

OPAZOVANJA IN KOORDINATE TERESTRICNE MREZE LIBNA: STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X A 1053.1766 960.7467

X B 944.6572 919.2022

X C 849.9380 1103.6300

X D 1010.6958 1328.2763

X 1 1043.0364 975.9823

X 2 939.2408 936.8958

X 3 851.9763 1084.9716

X 4 1000.4564 1317.3965

X 5 1053.5390 1016.4883

X 6 1000.0021 999.9966

SESTAVLJENI KOTI:

A 4 5 1 2 53 43.8 0.8833

A 4 1 6 7 11 28.1 0.8833

A 4 6 2 9 3 26.9 0.8833

A 4 2 3 23 25 56.2 0.8833

A 4 3 D 190 41 36.4 0.8833

A 3 5 1 10 56 11.5 0.8833

A 3 1 6 0 9 21.2 0.8833

A 3 6 2 29 37 48.8 0.8833

A 3 2 C 204 16 43.6 0.8833

A 5 3 4 61 13 46.6 0.8833

A 5 4 1 204 32 26.2 0.8833

A 5 1 2 40 36 44.8 0.8833

A 5 2 6 17 43 49.2 0.8833

A 1 2 6 49 47 51.8 0.8833

A 1 6 3 0 32 24.3 0.8833

A 1 3 4 53 11 16.7 0.8833

A 1 4 5 21 38 41.6 0.8833

A 1 5 A 131 48 56.8 0.8833

A 2 3 4 39 39 5.8 0.8833

A 2 4 6 34 46 40.8 0.8833

A 2 6 5 11 13 49.7 0.8833

A 2 5 1 14 13 0.5 0.8833

A 2 1 B 93 36 57.0 0.8833

A 6 3 4 60 13 25.5 0.8833

A 6 4 5 72 47 48.3 0.8833

A 6 5 1 46 17 2.9 0.8833

A 6 1 2 104 45 18.2 0.8833

OPAZOVANE HORIZONTALNE DOLZINE:

D	4	5	305.55461	0.0003645
D	4	1	344.05922	0.0003645
D	4	6	317.39993	0.0003645
D	4	2	385.39383	0.0003645
D	4	3	275.80380	0.0003645
D	4	D	14.93879	0.0005155

D	3	5	212.87917	0.0003645
D	3	1	219.96066	0.0003645
D	3	6	170.68195	0.0003645
D	3	2	171.87631	0.0003645
D	3	C	18.77064	0.0005155

D	5	1	41.84456	0.0003645
D	5	2	139.28046	0.0003645
D	5	6	56.01924	0.0003645

D	1	2	110.91117	0.0003645
D	1	6	49.28150	0.0003645
D	1	A	18.30157	0.0005155

D	2	6	87.59897	0.0003645
D	2	B	18.50408	0.0005155

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 16:04:50.4

Ime vhodne datoteke: libna.txt

Ime izhodne datoteke: libna.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
A	1053.1766	960.7467
B	944.6572	919.2022
C	849.9380	1103.6300
D	1010.6958	1328.2763
1	1043.0364	975.9823
2	939.2408	936.8958
3	851.9763	1084.9716
4	1000.4564	1317.3965
5	1053.5390	1016.4883
6	1000.0021	999.9966

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
4	5	1	2 53 43.8	0.8833
4	1	6	7 11 28.1	0.8833
4	6	2	9 3 26.9	0.8833
4	2	3	23 25 56.2	0.8833
4	3	D	190 41 36.4	0.8833
3	5	1	10 56 11.5	0.8833
3	1	6	0 9 21.2	0.8833
3	6	2	29 37 48.8	0.8833
3	2	C	204 16 43.6	0.8833
5	3	4	61 13 46.6	0.8833
5	4	1	204 32 26.2	0.8833
5	1	2	40 36 44.8	0.8833
5	2	6	17 43 49.2	0.8833
1	2	6	49 47 51.8	0.8833
1	6	3	0 32 24.3	0.8833
1	3	4	53 11 16.7	0.8833
1	4	5	21 38 41.6	0.8833

1	5	A	131	48	56.8	0.8833
2	3	4	39	39	5.8	0.8833
2	4	6	34	46	40.8	0.8833
2	6	5	11	13	49.7	0.8833
2	5	1	14	13	0.5	0.8833
2	1	B	93	36	57.0	0.8833
6	3	4	60	13	25.5	0.8833
6	4	5	72	47	48.3	0.8833
6	5	1	46	17	2.9	0.8833
6	1	2	104	45	18.2	0.8833

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
4	5	305.5546	0.0004
4	1	344.0592	0.0004
4	6	317.3999	0.0004
4	2	385.3938	0.0004
4	3	275.8038	0.0004
4	D	14.9388	0.0005
3	5	212.8792	0.0004
3	1	219.9607	0.0004
3	6	170.6820	0.0004
3	2	171.8763	0.0004
3	C	18.7706	0.0005
5	1	41.8446	0.0004
5	2	139.2805	0.0004
5	6	56.0192	0.0004
1	2	110.9112	0.0004
1	6	49.2815	0.0004
1	A	18.3016	0.0005
2	6	87.5990	0.0004
2	B	18.5041	0.0005

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	10
Stevilo vseh koordinat:	20
Stevilo vseh opazovanj:	46
# sestavljenih kotov:	27
# horizontalnih dolzin:	19
Stevilo vseh neznank:	20
Stevilo nadstevilnih opazovanj:	26

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV – KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
4	5	1	69.89	43.08	-664.79	-117.27	594.90	74.19	-0.092
4	1	6	-54.96	75.12	-594.90	-74.19	649.86	-0.93	-0.380
4	6	2	121.45	84.08	-649.86	0.93	528.41	-85.01	0.167
4	2	3	-101.83	317.61	-528.41	85.01	630.24	-402.62	-0.454
4	3	D	10683.85	-9864.46	-630.24	402.62	-10053.61	9461.84	-7.120
3	5	1	-152.94	102.90	-311.71	-917.42	464.64	814.53	0.218
3	1	6	-137.00	-233.53	-464.64	-814.53	601.64	1048.06	-0.237
3	6	2	-432.25	438.76	-601.64	-1048.06	1033.89	609.30	-0.940
3	2	C	11958.32	1802.71	-1033.89	-609.30	-10924.42	-1193.42	-5.001
5	3	4	353.08	-800.15	311.71	917.42	-664.79	-117.27	0.332
5	4	1	-5436.21	1119.89	664.79	117.27	4771.43	-1237.16	-0.980
5	1	2	3925.14	-21.86	-4771.43	1237.16	846.29	-1215.30	-0.101
5	2	6	-237.67	2303.55	-846.29	1215.30	1083.96	-3518.85	1.067
1	2	6	2694.93	1914.50	-655.39	1740.42	-2039.54	-3654.91	-0.237
1	6	3	-1574.90	-2840.39	2039.54	3654.91	-464.64	-814.53	-1.416
1	3	4	130.25	-740.33	464.64	814.53	-594.90	-74.19	2.222
1	4	5	4176.53	-1311.35	594.90	74.19	-4771.43	1237.16	-0.088
1	5	A	-14153.71	-5007.31	4771.43	-1237.16	9382.28	6244.47	8.102
2	3	4	-505.48	-694.31	1033.89	609.30	-528.41	85.01	-0.914
2	4	6	1167.72	-1548.23	528.41	-85.01	-1696.13	1633.24	1.449
2	6	5	-849.84	417.94	1696.13	-1633.24	-846.29	1215.30	-0.525
2	5	1	-190.89	-525.12	846.29	-1215.30	-655.39	1740.42	-0.080
2	1	B	-11314.15	-1522.46	655.39	-1740.42	10658.75	3262.88	-4.946
6	3	4	48.21	-1048.99	601.64	1048.06	-649.86	0.93	0.179
6	4	5	434.10	-3517.92	649.86	-0.93	-1083.96	3518.85	0.457
6	5	1	-3123.50	-136.06	1083.96	-3518.85	2039.54	3654.91	-1.184
6	1	2	343.41	5288.16	-2039.54	-3654.91	1696.13	-1633.24	0.642

ENACBE POPRAVKOV – HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
4	5	0.1737255	-0.9847941	-0.1737255	0.9847941	-0.0001840
4	1	0.1237578	-0.9923125	-0.1237578	0.9923125	-0.0000501
4	6	-0.0014313	-0.9999990	0.0014313	0.9999990	0.0002951
4	2	-0.1588392	-0.9873045	0.1588392	0.9873045	-0.0003527
4	3	-0.5383543	-0.8427186	0.5383543	0.8427186	-0.0001121
4	D	0.6853501	0.7282137	-0.6853501	-0.7282137	0.0016036
3	5	0.9468415	-0.3217005	-0.9468415	0.3217005	-0.0001330
3	1	0.8686109	-0.4954948	-0.8686109	0.4954948	-0.0001423
3	6	0.8672601	-0.4978553	-0.8672601	0.4978553	0.0001759
3	2	0.5077163	-0.8615243	-0.5077163	0.8615243	0.0002024
3	C	-0.1085969	0.9940859	0.1085969	-0.9940859	-0.0012352
5	1	-0.2509855	-0.9679908	0.2509855	0.9679908	0.0008775
5	2	-0.8206335	-0.5714549	0.8206335	0.5714549	-0.0000070

5	6	-0.9556846	-0.2943925	0.9556846	0.2943925	0.0001837
1	2	-0.9358447	-0.3524128	0.9358447	0.3524128	-0.0000296
1	6	-0.8732395	0.4872912	0.8732395	-0.4872912	-0.0002908
1	A	0.5540620	-0.8324754	-0.5540620	0.8324754	-0.0000082
2	6	0.6936273	0.7203341	-0.6936273	-0.7203341	0.0003824
2	B	0.2927139	-0.9562001	-0.2927139	0.9562001	-0.0000029

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.26

Ref. std. odklon a-posteriori: 0.26

Globalni test: 0.99

Globalni test [SQRT]: 0.99

Matrika R [DIAG]: 29.00

Matrika R [POVPRECJE]: 0.63

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH
A	1053.1766	960.7467			
	0.0007	0.0004	0.0003	0.0004	
	1053.1773	960.7471	0.0005	0.0001	123.4
B	944.6572	919.2022			
	-0.0004	-0.0002	0.0002	0.0005	
	944.6568	919.2020	0.0005	0.0001	105.1
C	849.9380	1103.6300			
	0.0005	0.0013	0.0002	0.0005	
	849.9385	1103.6313	0.0005	0.0002	94.6
D	1010.6958	1328.2763			
	-0.0007	-0.0015	0.0003	0.0004	
	1010.6951	1328.2748	0.0004	0.0001	56.5
1	1043.0364	975.9823			
	0.0000	-0.0000	0.0001	0.0001	
	1043.0364	975.9823	0.0001	0.0001	115.4

2	939.2408	936.8958			
	-0.0000	-0.0000	0.0001	0.0002	
	939.2408	936.8958	0.0002	0.0001	112.8
3	851.9763	1084.9716			
	0.0001	0.0000	0.0002	0.0002	
	851.9764	1084.9716	0.0002	0.0002	63.2
4	1000.4564	1317.3965			
	-0.0000	0.0000	0.0002	0.0002	
	1000.4564	1317.3965	0.0002	0.0001	30.8
5	1053.5390	1016.4883			
	-0.0000	-0.0000	0.0001	0.0001	
	1053.5390	1016.4883	0.0001	0.0001	90.0
6	1000.0021	999.9966			
	-0.0000	-0.0000	0.0001	0.0001	
	1000.0021	999.9966	0.0001	0.0001	143.0

