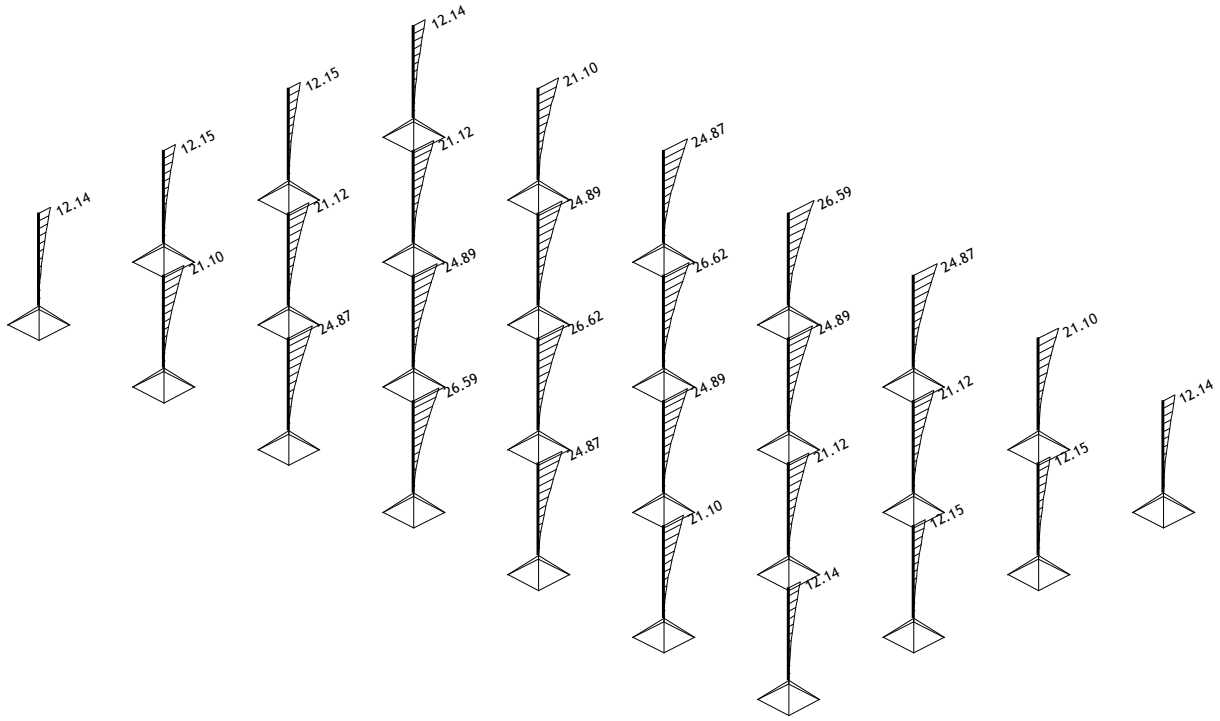
Grupa: stupovi
Utjecaji u gredi: max N1= 16.50 / min N1= -349.97 kN