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
4	5	1	2	53	43.8	-0.10	0.88	2	53	43.7	0.08
4	1	6	7	11	28.1	-0.38	0.87	7	11	27.7	0.10
4	6	2	9	3	26.9	0.17	0.87	9	3	27.1	0.12
4	2	3	23	25	56.2	-0.50	0.86	23	25	55.7	0.17
4	3	D	190	41	36.4	0.47	0.54	190	41	36.9	0.69
3	5	1	10	56	11.5	0.24	0.86	10	56	11.7	0.16
3	1	6	0	9	21.2	-0.24	0.87	0	9	21.0	0.13
3	6	2	29	37	48.8	-0.89	0.84	29	37	47.9	0.25
3	2	C	204	16	43.6	0.73	0.51	204	16	44.3	0.72
5	3	4	61	13	46.6	0.25	0.83	61	13	46.9	0.30
5	4	1	204	32	26.2	-1.11	0.69	204	32	25.1	0.54
5	1	2	40	36	44.8	0.01	0.75	40	36	44.8	0.46
5	2	6	17	43	49.2	1.12	0.79	17	43	50.3	0.38
1	2	6	49	47	51.8	-0.15	0.74	49	47	51.7	0.48
1	6	3	0	32	24.3	-1.43	0.76	0	32	22.9	0.44
1	3	4	53	11	16.7	2.11	0.83	53	11	18.8	0.28
1	4	5	21	38	41.6	-0.21	0.74	21	38	41.4	0.48
1	5	A	131	48	56.8	-0.49	0.41	131	48	56.3	0.78
2	3	4	39	39	5.8	-1.07	0.82	39	39	4.7	0.32
2	4	6	34	46	40.8	1.42	0.79	34	46	42.2	0.38
2	6	5	11	13	49.7	-0.52	0.84	11	13	49.2	0.27
2	5	1	14	13	0.5	-0.03	0.85	14	13	0.5	0.24
2	1	B	93	36	57.0	-0.02	0.51	93	36	57.0	0.72
6	3	4	60	13	25.5	0.07	0.81	60	13	25.6	0.33
6	4	5	72	47	48.3	0.49	0.74	72	47	48.8	0.48
6	5	1	46	17	2.9	-1.09	0.66	46	17	1.8	0.58

6	1	2	104	45	18.2	0.49	0.66	104	45	18.7	0.58
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IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
4	5	305.5546	-0.0001	0.0003	305.5545	0.0002
4	1	344.0592	0.0000	0.0003	344.0593	0.0002
4	6	317.3999	0.0003	0.0003	317.4003	0.0002
4	2	385.3938	-0.0003	0.0003	385.3936	0.0002
4	3	275.8038	-0.0002	0.0002	275.8036	0.0003
4	D	14.9388	0.0000	0.0000	14.9388	0.0005
3	5	212.8792	-0.0002	0.0003	212.8790	0.0002
3	1	219.9607	-0.0001	0.0003	219.9605	0.0002
3	6	170.6820	0.0001	0.0003	170.6821	0.0002
3	2	171.8763	0.0002	0.0003	171.8765	0.0002
3	C	18.7706	0.0000	0.0000	18.7706	0.0005
5	1	41.8446	0.0009	0.0003	41.8455	0.0002
5	2	139.2805	0.0000	0.0003	139.2805	0.0002
5	6	56.0192	0.0002	0.0003	56.0194	0.0002
1	2	110.9112	0.0000	0.0003	110.9112	0.0002
1	6	49.2815	-0.0003	0.0003	49.2812	0.0002
1	A	18.3016	-0.0000	0.0000	18.3016	0.0005
2	6	87.5990	0.0004	0.0003	87.5994	0.0002
2	B	18.5041	-0.0000	0.0000	18.5041	0.0005

OPTIM2D – OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. – Optimizacija terestričnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0003	0.0005
Avr sdX, sdY:	0.0002	0.0003

KOVARIANCA MARIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00038321
Sled kovariančne matrike:	0.00000125
Srednja varianca:	0.00027097
Srednja standardna deviacija:	0.01646128
Generalizirana varianca:	0.00000154
Generalizirana standardna deviacija:	0.00124015
Najmanjša lastna vrednost kov. matrike:	0.00000000
Največja lastna vrednost kov. matrike:	0.00000030
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00383798

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000033
Največja lastna vrednost:	0.005740
Norma kovariančne matrike:	0.002345

Norma matrike kriterija: 0.005740
 Razlika norm kovariančne in matrike kriterija: 0.003395
 Sled matrike kriterija: 0.009670

Karakteristična razdalja $d=2/3(s_{\min})$: 9.9603

Velikost Urp (reducirana in psevdoinverzna): 46 x 210
 Velikost vektorja q: 210 x 1
 Velikost optimiziranega vektorja utezi p: 46 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
4	5	1	2 53 43.8	1292640577	0.99	0.057370
4	6	2	9 3 26.9	33838199	0.98	0.354586
4	3	D	190 41 36.4	1791851	0.00	1.540899
3	5	1	10 56 11.5	16200579	0.96	0.512460
3	1	6	0 9 21.2	1055465393	0.98	0.063490
3	6	2	29 37 48.8	247091	0.89	4.149508
3	2	C	204 16 43.6	2298807	-0.00	1.360423
5	3	4	61 13 46.6	26734907	0.91	0.398920
1	3	4	53 11 16.7	5662824	0.86	0.866779
1	4	5	21 38 41.6	119541306	0.59	0.188654
1	5	A	131 48 56.8	1587584	-0.00	1.637030
2	4	6	34 46 40.8	20062845	0.75	0.460499
2	5	1	14 13 0.5	35514953	0.89	0.346114
2	1	B	93 36 57.0	2301111	0.00	1.359741
6	3	4	60 13 25.5	39364830	0.84	0.328754
6	4	5	72 47 48.3	16053607	0.68	0.514800
6	5	1	46 17 2.9	3785479	0.49	1.060144
6	1	2	104 45 18.2	4523288	0.60	0.969835

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

4	1	6	7 11 28.1	-15526524	0.98
4	2	3	23 25 56.2	-57788956	0.95
5	4	1	204 32 26.2	-108872698	0.58
5	1	2	40 36 44.8	-4893392	0.75
5	2	6	17 43 49.2	-10023007	0.74
1	2	6	49 47 51.8	-2493224	0.75
1	6	3	0 32 24.3	-88748968	0.71
2	3	4	39 39 5.8	-7745898	0.83
2	6	5	11 13 49.7	-8826191	0.91

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
4	5	305.5546	1114	0.67	0.000300
4	1	344.0592	369	0.68	0.000521
4	6	317.3999	1159	0.74	0.000294
4	2	385.3938	478	0.68	0.000457

4	3	275.8038	178	0.44	0.000750
4	D	14.9388	8515	0.00	0.000108
3	5	212.8792	1604	0.70	0.000250
3	1	219.9607	186	0.70	0.000734
3	6	170.6820	1481	0.69	0.000260
3	2	171.8763	902	0.65	0.000333
3	C	18.7706	7146	0.00	0.000118
5	2	139.2805	2060	0.67	0.000220
5	6	56.0192	3383	0.76	0.000172
1	2	110.9112	18	0.71	0.002345
1	6	49.2815	1585	0.81	0.000251
1	A	18.3016	7420	-0.00	0.000116
2	6	87.5990	1768	0.73	0.000238
2	B	18.5041	7256	-0.00	0.000117

IZLOCENA OPAZOVANJA - HORIZONTALNE DOLZINE:

5	1	41.8446	-2343	0.78
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OPAZOVANJA IN KOORDINATE TERESTRICNE MREZE LIBNA: STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X A 1053.1766 960.7467

X B 944.6572 919.2022

X C 849.9380 1103.6300

X D 1010.6958 1328.2763

X 1 1043.0364 975.9823

X 2 939.2408 936.8958

X 3 851.9763 1084.9716

X 4 1000.4564 1317.3965

X 5 1053.5390 1016.4883

X 6 1000.0021 999.9966

SESTAVLJENI KOTI:

A 4 5 1 2 53 43.8 0.8833

A 4 6 2 9 3 26.9 0.8833

A 4 3 D 190 41 36.4 0.8833

A 3 5 1 10 56 11.5 0.8833

A 3 1 6 0 9 21.2 0.8833

A 3 6 2 29 37 48.8 0.8833

A 3 2 C 204 16 43.6 0.8833

A 5 3 4 61 13 46.6 0.8833

A 1 3 4 53 11 16.7 0.8833

A 1 4 5 21 38 41.6 0.8833

A 1 5 A 131 48 56.8 0.8833

A 2 4 6 34 46 40.8 0.8833

A 2 5 1 14 13 0.5 0.8833

A 2 1 B 93 36 57.0 0.8833

A 6 3 4 60 13 25.5 0.8833

A 6 4 5 72 47 48.3 0.8833

A 6 5 1 46 17 2.9 0.8833

A 6 1 2 104 45 18.2 0.8833

OPAZOVANE HORIZONTALNE DOLZINE:

D 4 5 305.55461 0.0003645

D 4 1 344.05922 0.0003645

D 4 6 317.39993 0.0003645

D 4 2 385.39383 0.0003645

D 4 3 275.80380 0.0003645

D 4 D 14.93879 0.0005155

D 3 5 212.87917 0.0003645

D	3	1	219.96066	0.0003645
D	3	6	170.68195	0.0003645
D	3	2	171.87631	0.0003645
D	3	C	18.77064	0.0005155
D	5	2	139.28046	0.0003645
D	5	6	56.01924	0.0003645
D	1	2	110.91117	0.0003645
D	1	6	49.28150	0.0003645
D	1	A	18.30157	0.0005155
D	2	6	87.59897	0.0003645
D	2	B	18.50408	0.0005155

*K

GM2R - GEODETSKA 2D MREZA
Opazovanja: Hz smeri, Hz dolzine
Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 16:07:21.0
Ime vhodne datoteke: libna2.txt
Ime izhodne datoteke: libna2.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
A	1053.1766	960.7467
B	944.6572	919.2022
C	849.9380	1103.6300
D	1010.6958	1328.2763
1	1043.0364	975.9823
2	939.2408	936.8958
3	851.9763	1084.9716
4	1000.4564	1317.3965
5	1053.5390	1016.4883
6	1000.0021	999.9966

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
4	5	1	2 53 43.8	0.8833
4	6	2	9 3 26.9	0.8833
4	3	D	190 41 36.4	0.8833
3	5	1	10 56 11.5	0.8833
3	1	6	0 9 21.2	0.8833
3	6	2	29 37 48.8	0.8833
3	2	C	204 16 43.6	0.8833
5	3	4	61 13 46.6	0.8833
1	3	4	53 11 16.7	0.8833
1	4	5	21 38 41.6	0.8833
1	5	A	131 48 56.8	0.8833
2	4	6	34 46 40.8	0.8833
2	5	1	14 13 0.5	0.8833
2	1	B	93 36 57.0	0.8833
6	3	4	60 13 25.5	0.8833

6	4	5	72	47	48.3	0.8833
6	5	1	46	17	2.9	0.8833
6	1	2	104	45	18.2	0.8833

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
4	5	305.5546	0.0004
4	1	344.0592	0.0004
4	6	317.3999	0.0004
4	2	385.3938	0.0004
4	3	275.8038	0.0004
4	D	14.9388	0.0005
3	5	212.8792	0.0004
3	1	219.9607	0.0004
3	6	170.6820	0.0004
3	2	171.8763	0.0004
3	C	18.7706	0.0005
5	2	139.2805	0.0004
5	6	56.0192	0.0004
1	2	110.9112	0.0004
1	6	49.2815	0.0004
1	A	18.3016	0.0005
2	6	87.5990	0.0004
2	B	18.5041	0.0005

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	10
Stevilo vseh koordinat:	20
Stevilo vseh opazovanj:	36
# sestavljenih kotov:	18
# horizontalnih dolzin:	18
Stevilo vseh neznank:	20
Stevilo nadstevilnih opazovanj:	16

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV – KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
4	5	1	69.89	43.08	-664.79	-117.27	594.90	74.19	-0.092

4	6	2	121.45	84.08	-649.86	0.93	528.41	-85.01	0.167
4	3	D	10683.85	-9864.46	-630.24	402.62	-10053.61	9461.84	-7.120
3	5	1	-152.94	102.90	-311.71	-917.42	464.64	814.53	0.218
3	1	6	-137.00	-233.53	-464.64	-814.53	601.64	1048.06	-0.237
3	6	2	-432.25	438.76	-601.64	-1048.06	1033.89	609.30	-0.940
3	2	C	11958.32	1802.71	-1033.89	-609.30	-10924.42	-1193.42	-5.001
5	3	4	353.08	-800.15	311.71	917.42	-664.79	-117.27	0.332
1	3	4	130.25	-740.33	464.64	814.53	-594.90	-74.19	2.222
1	4	5	4176.53	-1311.35	594.90	74.19	-4771.43	1237.16	-0.088
1	5	A	-14153.71	-5007.31	4771.43	-1237.16	9382.28	6244.47	8.102
2	4	6	1167.72	-1548.23	528.41	-85.01	-1696.13	1633.24	1.449
2	5	1	-190.89	-525.12	846.29	-1215.30	-655.39	1740.42	-0.080
2	1	B	-11314.15	-1522.46	655.39	-1740.42	10658.75	3262.88	-4.946
6	3	4	48.21	-1048.99	601.64	1048.06	-649.86	0.93	0.179
6	4	5	434.10	-3517.92	649.86	-0.93	-1083.96	3518.85	0.457
6	5	1	-3123.50	-136.06	1083.96	-3518.85	2039.54	3654.91	-1.184
6	1	2	343.41	5288.16	-2039.54	-3654.91	1696.13	-1633.24	0.642

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
4	5	0.1737255	-0.9847941	-0.1737255	0.9847941	-0.0001840
4	1	0.1237578	-0.9923125	-0.1237578	0.9923125	-0.0000501
4	6	-0.0014313	-0.9999990	0.0014313	0.9999990	0.0002951
4	2	-0.1588392	-0.9873045	0.1588392	0.9873045	-0.0003527
4	3	-0.5383543	-0.8427186	0.5383543	0.8427186	-0.0001121
4	D	0.6853501	0.7282137	-0.6853501	-0.7282137	0.0016036
3	5	0.9468415	-0.3217005	-0.9468415	0.3217005	-0.0001330
3	1	0.8686109	-0.4954948	-0.8686109	0.4954948	-0.0001423
3	6	0.8672601	-0.4978553	-0.8672601	0.4978553	0.0001759
3	2	0.5077163	-0.8615243	-0.5077163	0.8615243	0.0002024
3	C	-0.1085969	0.9940859	0.1085969	-0.9940859	-0.0012352
5	2	-0.8206335	-0.5714549	0.8206335	0.5714549	-0.0000070
5	6	-0.9556846	-0.2943925	0.9556846	0.2943925	0.0001837
1	2	-0.9358447	-0.3524128	0.9358447	0.3524128	-0.0000296
1	6	-0.8732395	0.4872912	0.8732395	-0.4872912	-0.0002908
1	A	0.5540620	-0.8324754	-0.5540620	0.8324754	-0.0000082
2	6	0.6936273	0.7203341	-0.6936273	-0.7203341	0.0003824
2	B	0.2927139	-0.9562001	-0.2927139	0.9562001	-0.0000029

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.28

Ref. std. odklon a-posteriori:	0.26
Globalni test:	0.84
Globalni test [SQRT]:	0.92
Matrika R [DIAG]:	19.00
Matrika R [POVPRECJE]:	0.53

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK - IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH

A	1053.1766	960.7467			
	0.0007	0.0003	0.0003	0.0004	
	1053.1773	960.7470	0.0004	0.0001	123.9
B	944.6572	919.2022			
	-0.0004	-0.0002	0.0002	0.0004	
	944.6568	919.2020	0.0004	0.0001	105.5
C	849.9380	1103.6300			
	0.0005	0.0014	0.0002	0.0004	
	849.9385	1103.6314	0.0004	0.0002	94.0
D	1010.6958	1328.2763			
	-0.0008	-0.0014	0.0003	0.0004	
	1010.6950	1328.2749	0.0004	0.0001	56.6
1	1043.0364	975.9823			
	0.0001	-0.0001	0.0001	0.0001	
	1043.0365	975.9822	0.0001	0.0001	119.4
2	939.2408	936.8958			
	-0.0000	-0.0001	0.0001	0.0002	
	939.2408	936.8957	0.0002	0.0001	108.6
3	851.9763	1084.9716			
	0.0001	0.0001	0.0002	0.0002	
	851.9764	1084.9717	0.0002	0.0002	58.1
4	1000.4564	1317.3965			
	-0.0000	0.0001	0.0002	0.0001	
	1000.4564	1317.3966	0.0002	0.0001	30.1
5	1053.5390	1016.4883			
	-0.0001	0.0001	0.0001	0.0002	
	1053.5389	1016.4884	0.0002	0.0001	80.7
6	1000.0021	999.9966			
	-0.0001	0.0001	0.0001	0.0001	
	1000.0020	999.9967	0.0001	0.0001	143.5

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
4	5	1	2	53	43.8	-0.15	0.80	2	53	43.6	0.10
4	6	2	9	3	26.9	0.10	0.80	9	3	27.0	0.11
4	3	D	190	41	36.4	-0.02	0.46	190	41	36.4	0.67
3	5	1	10	56	11.5	0.37	0.79	10	56	11.9	0.19
3	1	6	0	9	21.2	-0.31	0.80	0	9	20.9	0.15
3	6	2	29	37	48.8	-0.83	0.77	29	37	48.0	0.25
3	2	C	204	16	43.6	0.69	0.46	204	16	44.3	0.66
5	3	4	61	13	46.6	0.31	0.76	61	13	46.9	0.29
1	3	4	53	11	16.7	1.99	0.76	53	11	18.7	0.27
1	4	5	21	38	41.6	-0.91	0.53	21	38	40.7	0.62
1	5	A	131	48	56.8	-0.06	0.23	131	48	56.7	0.77
2	4	6	34	46	40.8	1.06	0.72	34	46	41.9	0.37
2	5	1	14	13	0.5	0.30	0.76	14	13	0.8	0.28
2	1	B	93	36	57.0	-0.55	0.41	93	36	56.4	0.70
6	3	4	60	13	25.5	0.10	0.74	60	13	25.6	0.32
6	4	5	72	47	48.3	0.39	0.59	72	47	48.7	0.56
6	5	1	46	17	2.9	-0.71	0.43	46	17	2.2	0.68
6	1	2	104	45	18.2	-0.22	0.45	104	45	18.0	0.67

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L			V	S_V	L_			S_L_
4	5	305.5546			-0.0002	0.0003	305.5544			0.0002
4	1	344.0592			0.0002	0.0003	344.0594			0.0002
4	6	317.3999			0.0003	0.0003	317.4002			0.0002
4	2	385.3938			-0.0002	0.0003	385.3936			0.0002
4	3	275.8038			-0.0002	0.0002	275.8036			0.0003
4	D	14.9388			-0.0000	0.0000	14.9388			0.0005
3	5	212.8792			-0.0003	0.0003	212.8789			0.0002
3	1	219.9607			-0.0001	0.0003	219.9606			0.0002
3	6	170.6820			0.0000	0.0003	170.6820			0.0002
3	2	171.8763			0.0003	0.0003	171.8766			0.0002
3	C	18.7706			0.0000	0.0000	18.7706			0.0005
5	2	139.2805			0.0001	0.0003	139.2805			0.0002
5	6	56.0192			0.0002	0.0003	56.0195			0.0002
1	2	110.9112			0.0000	0.0003	110.9112			0.0002
1	6	49.2815			-0.0001	0.0003	49.2814			0.0002
1	A	18.3016			0.0000	0.0000	18.3016			0.0005
2	6	87.5990			0.0004	0.0003	87.5994			0.0002

2	B	18.5041	-0.0000	0.0000	18.5041	0.0005
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OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestričnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0003	0.0004
Avr sdX, sdY:	0.0002	0.0003

KOVARIANČNA MATRIKA OCENJENIH KOORD. TOČK

Srednji pogrešek položajev točk mreže v 2D:	0.00036317
Sled kovariančne matrice:	0.00000112
Srednja varianca:	0.00025680
Srednja standardna deviacija:	0.01602501
Generalizirana varianca:	0.00000153
Generalizirana standardna deviacija:	0.00123543
Najmanjša lastna vrednost kov. matrice:	0.00000000
Največja lastna vrednost kov. matrice:	0.00000026
Razmerje najmanjše in največje lastne vrednosti kov. matrice:	0.00411805

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000006
Največja lastna vrednost:	0.002239
Norma kovariančne matrice:	0.006080
Norma matrice kriterija:	0.002239
Razlika norm kovariančne in matrice kriterija:	0.003841
Sled matrice kriterija:	0.006094

Karakteristična razdalja $d=2/3(s_{\min})$:	9.9603
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Velikost Urp (reducirana in psevdoinverzna):	36	x	210
Velikost vektorja q:	210	x	1
Velikost optimiziranega vektorja uteži p:	36	x	1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
4	5	1	2 53 43.8	19125645	0.98	0.471647
4	6	2	9 3 26.9	49311438	0.97	0.293732
4	3	D	190 41 36.4	1782104	0.00	1.545107
3	5	1	10 56 11.5	46745639	0.93	0.301686
3	1	6	0 9 21.2	33581474	0.97	0.355939
3	2	C	204 16 43.6	2255141	0.00	1.373530
5	3	4	61 13 46.6	39650929	0.87	0.327566
1	3	4	53 11 16.7	17239185	0.88	0.496783
1	5	A	131 48 56.8	1559204	0.00	1.651862
2	4	6	34 46 40.8	11326468	0.72	0.612883
2	5	1	14 13 0.5	18112203	0.85	0.484663
2	1	B	93 36 57.0	2275055	0.00	1.367506
6	3	4	60 13 25.5	26433957	0.80	0.401184
6	4	5	72 47 48.3	8597506	0.46	0.703459

6	5	1	46	17	2.9	2185105	0.24	1.395369
6	1	2	104	45	18.2	1150888	0.43	1.922687

IZLOCENA OPAZOVANJA - HORIZONTALNI KOTI:

3	6	2	29	37	48.8	-11467729	0.88
1	4	5	21	38	41.6	-1194492	0.26

OPTIMIZIRANE VREDNOSTI OPAZOVANJ - HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
4	5	305.5546	1330	0.62	0.000274
4	1	344.0592	253	0.63	0.000629
4	6	317.3999	1103	0.72	0.000301
4	2	385.3938	550	0.61	0.000427
4	D	14.9388	8534	0.00	0.000108
3	5	212.8792	1812	0.65	0.000235
3	6	170.6820	1367	0.65	0.000270
3	2	171.8763	639	0.56	0.000396
3	C	18.7706	7153	-0.00	0.000118
5	2	139.2805	2123	0.61	0.000217
5	6	56.0192	3423	0.65	0.000171
1	2	110.9112	3	0.65	0.006080
1	6	49.2815	1250	0.70	0.000283
1	A	18.3016	7378	-0.00	0.000116
2	6	87.5990	1781	0.67	0.000237
2	B	18.5041	7319	0.00	0.000117

IZLOCENA OPAZOVANJA - HORIZONTALNE DOLZINE:

4	3	275.8038	-11	0.40
3	1	219.9607	-227	0.64

OPAZOVANJA IN KOORDINATE TERESTRICNE MREZE LIBNA: STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X A	1053.1766	960.7467
X B	944.6572	919.2022
X C	849.9380	1103.6300
X D	1010.6958	1328.2763
X 1	1043.0364	975.9823
X 2	939.2408	936.8958
X 3	851.9763	1084.9716
X 4	1000.4564	1317.3965
X 5	1053.5390	1016.4883
X 6	1000.0021	999.9966

SESTAVLJENI KOTI:

A	4	5	1	2 53 43.8	0.8833
A	4	6	2	9 3 26.9	0.8833
A	4	3	D	190 41 36.4	0.8833
A	3	5	1	10 56 11.5	0.8833
A	3	1	6	0 9 21.2	0.8833
A	3	2	C	204 16 43.6	0.8833
A	5	3	4	61 13 46.6	0.8833
A	1	3	4	53 11 16.7	0.8833
A	1	5	A	131 48 56.8	0.8833
A	2	4	6	34 46 40.8	0.8833
A	2	5	1	14 13 0.5	0.8833
A	2	1	B	93 36 57.0	0.8833
A	6	3	4	60 13 25.5	0.8833
A	6	4	5	72 47 48.3	0.8833
A	6	5	1	46 17 2.9	0.8833
A	6	1	2	104 45 18.2	0.8833

OPAZOVANE HORIZONTALNE DOLZINE:

D	4	5	305.55461	0.0003645
D	4	1	344.05922	0.0003645
D	4	6	317.39993	0.0003645
D	4	2	385.39383	0.0003645
D	4	D	14.93879	0.0005155
D	3	5	212.87917	0.0003645
D	3	6	170.68195	0.0003645
D	3	2	171.87631	0.0003645
D	3	C	18.77064	0.0005155

D	5	2	139.28046	0.0003645
D	5	6	56.01924	0.0003645
D	1	2	110.91117	0.0003645
D	1	6	49.28150	0.0003645
D	1	A	18.30157	0.0005155
D	2	6	87.59897	0.0003645
D	2	B	18.50408	0.0005155

*K

GM2R - GEODETSKA 2D MREZA
Opazovanja: Hz smeri, Hz dolzine
Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 16:08:39.8
Ime vhodne datoteke: libna3.txt
Ime izhodne datoteke: libna3.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
A	1053.1766	960.7467
B	944.6572	919.2022
C	849.9380	1103.6300
D	1010.6958	1328.2763
1	1043.0364	975.9823
2	939.2408	936.8958
3	851.9763	1084.9716
4	1000.4564	1317.3965
5	1053.5390	1016.4883
6	1000.0021	999.9966

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
4	5	1	2 53 43.8	0.8833
4	6	2	9 3 26.9	0.8833
4	3	D	190 41 36.4	0.8833
3	5	1	10 56 11.5	0.8833
3	1	6	0 9 21.2	0.8833
3	2	C	204 16 43.6	0.8833
5	3	4	61 13 46.6	0.8833
1	3	4	53 11 16.7	0.8833
1	5	A	131 48 56.8	0.8833
2	4	6	34 46 40.8	0.8833
2	5	1	14 13 0.5	0.8833
2	1	B	93 36 57.0	0.8833
6	3	4	60 13 25.5	0.8833
6	4	5	72 47 48.3	0.8833
6	5	1	46 17 2.9	0.8833

6	1	2	104	45	18.2	0.8833
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HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL[m]	SD[m]
4	5	305.5546	0.0004
4	1	344.0592	0.0004
4	6	317.3999	0.0004
4	2	385.3938	0.0004
4	D	14.9388	0.0005
3	5	212.8792	0.0004
3	6	170.6820	0.0004
3	2	171.8763	0.0004
3	C	18.7706	0.0005
5	2	139.2805	0.0004
5	6	56.0192	0.0004
1	2	110.9112	0.0004
1	6	49.2815	0.0004
1	A	18.3016	0.0005
2	6	87.5990	0.0004
2	B	18.5041	0.0005

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	10
Stevilo vseh koordinat:	20
Stevilo vseh opazovanj:	32
# sestavljenih kotov:	16
# horizontalnih dolzin:	16
Stevilo vseh neznank:	20
Stevilo nadstevilnih opazovanj:	12

SESTAVLJAM GMM MODEL - ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
4	5	1	69.89	43.08	-664.79	-117.27	594.90	74.19	-0.092
4	6	2	121.45	84.08	-649.86	0.93	528.41	-85.01	0.167
4	3	D	10683.85	-9864.46	-630.24	402.62	-10053.61	9461.84	-7.120
3	5	1	-152.94	102.90	-311.71	-917.42	464.64	814.53	0.218
3	1	6	-137.00	-233.53	-464.64	-814.53	601.64	1048.06	-0.237

3	2	C	11958.32	1802.71	-1033.89	-609.30	-10924.42	-1193.42	-5.001
5	3	4	353.08	-800.15	311.71	917.42	-664.79	-117.27	0.332
1	3	4	130.25	-740.33	464.64	814.53	-594.90	-74.19	2.222
1	5	A	-14153.71	-5007.31	4771.43	-1237.16	9382.28	6244.47	8.102
2	4	6	1167.72	-1548.23	528.41	-85.01	-1696.13	1633.24	1.449
2	5	1	-190.89	-525.12	846.29	-1215.30	-655.39	1740.42	-0.080
2	1	B	-11314.15	-1522.46	655.39	-1740.42	10658.75	3262.88	-4.946
6	3	4	48.21	-1048.99	601.64	1048.06	-649.86	0.93	0.179
6	4	5	434.10	-3517.92	649.86	-0.93	-1083.96	3518.85	0.457
6	5	1	-3123.50	-136.06	1083.96	-3518.85	2039.54	3654.91	-1.184
6	1	2	343.41	5288.16	-2039.54	-3654.91	1696.13	-1633.24	0.642

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
4	5	0.1737255	-0.9847941	-0.1737255	0.9847941	-0.0001840
4	1	0.1237578	-0.9923125	-0.1237578	0.9923125	-0.0000501
4	6	-0.0014313	-0.9999990	0.0014313	0.9999990	0.0002951
4	2	-0.1588392	-0.9873045	0.1588392	0.9873045	-0.0003527
4	D	0.6853501	0.7282137	-0.6853501	-0.7282137	0.0016036
3	5	0.9468415	-0.3217005	-0.9468415	0.3217005	-0.0001330
3	6	0.8672601	-0.4978553	-0.8672601	0.4978553	0.0001759
3	2	0.5077163	-0.8615243	-0.5077163	0.8615243	0.0002024
3	C	-0.1085969	0.9940859	0.1085969	-0.9940859	-0.0012352
5	2	-0.8206335	-0.5714549	0.8206335	0.5714549	-0.0000070
5	6	-0.9556846	-0.2943925	0.9556846	0.2943925	0.0001837
1	2	-0.9358447	-0.3524128	0.9358447	0.3524128	-0.0000296
1	6	-0.8732395	0.4872912	0.8732395	-0.4872912	-0.0002908
1	A	0.5540620	-0.8324754	-0.5540620	0.8324754	-0.0000082
2	6	0.6936273	0.7203341	-0.6936273	-0.7203341	0.0003824
2	B	0.2927139	-0.9562001	-0.2927139	0.9562001	-0.0000029

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.29

Ref. std. odklon a-posteriori: 0.27

Globalni test: 0.89

Globalni test [SQRT]: 0.95

Matrika R [DIAG]: 15.00

Matrika R [POVPRECJE]: 0.47

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH

A	1053.1766	960.7467			
	0.0007	0.0003	0.0004	0.0004	
	1053.1773	960.7470	0.0005	0.0002	130.2
B	944.6572	919.2022			
	-0.0004	-0.0002	0.0002	0.0004	
	944.6568	919.2020	0.0005	0.0002	105.2
C	849.9380	1103.6300			
	0.0006	0.0015	0.0003	0.0005	
	849.9386	1103.6315	0.0005	0.0003	86.7
D	1010.6958	1328.2763			
	-0.0008	-0.0015	0.0003	0.0004	
	1010.6950	1328.2748	0.0004	0.0002	53.6
1	1043.0364	975.9823			
	-0.0000	-0.0002	0.0002	0.0002	
	1043.0364	975.9821	0.0002	0.0001	139.8
2	939.2408	936.8958			
	0.0000	-0.0001	0.0001	0.0002	
	939.2408	936.8957	0.0002	0.0001	104.1
3	851.9763	1084.9716			
	0.0002	0.0002	0.0003	0.0003	
	851.9765	1084.9718	0.0003	0.0002	46.0
4	1000.4564	1317.3965			
	-0.0001	0.0000	0.0002	0.0002	
	1000.4563	1317.3965	0.0002	0.0001	30.1
5	1053.5390	1016.4883			
	-0.0000	0.0000	0.0002	0.0002	
	1053.5390	1016.4883	0.0002	0.0002	0.9
6	1000.0021	999.9966			
	-0.0001	0.0000	0.0001	0.0001	
	1000.0020	999.9966	0.0001	0.0001	143.7

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	V	S_V	L_	S_L_

4	5	1	2 53 43.8	-0.07	0.81	2 53 43.7	0.19
4	6	2	9 3 26.9	0.10	0.83	9 3 27.0	0.13

4	3	D	190	41	36.4	-0.04	0.47	190	41	36.4	0.69
3	5	1	10	56	11.5	0.39	0.81	10	56	11.9	0.21
3	1	6	0	9	21.2	-0.28	0.82	0	9	20.9	0.16
3	2	C	204	16	43.6	0.05	0.47	204	16	43.7	0.69
5	3	4	61	13	46.6	0.04	0.71	61	13	46.6	0.43
1	3	4	53	11	16.7	1.78	0.73	53	11	18.5	0.40
1	5	A	131	48	56.8	-0.89	0.37	131	48	55.9	0.75
2	4	6	34	46	40.8	1.15	0.73	34	46	41.9	0.40
2	5	1	14	13	0.5	0.21	0.73	14	13	0.7	0.40
2	1	B	93	36	57.0	-0.52	0.39	93	36	56.5	0.74
6	3	4	60	13	25.5	-0.19	0.69	60	13	25.3	0.48
6	4	5	72	47	48.3	0.55	0.57	72	47	48.8	0.61
6	5	1	46	17	2.9	-0.73	0.44	46	17	2.2	0.71
6	1	2	104	45	18.2	-0.27	0.47	104	45	17.9	0.69

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
4	5	305.5546	-0.0002	0.0003	305.5544	0.0002
4	1	344.0592	0.0001	0.0003	344.0594	0.0002
4	6	317.3999	0.0003	0.0003	317.4002	0.0002
4	2	385.3938	-0.0003	0.0003	385.3935	0.0002
4	D	14.9388	-0.0000	0.0000	14.9388	0.0005
3	5	212.8792	-0.0003	0.0002	212.8789	0.0003
3	6	170.6820	-0.0000	0.0003	170.6819	0.0002
3	2	171.8763	0.0003	0.0002	171.8767	0.0003
3	C	18.7706	-0.0000	0.0000	18.7706	0.0005
5	2	139.2805	0.0000	0.0002	139.2805	0.0002
5	6	56.0192	0.0003	0.0003	56.0195	0.0002
1	2	110.9112	-0.0001	0.0002	110.9111	0.0002
1	6	49.2815	-0.0001	0.0002	49.2814	0.0002
1	A	18.3016	0.0000	0.0000	18.3016	0.0005
2	6	87.5990	0.0004	0.0003	87.5993	0.0002
2	B	18.5041	-0.0000	0.0000	18.5041	0.0005

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrez...