Opt. 27: I+II+0.3xIV



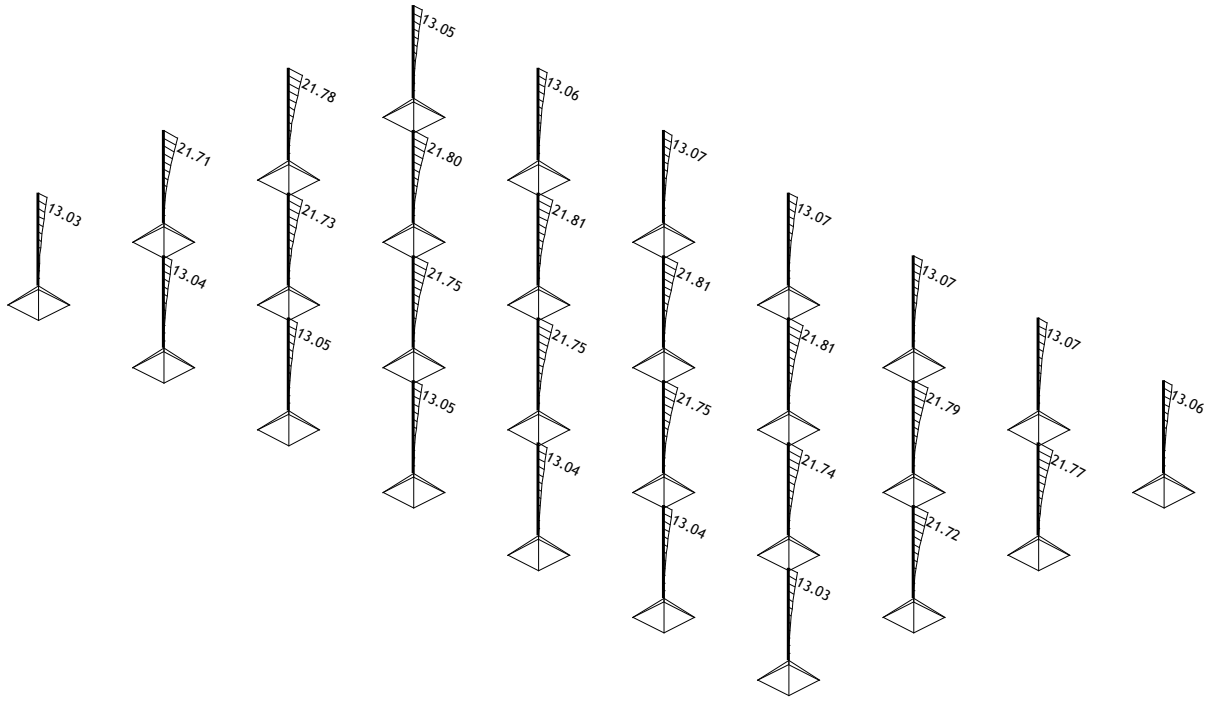
Grupa: stupovi
Utjecaji u gredi: max N1= 0.00 / min N1= -246.27 kN

Opt. 10: Sy



Grupa: stupovi
Utjecaji u gredi: max Yp= 26.84 / min Yp= 0.00 m / 1000

Opt. 9: Sx



Grupa: stupovi
Utjecaji u gredi: max Xp= 39.16 / min Xp= 0.00 m / 1000

KONTROLA POMAKA KONSTRUKCIJE PREMA HR EN 1998

Prikaz uvjeta međuetažnih pomaka za potresnu kombinaciju opterećenja:

1) Zgrade koje imaju za konstrukciju pričvršćene ne konstrukcijske elemente od krhkih materijala prema izrazu:

$$d\,r^{*}\nu \leq 0{,}005h$$

2) Zgrade koje imaju duktilne ne konstrukcijske elemente prema izrazu:

$$d\,r^{*}\nu \leq 0{,}0075h$$

3) Zgrade koje imaju nekonstrukcijske elemente pričvršćene tako da na njih ne utječu deformacije konstrukcijskog sustava, ili nemaju nekonstrukcijskih elemenata, prema sljedećem izrazu:

$$d\,r^{*}\nu \leq 0{,}01h$$

gdje su:

dr - međukatni pomak

ν - redukcijski faktor

h - katna visina.

Usvojene vrijednosti:

- ograničenje pomaka: dr*ν ≤ 0,0075 h
- h = 600 cm (visina stupa)
- faktor ponašanja q=1,5
- ν = 0,4 – faktor redukcije, faktor važnosti III

Faktor redukcije ovisi o važnosti zgrade,

$$d_r = q \cdot y$$

$$d_r = 1{,}5 \cdot 39{,}16 = 58{,}74$$

$$58{,}74mm \cdot 0{,}4 \leq 0{,}0075 \cdot 6000mm$$

$$23{,}49mm \leq 45mm$$

Pomak konstrukcije zadovoljava.