Min sdX, sdY: 0.0001 0.0001
Max sdX, sdY: 0.0004 0.0005
Avr sdX, sdY: 0.0002 0.0003

KOVARIANCA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D: 0.00041579
 Sled kovariančne matrike: 0.00000147
 Srednja varianca: 0.00029401
 Srednja standardna deviacija: 0.01714673
 Generalizirana varianca: 0.00000161
 Generalizirana standardna deviacija: 0.00126689
 Najmanjša lastna vrednost kov. matrike: 0.00000000
 Največja lastna vrednost kov. matrike: 0.00000036
 Razmerje najmanjše in največje lastne vrednosti kov. matrike: 0.00314396

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000005
 Največja lastna vrednost: 0.001969
 Norma kovariančne matrike: 0.001257
 Norma matrike kriterija: 0.001969
 Razlika norm kovariančne in matrike kriterija: 0.000712
 Sled matrike kriterija: 0.005803

Karakteristična razdalja $d=2/3(s_{\min})$: 9.9603

Velikost Urp (reducirana in psevdoinverzna): 32 x 210
 Velikost vektorja q: 210 x 1
 Velikost optimiziranega vektorja uteži p: 32 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
4	6	2	9 3 26.9	48290562	0.97	0.296821
4	3	D	190 41 36.4	1782621	0.00	1.544883
3	5	1	10 56 11.5	57807160	0.93	0.271290
3	1	6	0 9 21.2	32094697	0.96	0.364090
3	2	C	204 16 43.6	2243146	-0.00	1.377198
5	3	4	61 13 46.6	38490717	0.73	0.332466
1	3	4	53 11 16.7	19102072	0.77	0.471938
1	5	A	131 48 56.8	1553621	0.00	1.654827
2	4	6	34 46 40.8	11683493	0.71	0.603447
2	5	1	14 13 0.5	13549866	0.71	0.560348
2	1	B	93 36 57.0	2266238	0.00	1.370163
6	3	4	60 13 25.5	25225798	0.62	0.410679
6	4	5	72 47 48.3	8434194	0.43	0.710237
6	5	1	46 17 2.9	2283886	0.24	1.364859
6	1	2	104 45 18.2	1227417	0.43	1.861783

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

4	5	1	2 53 43.8	-39093071	0.93
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OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
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4	5	305.5546	1301	0.60	0.000277
4	1	344.0592	264	0.60	0.000616
4	6	317.3999	1071	0.68	0.000306
4	2	385.3938	600	0.55	0.000408
4	D	14.9388	8530	-0.00	0.000108
3	5	212.8792	1735	0.44	0.000240
3	6	170.6820	1317	0.55	0.000276
3	2	171.8763	586	0.47	0.000413
3	C	18.7706	7139	-0.00	0.000118
5	2	139.2805	2139	0.50	0.000216
5	6	56.0192	3488	0.53	0.000169
1	6	49.2815	1209	0.48	0.000288
1	A	18.3016	7356	-0.00	0.000117
2	6	87.5990	1438	0.63	0.000264
2	B	18.5041	7341	0.00	0.000117

IZLOCENA OPAZOVANJA - HORIZONTALNE DOLZINE:

1	2	110.9112	-63	0.52
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OPAZOVANJA IN KOORDINATE TERESTRICNE MREZE LIBNA: STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X A	1053.1766	960.7467
X B	944.6572	919.2022
X C	849.9380	1103.6300
X D	1010.6958	1328.2763
X 1	1043.0364	975.9823
X 2	939.2408	936.8958
X 3	851.9763	1084.9716
X 4	1000.4564	1317.3965
X 5	1053.5390	1016.4883
X 6	1000.0021	999.9966

SESTAVLJENI KOTI:

A	4	6	2	9	3	26.9	0.8833
A	4	3	D	190	41	36.4	0.8833
A	3	5	1	10	56	11.5	0.8833
A	3	1	6	0	9	21.2	0.8833
A	3	2	C	204	16	43.6	0.8833
A	5	3	4	61	13	46.6	0.8833
A	1	3	4	53	11	16.7	0.8833
A	1	5	A	131	48	56.8	0.8833
A	2	4	6	34	46	40.8	0.8833
A	2	5	1	14	13	0.5	0.8833
A	2	1	B	93	36	57.0	0.8833
A	6	3	4	60	13	25.5	0.8833
A	6	4	5	72	47	48.3	0.8833
A	6	5	1	46	17	2.9	0.8833
A	6	1	2	104	45	18.2	0.8833

OPAZOVANE HORIZONTALNE DOLZINE:

D	4	5	305.55461	0.0003645
D	4	1	344.05922	0.0003645
D	4	6	317.39993	0.0003645
D	4	2	385.39383	0.0003645
D	4	D	14.93879	0.0005155
D	3	5	212.87917	0.0003645
D	3	6	170.68195	0.0003645
D	3	2	171.87631	0.0003645
D	3	C	18.77064	0.0005155
D	5	2	139.28046	0.0003645

D	5	6	56.01924	0.0003645
D	1	6	49.28150	0.0003645
D	1	A	18.30157	0.0005155
D	2	6	87.59897	0.0003645
D	2	B	18.50408	0.0005155

*K

GM2R - GEODETSKA 2D MREZA
Opazovanja: Hz smeri, Hz dolzine
Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 16:09:42.7
Ime vhodne datoteke: libna4.txt
Ime izhodne datoteke: libna4.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
A	1053.1766	960.7467
B	944.6572	919.2022
C	849.9380	1103.6300
D	1010.6958	1328.2763
1	1043.0364	975.9823
2	939.2408	936.8958
3	851.9763	1084.9716
4	1000.4564	1317.3965
5	1053.5390	1016.4883
6	1000.0021	999.9966

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
4	6	2	9 3 26.9	0.8833
4	3	D	190 41 36.4	0.8833
3	5	1	10 56 11.5	0.8833
3	1	6	0 9 21.2	0.8833
3	2	C	204 16 43.6	0.8833
5	3	4	61 13 46.6	0.8833
1	3	4	53 11 16.7	0.8833
1	5	A	131 48 56.8	0.8833
2	4	6	34 46 40.8	0.8833
2	5	1	14 13 0.5	0.8833
2	1	B	93 36 57.0	0.8833
6	3	4	60 13 25.5	0.8833
6	4	5	72 47 48.3	0.8833
6	5	1	46 17 2.9	0.8833
6	1	2	104 45 18.2	0.8833

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
4	5	305.5546	0.0004
4	1	344.0592	0.0004
4	6	317.3999	0.0004
4	2	385.3938	0.0004
4	D	14.9388	0.0005
3	5	212.8792	0.0004
3	6	170.6820	0.0004
3	2	171.8763	0.0004
3	C	18.7706	0.0005
5	2	139.2805	0.0004
5	6	56.0192	0.0004
1	6	49.2815	0.0004
1	A	18.3016	0.0005
2	6	87.5990	0.0004
2	B	18.5041	0.0005

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	10
Stevilo vseh koordinat:	20
Stevilo vseh opazovanj:	30
# sestavljenih kotov:	15
# horizontalnih dolzin:	15
Stevilo vseh neznank:	20
Stevilo nadstevilnih opazovanj:	10

SESTAVLJAM GMM MODEL - ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
4	6	2	121.45	84.08	-649.86	0.93	528.41	-85.01	0.167
4	3	D	10683.85	-9864.46	-630.24	402.62	-10053.61	9461.84	-7.120
3	5	1	-152.94	102.90	-311.71	-917.42	464.64	814.53	0.218
3	1	6	-137.00	-233.53	-464.64	-814.53	601.64	1048.06	-0.237
3	2	C	11958.32	1802.71	-1033.89	-609.30	-10924.42	-1193.42	-5.001
5	3	4	353.08	-800.15	311.71	917.42	-664.79	-117.27	0.332
1	3	4	130.25	-740.33	464.64	814.53	-594.90	-74.19	2.222

1	5	A	-14153.71	-5007.31	4771.43	-1237.16	9382.28	6244.47	8.102
2	4	6	1167.72	-1548.23	528.41	-85.01	-1696.13	1633.24	1.449
2	5	1	-190.89	-525.12	846.29	-1215.30	-655.39	1740.42	-0.080
2	1	B	-11314.15	-1522.46	655.39	-1740.42	10658.75	3262.88	-4.946
6	3	4	48.21	-1048.99	601.64	1048.06	-649.86	0.93	0.179
6	4	5	434.10	-3517.92	649.86	-0.93	-1083.96	3518.85	0.457
6	5	1	-3123.50	-136.06	1083.96	-3518.85	2039.54	3654.91	-1.184
6	1	2	343.41	5288.16	-2039.54	-3654.91	1696.13	-1633.24	0.642

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
4	5	0.1737255	-0.9847941	-0.1737255	0.9847941	-0.0001840
4	1	0.1237578	-0.9923125	-0.1237578	0.9923125	-0.0000501
4	6	-0.0014313	-0.9999990	0.0014313	0.9999990	0.0002951
4	2	-0.1588392	-0.9873045	0.1588392	0.9873045	-0.0003527
4	D	0.6853501	0.7282137	-0.6853501	-0.7282137	0.0016036
3	5	0.9468415	-0.3217005	-0.9468415	0.3217005	-0.0001330
3	6	0.8672601	-0.4978553	-0.8672601	0.4978553	0.0001759
3	2	0.5077163	-0.8615243	-0.5077163	0.8615243	0.0002024
3	C	-0.1085969	0.9940859	0.1085969	-0.9940859	-0.0012352
5	2	-0.8206335	-0.5714549	0.8206335	0.5714549	-0.0000070
5	6	-0.9556846	-0.2943925	0.9556846	0.2943925	0.0001837
1	6	-0.8732395	0.4872912	0.8732395	-0.4872912	-0.0002908
1	A	0.5540620	-0.8324754	-0.5540620	0.8324754	-0.0000082
2	6	0.6936273	0.7203341	-0.6936273	-0.7203341	0.0003824
2	B	0.2927139	-0.9562001	-0.2927139	0.9562001	-0.0000029

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.29

Ref. std. odklon a-posteriori: 0.29

Globalni test: 1.02

Globalni test [SQRT]: 1.01

Matrika R [DIAG]: 13.00

Matrika R [POVPRECJE]: 0.43

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK - IZRAVNANE KOORDINATE TOCK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH

A	1053.1766	960.7467			
	0.0006	0.0003	0.0004	0.0004	
	1053.1772	960.7470	0.0005	0.0003	136.2
B	944.6572	919.2022			
	-0.0003	-0.0002	0.0002	0.0005	
	944.6569	919.2020	0.0005	0.0002	104.9
C	849.9380	1103.6300			
	0.0006	0.0015	0.0003	0.0005	
	849.9386	1103.6315	0.0005	0.0003	86.7
D	1010.6958	1328.2763			
	-0.0008	-0.0015	0.0003	0.0004	
	1010.6950	1328.2748	0.0005	0.0002	53.6
1	1043.0364	975.9823			
	-0.0001	-0.0002	0.0002	0.0002	
	1043.0363	975.9821	0.0002	0.0001	154.8
2	939.2408	936.8958			
	0.0001	-0.0001	0.0002	0.0002	
	939.2409	936.8957	0.0002	0.0002	31.5
3	851.9763	1084.9716			
	0.0002	0.0002	0.0003	0.0003	
	851.9765	1084.9718	0.0003	0.0002	45.4
4	1000.4564	1317.3965			
	-0.0001	0.0000	0.0002	0.0002	
	1000.4563	1317.3965	0.0002	0.0002	29.8
5	1053.5390	1016.4883			
	-0.0000	0.0000	0.0002	0.0002	
	1053.5390	1016.4883	0.0002	0.0002	1.5
6	1000.0021	999.9966			
	-0.0001	0.0000	0.0001	0.0001	
	1000.0020	999.9966	0.0002	0.0001	141.6

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	V	S_V	L_	S_L_

4	6	2	9 3 26.9	0.08	0.88	9 3 27.0	0.15
4	3	D	190 41 36.4	-0.04	0.44	190 41 36.4	0.78
3	5	1	10 56 11.5	0.41	0.86	10 56 11.9	0.24
3	1	6	0 9 21.2	-0.29	0.88	0 9 20.9	0.17
3	2	C	204 16 43.6	0.05	0.50	204 16 43.7	0.74

5	3	4	61	13	46.6	0.04	0.76	61	13	46.6	0.47
1	3	4	53	11	16.7	1.79	0.78	53	11	18.5	0.43
1	5	A	131	48	56.8	-0.90	0.39	131	48	55.9	0.80
2	4	6	34	46	40.8	1.14	0.78	34	46	41.9	0.44
2	5	1	14	13	0.5	0.18	0.77	14	13	0.7	0.44
2	1	B	93	36	57.0	-0.50	0.41	93	36	56.5	0.79
6	3	4	60	13	25.5	-0.20	0.73	60	13	25.3	0.51
6	4	5	72	47	48.3	0.53	0.60	72	47	48.8	0.66
6	5	1	46	17	2.9	-0.65	0.42	46	17	2.2	0.79
6	1	2	104	45	18.2	-0.36	0.42	104	45	17.8	0.79

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
4	5	305.5546	-0.0002	0.0003	305.5544	0.0002
4	1	344.0592	0.0001	0.0003	344.0594	0.0002
4	6	317.3999	0.0003	0.0003	317.4002	0.0002
4	2	385.3938	-0.0003	0.0003	385.3935	0.0003
4	D	14.9388	-0.0000	0.0000	14.9388	0.0005
3	5	212.8792	-0.0003	0.0002	212.8789	0.0003
3	6	170.6820	-0.0000	0.0003	170.6819	0.0002
3	2	171.8763	0.0003	0.0003	171.8767	0.0003
3	C	18.7706	-0.0000	0.0000	18.7706	0.0005
5	2	139.2805	-0.0000	0.0002	139.2804	0.0003
5	6	56.0192	0.0003	0.0003	56.0195	0.0003
1	6	49.2815	-0.0002	0.0002	49.2813	0.0003
1	A	18.3016	0.0000	0.0000	18.3016	0.0005
2	6	87.5990	0.0003	0.0003	87.5993	0.0003
2	B	18.5041	0.0000	0.0000	18.5041	0.0005

OPTIM2D – OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. – Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0004	0.0005
Avr sdX, sdY:	0.0003	0.0003

KOVARIANCNA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00045830
Sled kovariančne matrike:	0.00000179
Srednja varianca:	0.00032407
Srednja standardna deviacija:	0.01800188

Generalizirana varianca: 0.00000191
 Generalizirana standardna deviacija: 0.00138193
 Najmanjsa lastna vrednost kov. matrike: 0.00000000
 Najvecja lastna vrednost kov. matrike: 0.00000041
 Razmerje najmanjse in največje lastne vrednosti kov. matrike: 0.00351851

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000004
 Najvecja lastna vrednost: 0.001600
 Norma kovariančne matrike: 0.000594
 Norma matrike kriterija: 0.001600
 Razlika norm kovariančne in matrike kriterija: 0.001006
 Sled matrike kriterija: 0.005419

Karakteristicna razdalja $d=2/3(s_{\min})$: 9.9603

Velikost Urp (reducirana in psevdoinverzna): 30 x 210
 Velikost vektorja q: 210 x 1
 Velikost optimiziranega vektorja utezi p: 30 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			pi(opt)	ri	std_k
4	6	2	9	3	26.9	49387122	0.97	0.293507
4	3	D	190	41	36.4	1781238	-0.00	1.545483
3	5	1	10	56	11.5	52907920	0.92	0.283573
3	1	6	0	9	21.2	32397350	0.96	0.362385
3	2	C	204	16	43.6	2248612	0.00	1.375523
5	3	4	61	13	46.6	38234331	0.73	0.333579
1	3	4	53	11	16.7	19952254	0.77	0.461774
1	5	A	131	48	56.8	1511392	0.00	1.677786
2	4	6	34	46	40.8	11768380	0.71	0.601266
2	5	1	14	13	0.5	13259239	0.69	0.566456
2	1	B	93	36	57.0	2263955	-0.00	1.370854
6	3	4	60	13	25.5	25047260	0.62	0.412140
6	4	5	72	47	48.3	8516912	0.43	0.706780
6	5	1	46	17	2.9	2451089	0.21	1.317485
6	1	2	104	45	18.2	1196917	0.36	1.885355

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
4	5	305.5546	1325	0.60	0.000275
4	1	344.0592	284	0.60	0.000594

4	6	317.3999	1056	0.67	0.000308
4	2	385.3938	593	0.53	0.000411
4	D	14.9388	8526	-0.00	0.000108
3	5	212.8792	1638	0.43	0.000247
3	6	170.6820	1364	0.55	0.000271
3	2	171.8763	592	0.46	0.000411
3	C	18.7706	7137	-0.00	0.000118
5	2	139.2805	2059	0.43	0.000220
5	6	56.0192	3393	0.50	0.000172
1	6	49.2815	1144	0.34	0.000296
1	A	18.3016	7365	-0.00	0.000117
2	6	87.5990	1461	0.50	0.000262
2	B	18.5041	7342	-0.00	0.000117

IZLOCENA OPAZOVANJA - HORIZONTALNE DOLZINE:

OPAZOVANJA IN KOORDINATE Markovci STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X	O5	1011.2688	824.1240
X	O1	1199.2834	908.5911
X	O2	1005.9215	854.6274
X	O7	1212.5079	1000.0090
X	O6	1000.0140	999.9849
X	H1	1021.4392	1007.9003
X	H2	1040.9193	1008.7892
X	H3	1061.8784	1009.7693
X	H4	1082.8605	1010.7467
X	H5	1103.8011	1011.7453
X	H6	1124.7944	1012.7826
X	H7	1144.0927	1013.7183

SESTAVLJENI KOTI:

A	O1	O5	O2	8 35 58.6	1.4142
A	O1	O2	O6	40 14 1.6	1.4142
A	O1	O6	H1	4 32 21.7	1.4142
A	O1	H1	H2	3 8 33.7	1.4142
A	O1	H2	H3	4 2 43.5	1.4142
A	O1	H3	H4	4 53 52.9	1.4142
A	O1	H4	H5	5 56 52.6	1.4142
A	O1	H5	H6	7 13 32.1	1.4142
A	O1	H6	H7	7 51 44.8	1.4142
A	O1	H7	O7	35 55 45.8	1.4142
A	O7	O1	O5	40 36 59.3	1.4142
A	O7	O5	O2	6 1 5.9	1.4142
A	O7	O2	O6	35 7 43.2	1.4142
A	O6	O7	O1	24 38 47.3	1.4142
A	O6	O1	O2	63 2 24.8	1.4142
A	O2	O6	H1	8 6 15.0	1.4142
A	O2	H1	H2	7 0 32.1	1.4142
A	O2	H2	H3	7 2 36.8	1.4142
A	O2	H3	H4	6 24 3.2	1.4142
A	O2	H4	H5	5 41 8.4	1.4142
A	O2	H5	H6	5 0 29.4	1.4142
A	O2	H6	H7	4 2 40.6	1.4142
A	O2	H7	O7	13 53 26.5	1.4142
A	O2	O7	O1	19 32 25.9	1.4142
A	O2	O1	O5	95 39 15.9	1.4142
A	O5	O7	O1	16 57 36.7	1.4142
A	O5	O1	O2	284 15 15.8	1.4142
A	O5	O2	H1	13 6 31.8	1.4142
A	O5	H1	H2	5 57 12.1	1.4142

A	O5	H2	H3	6	7	38.5	1.4142
A	O5	H3	H4	5	44	15.5	1.4142
A	O5	H4	H5	5	15	51.2	1.4142
A	O5	H5	H6	4	47	3.6	1.4142
A	O5	H6	H7	3	58	35.8	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

#	-----						
D	O1	O5		206.11404			0.004
D	O1	O2		200.74728			0.004
D	O1	O6		219.21204			0.004
D	O1	H1		203.68888			0.001
D	O1	H2		187.39792			0.001
D	O1	H3		170.63423			0.001
D	O1	H4		154.88977			0.001
D	O1	H5		140.56464			0.001
D	O1	H6		128.08130			0.001
D	O1	H7		118.73430			0.001
D	O1	O7		92.36555			0.004
D	O7	O5		267.26309			0.004
D	O7	O2		252.60791			0.004
D	O7	O6		212.47745			0.004
D	O6	O2		145.47131			0.004
D	O2	H1		154.05084			0.001
D	O2	H2		158.08155			0.001
D	O2	H3		164.92269			0.001
D	O2	H4		174.04495			0.001
D	O2	H5		185.11170			0.001
D	O2	H6		197.84501			0.001
D	O2	O5		30.96816			0.004
D	O5	H1		184.05154			0.001
D	O5	H2		187.02714			0.001
D	O5	H3		192.41761			0.001
D	O5	H4		199.88042			0.001
D	O5	H7		231.48755			0.001

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:04:48.7

Ime vhodne datoteke: markovci.txt

Ime izhodne datoteke: markovci.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O5	1011.2688	824.1240
O1	1199.2834	908.5911
O2	1005.9215	854.6274
O7	1212.5079	1000.0090
O6	1000.0140	999.9849
H1	1021.4392	1007.9003
H2	1040.9193	1008.7892
H3	1061.8784	1009.7693
H4	1082.8605	1010.7467
H5	1103.8011	1011.7453
H6	1124.7944	1012.7826
H7	1144.0927	1013.7183

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
O1	O5	O2	8 35 58.6	1.4142
O1	O2	O6	40 14 1.6	1.4142
O1	O6	H1	4 32 21.7	1.4142
O1	H1	H2	3 8 33.7	1.4142
O1	H2	H3	4 2 43.5	1.4142
O1	H3	H4	4 53 52.9	1.4142
O1	H4	H5	5 56 52.6	1.4142
O1	H5	H6	7 13 32.1	1.4142
O1	H6	H7	7 51 44.8	1.4142
O1	H7	O7	35 55 45.8	1.4142
O7	O1	O5	40 36 59.3	1.4142
O7	O5	O2	6 1 5.9	1.4142
O7	O2	O6	35 7 43.2	1.4142
O6	O7	O1	24 38 47.3	1.4142
O6	O1	O2	63 2 24.8	1.4142

O2	O6	H1	8	6	15.0	1.4142
O2	H1	H2	7	0	32.1	1.4142
O2	H2	H3	7	2	36.8	1.4142
O2	H3	H4	6	24	3.2	1.4142
O2	H4	H5	5	41	8.4	1.4142
O2	H5	H6	5	0	29.4	1.4142
O2	H6	H7	4	2	40.6	1.4142
O2	H7	O7	13	53	26.5	1.4142
O2	O7	O1	19	32	25.9	1.4142
O2	O1	O5	95	39	15.9	1.4142
O5	O7	O1	16	57	36.7	1.4142
O5	O1	O2	284	15	15.8	1.4142
O5	O2	H1	13	6	31.8	1.4142
O5	H1	H2	5	57	12.1	1.4142
O5	H2	H3	6	7	38.5	1.4142
O5	H3	H4	5	44	15.5	1.4142
O5	H4	H5	5	15	51.2	1.4142
O5	H5	H6	4	47	3.6	1.4142
O5	H6	H7	3	58	35.8	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
O1	O5	206.1140	0.0040
O1	O2	200.7473	0.0040
O1	O6	219.2120	0.0040
O1	H1	203.6889	0.0010
O1	H2	187.3979	0.0010
O1	H3	170.6342	0.0010
O1	H4	154.8898	0.0010
O1	H5	140.5646	0.0010
O1	H6	128.0813	0.0010
O1	H7	118.7343	0.0010
O1	O7	92.3655	0.0040
O7	O5	267.2631	0.0040
O7	O2	252.6079	0.0040
O7	O6	212.4775	0.0040
O6	O2	145.4713	0.0040
O2	H1	154.0508	0.0010
O2	H2	158.0815	0.0010
O2	H3	164.9227	0.0010
O2	H4	174.0450	0.0010
O2	H5	185.1117	0.0010
O2	H6	197.8450	0.0010
O2	O5	30.9682	0.0040
O5	H1	184.0515	0.0010
O5	H2	187.0271	0.0010
O5	H3	192.4176	0.0010

O5	H4	199.8804	0.0010
O5	H7	231.4876	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh točk:	12
Stevilo vseh koordinat:	24
Stevilo vseh opazovanj:	61
# sestavljenih kotov:	34
# horizontalnih dolzin:	27
Stevilo vseh neznank:	24
Stevilo nadstevilnih opazovanj:	37

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV – KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
O1	O5	O2	133.90	76.82	-410.10	912.83	276.19	-989.65	-2.330
O1	O2	O6	668.43	-134.44	-276.19	989.65	-392.24	-855.21	-7.409
O1	O6	H1	101.46	28.91	392.24	855.21	-493.70	-884.12	5.695
O1	H1	H2	94.80	46.00	493.70	884.12	-588.50	-930.13	-0.362
O1	H2	H3	128.25	43.25	588.50	930.13	-716.74	-973.37	-4.196
O1	H3	H4	161.58	27.62	716.74	973.37	-878.33	-1001.00	4.733
O1	H4	H5	198.58	-4.19	878.33	1001.00	-1076.90	-996.81	-5.556
O1	H5	H6	233.17	-60.21	1076.90	996.81	-1310.07	-936.60	2.545
O1	H6	H7	228.05	-129.10	1310.07	936.60	-1538.12	-807.50	1.545
O1	H7	O7	671.91	-1127.20	1538.12	807.50	-2210.04	319.70	3.316
O7	O1	O5	1702.16	261.38	-2210.04	319.70	507.87	-581.09	-5.603
O7	O5	O2	37.96	86.66	-507.87	581.09	469.92	-667.75	0.636
O7	O2	O6	469.81	302.94	-469.92	667.75	0.11	-970.69	0.498
O6	O7	O1	-392.35	115.48	0.11	-970.69	392.24	855.21	-6.051
O6	O1	O2	-1024.44	797.63	-392.24	-855.21	1416.68	57.58	-20.889
O2	O6	H1	-84.60	-192.44	1416.68	57.58	-1332.08	134.86	15.042
O2	H1	H2	-59.68	-154.00	1332.08	-134.86	-1272.40	288.86	1.863
O2	H2	H3	-95.92	-135.47	1272.40	-288.86	-1176.47	424.33	-2.100
O2	H3	H4	-113.45	-99.55	1176.47	-424.33	-1063.02	523.88	2.633
O2	H4	H5	-117.26	-65.30	1063.02	-523.88	-945.76	589.18	3.169
O2	H5	H6	-112.38	-37.21	945.76	-589.18	-833.38	626.39	-1.713
O2	H6	H7	-94.33	-15.48	833.38	-626.39	-739.05	641.87	1.929
O2	H7	O7	-269.14	-25.88	739.05	-641.87	-469.92	667.75	-1.682
O2	O7	O1	-193.72	-321.90	469.92	-667.75	-276.19	989.65	4.856
O2	O1	O5	-6836.61	-160.40	276.19	-989.65	6560.42	1150.05	-14.440
O5	O7	O1	-97.78	-331.74	507.87	-581.09	-410.10	912.83	4.322
O5	O1	O2	6150.32	2062.88	410.10	-912.83	-6560.42	-1150.05	-18.069
O5	O2	H1	-5441.48	-1211.98	6560.42	1150.05	-1118.94	61.92	6.384
O5	H1	H2	-30.05	-112.91	1118.94	-61.92	-1088.89	174.84	2.917
O5	H2	H3	-54.69	-107.10	1088.89	-174.84	-1034.21	281.94	-0.051
O5	H3	H4	-70.74	-87.66	1034.21	-281.94	-963.46	369.60	3.368
O5	H4	H5	-79.18	-66.51	963.46	-369.60	-884.28	436.12	-0.022

O5	H5	H6	-81.61	-46.89	884.28	-436.12	-802.67	483.01	4.542
O5	H6	H7	-72.91	-28.24	802.67	-483.01	-729.76	511.25	-0.736

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
01	O5	-0.9121745	-0.4098019	0.9121745	0.4098019	0.0028705
01	O2	-0.9631934	-0.2688093	0.9631934	0.2688093	0.0035738
01	O6	-0.9089577	0.4168884	0.9089577	-0.4168884	0.0164263
01	H1	-0.8730988	0.4875433	0.8730988	-0.4875433	0.0042143
01	H2	-0.8450582	0.5346744	0.8450582	-0.5346744	0.0023132
01	H3	-0.8052450	0.5929423	0.8052450	-0.5929423	0.0032869
01	H4	-0.7516623	0.6595482	0.7516623	-0.6595482	-0.0025263
01	H5	-0.6792899	0.7338701	0.6792899	-0.7338701	-0.0027014
01	H6	-0.5815819	0.8134878	0.5815819	-0.8134878	-0.0013258
01	H7	-0.4648268	0.8854016	0.4648268	-0.8854016	-0.0003893
01	O7	0.1431696	0.9896982	-0.1431696	-0.9896982	0.0039246
07	O5	-0.7529460	-0.6580824	0.7529460	0.6580824	0.0058917
07	O2	-0.8177953	-0.5755093	0.8177953	0.5755093	0.0059263
07	O6	-1.0000000	-0.0001134	1.0000000	0.0001134	0.0164514
06	O2	0.0406077	-0.9991752	-0.0406077	0.9991752	0.0061844
02	H1	0.1007274	0.9949141	-0.1007274	-0.9949141	0.0055811
02	H2	0.2213867	0.9751861	-0.2213867	-0.9751861	0.0029419
02	H3	0.3392874	0.9406828	-0.3392874	-0.9406828	0.0020922
02	H4	0.4420552	0.8969878	-0.4420552	-0.8969878	0.0034500
02	H5	0.5287588	0.8487721	-0.5287588	-0.8487721	0.0002947
02	H6	0.6008294	0.7993773	-0.6008294	-0.7993773	0.0029964
02	O5	0.1726687	-0.9849800	-0.1726687	0.9849800	0.0003890
05	H1	0.0552566	0.9984722	-0.0552566	-0.9984722	0.0059659
05	H2	0.1585330	0.9873537	-0.1585330	-0.9873537	0.0033074
05	H3	0.2630161	0.9647914	-0.2630161	-0.9647914	0.0025267
05	H4	0.3581672	0.9336575	-0.3581672	-0.9336575	0.0030552
05	H7	0.5737751	0.8190129	-0.5737751	-0.8190129	0.0036745

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 1.63

Ref. std. odklon a-posteriori: 3.53

Globalni test: 4.69

Globalni test [SQRT]: 2.17

Matrika R [DIAG]: 40.00

Matrika R [POVPRECJE]: 0.66

 IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

 IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH
O5	1011.2688 -0.0019 1011.2669	824.1240 0.0009 824.1249	0.0007 0.0008	0.0008	86.2
O1	1199.2834 -0.0028 1199.2806	908.5911 0.0014 908.5925	0.0008 0.0009	0.0008 0.0006	50.2
O2	1005.9215 -0.0004 1005.9211	854.6274 0.0020 854.6294	0.0006 0.0007	0.0007 0.0006	94.3
O7	1212.5079 -0.0051 1212.5028	1000.0090 -0.0012 1000.0078	0.0010 0.0015	0.0015 0.0009	70.7
O6	1000.0140 0.0150 1000.0290	999.9849 -0.0030 999.9819	0.0012 0.0015	0.0015 0.0012	96.4
H1	1021.4392 0.0024 1021.4416	1007.9003 -0.0037 1007.8966	0.0010 0.0012	0.0012 0.0010	86.5
H2	1040.9193 0.0005 1040.9198	1008.7892 -0.0016 1008.7876	0.0010 0.0012	0.0012 0.0010	85.6
H3	1061.8784 0.0020 1061.8804	1009.7693 -0.0006 1009.7687	0.0011 0.0011	0.0011 0.0011	92.8
H4	1082.8605 -0.0023 1082.8582	1010.7467 -0.0007 1010.7460	0.0011 0.0011	0.0011 0.0011	113.4
H5	1103.8011 -0.0012 1103.7999	1011.7453 0.0035 1011.7488	0.0011 0.0013	0.0013 0.0011	92.8
H6	1124.7944 -0.0027 1124.7917	1012.7826 0.0020 1012.7846	0.0011 0.0012	0.0012 0.0011	103.1
H7	1144.0927 -0.0036	1013.7183 0.0010	0.0011 0.0012	0.0012	

1144.0891 1013.7193 0.0012 0.0010 106.2

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	V	S_V	L_	S_L_
01	05	02	8 35 58.6	-1.62	2.80	8 35 57.0	1.24
01	02	06	40 14 1.6	-4.17	2.51	40 13 57.4	1.75
01	06	H1	4 32 21.7	0.59	2.30	4 32 22.3	2.03
01	H1	H2	3 8 33.7	0.66	2.48	3 8 34.4	1.80
01	H2	H3	4 2 43.5	-1.82	2.39	4 2 41.7	1.92
01	H3	H4	4 53 52.9	1.53	2.29	4 53 54.4	2.04
01	H4	H5	5 56 52.6	-0.03	2.00	5 56 52.6	2.32
01	H5	H6	7 13 32.1	-0.69	1.73	7 13 31.4	2.53
01	H6	H7	7 51 44.8	-0.70	1.58	7 51 44.1	2.63
01	H7	07	35 55 45.8	0.78	1.59	35 55 46.6	2.62
07	01	05	40 36 59.3	-1.72	2.49	40 36 57.6	1.79
07	05	02	6 1 5.9	0.92	2.93	6 1 6.8	0.89
07	02	06	35 7 43.2	-1.25	2.61	35 7 42.0	1.61
06	07	01	24 38 47.3	-1.07	2.49	24 38 46.2	1.78
06	01	02	63 2 24.8	-2.52	2.30	63 2 22.3	2.03
02	06	H1	8 6 15.0	-1.99	2.01	8 6 13.0	2.31
02	H1	H2	7 0 32.1	-0.47	2.30	7 0 31.6	2.03
02	H2	H3	7 2 36.8	-0.38	2.32	7 2 36.4	2.00
02	H3	H4	6 24 3.2	-1.87	2.35	6 24 1.3	1.96
02	H4	H5	5 41 8.4	2.14	2.39	5 41 10.5	1.92
02	H5	H6	5 0 29.4	-1.99	2.43	5 0 27.4	1.87
02	H6	H7	4 2 40.6	2.12	2.48	4 2 42.7	1.80
02	H7	07	13 53 26.5	-0.03	2.53	13 53 26.5	1.73
02	07	01	19 32 25.9	4.86	2.75	19 32 30.8	1.35
02	01	05	95 39 15.9	-2.86	2.34	95 39 13.0	1.97
05	07	01	16 57 36.7	3.90	2.82	16 57 40.6	1.20
05	01	02	284 15 15.8	-5.78	2.44	284 15 10.0	1.86
05	02	H1	13 6 31.8	0.05	2.44	13 6 31.9	1.85
05	H1	H2	5 57 12.1	0.85	2.55	5 57 12.9	1.70
05	H2	H3	6 7 38.5	1.34	2.55	6 7 39.8	1.70
05	H3	H4	5 44 15.5	-0.86	2.56	5 44 14.6	1.69
05	H4	H5	5 15 51.2	-0.74	2.57	5 15 50.5	1.67
05	H5	H6	4 47 3.6	3.87	2.59	4 47 7.5	1.64
05	H6	H7	3 58 35.8	-0.86	2.61	3 58 34.9	1.60

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
01	05	206.1140	0.0023	0.0086	206.1163	0.0014
01	02	200.7473	0.0011	0.0086	200.7484	0.0013
01	06	219.2120	-0.0016	0.0085	219.2104	0.0017
01	H1	203.6889	-0.0028	0.0018	203.6861	0.0013

O1	H2	187.3979	-0.0021	0.0018	187.3958	0.0013
O1	H3	170.6342	-0.0017	0.0018	170.6325	0.0013
O1	H4	154.8898	-0.0043	0.0017	154.8855	0.0013
O1	H5	140.5646	-0.0023	0.0017	140.5624	0.0014
O1	H6	128.0813	-0.0009	0.0017	128.0804	0.0014
O1	H7	118.7343	-0.0004	0.0016	118.7339	0.0014
O1	O7	92.3655	0.0010	0.0084	92.3666	0.0019
O7	O5	267.2631	0.0022	0.0085	267.2652	0.0019
O7	O2	252.6079	0.0003	0.0085	252.6082	0.0018
O7	O6	212.4775	-0.0036	0.0085	212.4738	0.0018
O6	O2	145.4713	0.0005	0.0085	145.4718	0.0019
O2	H1	154.0508	0.0002	0.0016	154.0510	0.0014
O2	H2	158.0815	-0.0004	0.0017	158.0811	0.0014
O2	H3	164.9227	0.0004	0.0017	164.9231	0.0013
O2	H4	174.0450	0.0001	0.0017	174.0451	0.0013
O2	H5	185.1117	0.0011	0.0017	185.1128	0.0014
O2	H6	197.8450	0.0015	0.0017	197.8465	0.0014
O2	O5	30.9682	0.0012	0.0086	30.9693	0.0012
O5	H1	184.0515	0.0016	0.0016	184.0531	0.0014
O5	H2	187.0271	0.0012	0.0017	187.0283	0.0014
O5	H3	192.4176	0.0021	0.0017	192.4197	0.0014
O5	H4	199.8804	0.0014	0.0017	199.8818	0.0013
O5	H7	231.4876	0.0027	0.0017	231.4903	0.0014

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0006	0.0007
Max sdX, sdY:	0.0012	0.0015
Avr sdX, sdY:	0.0010	0.0011

KOVARIANCA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00159471
Sled kovariančne matrike:	0.00002797
Srednja varianca:	0.00112763
Srednja standardna deviacija:	0.03358017
Generalizirana varianca:	0.00005899
Generalizirana standardna deviacija:	0.00768022
Najmanjša lastna vrednost kov. matrike:	0.00000003
Največja lastna vrednost kov. matrike:	0.00000435
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00645293

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000000

Največja lastna vrednost:	0.000516
Norma kovariančne matrike:	0.000591
Norma matrike kriterija:	0.000516
Razlika norm kovariančne in matrike kriterija:	0.000076
Sled matrike kriterija:	0.002727

Karakteristicna razdalja $d=2/3(s_{\min})$:

12.8806

Velikost Urp (reducirana in psevdoinverzna): 61 x 300

Velikost vektorja q: 300 x 1

Velikost optimiziranega vektorja utezi p: 61 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
01	O6	H1	4 32 21.7	229572363	0.46	0.136134
01	H1	H2	3 8 33.7	230073492	0.63	0.135985
01	H2	H3	4 2 43.5	202762510	0.58	0.144854
01	H3	H4	4 53 52.9	170347488	0.53	0.158036
01	H4	H5	5 56 52.6	144944715	0.37	0.171326
01	H5	H6	7 13 32.1	121199335	0.30	0.187359
01	H6	H7	7 51 44.8	114109684	0.25	0.193092
01	H7	O7	35 55 45.8	15530811	0.33	0.523393
07	O1	O5	40 36 59.3	12605735	0.52	0.580953
07	O5	O2	6 1 5.9	447716959	0.89	0.097482
07	O2	O6	35 7 43.2	79223863	0.62	0.231738
06	O7	O1	24 38 47.3	93763029	0.63	0.213015
06	O1	O2	63 2 24.8	34566398	0.49	0.350831
02	O6	H1	8 6 15.0	98551054	0.35	0.207776
02	H1	H2	7 0 32.1	550816302	0.55	0.087886
02	H2	H3	7 2 36.8	641971231	0.56	0.081408
02	H3	H4	6 24 3.2	678622586	0.58	0.079179
02	H4	H5	5 41 8.4	725679422	0.60	0.076569
02	H5	H6	5 0 29.4	838596429	0.62	0.071228
02	H6	H7	4 2 40.6	1000303881	0.65	0.065217
02	H7	O7	13 53 26.5	155561735	0.67	0.165376
02	O7	O1	19 32 25.9	60439742	0.85	0.265316
05	O1	O2	284 15 15.8	12210570	0.66	0.590279

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

01	O5	O2	8 35 58.6	-34791258	0.80
01	O2	O6	40 14 1.6	-20272216	0.69
02	O1	O5	95 39 15.9	-5702460	0.41
05	O7	O1	16 57 36.7	-88701357	0.82
05	O2	H1	13 6 31.8	-4493666	0.64
05	H1	H2	5 57 12.1	-595400882	0.69
05	H2	H3	6 7 38.5	-697801177	0.69
05	H3	H4	5 44 15.5	-698438834	0.70
05	H4	H5	5 15 51.2	-710319033	0.70
05	H5	H6	4 47 3.6	-805429341	0.71
05	H6	H7	3 58 35.8	-944940652	0.74

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
01	O5	206.1140	1988	0.97	0.000224

O1	O2	200.7473	382	0.98	0.000511
O1	O6	219.2120	1379	0.96	0.000269
O1	H1	203.6889	1431	0.67	0.000264
O1	H2	187.3979	865	0.67	0.000340
O1	H3	170.6342	587	0.66	0.000413
O1	H4	154.8898	479	0.65	0.000457
O1	H5	140.5646	535	0.61	0.000432
O1	H6	128.0813	727	0.58	0.000371
O1	H7	118.7343	1631	0.56	0.000248
O1	O7	92.3655	1458	0.95	0.000262
O7	O5	267.2631	1646	0.95	0.000246
O7	O2	252.6079	1416	0.96	0.000266
O7	O6	212.4775	2286	0.96	0.000209
O6	O2	145.4713	1792	0.95	0.000236
O2	H1	154.0508	983	0.58	0.000319
O2	H2	158.0815	728	0.60	0.000371
O2	H3	164.9227	385	0.63	0.000510
O2	H4	174.0450	286	0.65	0.000591
O2	H5	185.1117	486	0.59	0.000454
O2	H6	197.8450	521	0.61	0.000438
O5	H1	184.0515	1879	0.57	0.000231
O5	H2	187.0271	1453	0.59	0.000262
O5	H3	192.4176	908	0.61	0.000332
O5	H4	199.8804	649	0.63	0.000393
O5	H7	231.4876	1856	0.59	0.000232

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

O2	O5	30.9682	-1057	0.98
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OPAZOVANJA IN KOORDINATE Markovci STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X	O5	1011.2688	824.1240
X	O1	1199.2834	908.5911
X	O2	1005.9215	854.6274
X	O7	1212.5079	1000.0090
X	O6	1000.0140	999.9849
X	H1	1021.4392	1007.9003
X	H2	1040.9193	1008.7892
X	H3	1061.8784	1009.7693
X	H4	1082.8605	1010.7467
X	H5	1103.8011	1011.7453
X	H6	1124.7944	1012.7826
X	H7	1144.0927	1013.7183

SESTAVLJENI KOTI:

A	O1	O6	H1	4 32 21.7	1.4142
A	O1	H1	H2	3 8 33.7	1.4142
A	O1	H2	H3	4 2 43.5	1.4142
A	O1	H3	H4	4 53 52.9	1.4142
A	O1	H4	H5	5 56 52.6	1.4142
A	O1	H5	H6	7 13 32.1	1.4142
A	O1	H6	H7	7 51 44.8	1.4142
A	O1	H7	O7	35 55 45.8	1.4142
A	O7	O1	O5	40 36 59.3	1.4142
A	O7	O5	O2	6 1 5.9	1.4142
A	O7	O2	O6	35 7 43.2	1.4142
A	O6	O7	O1	24 38 47.3	1.4142
A	O6	O1	O2	63 2 24.8	1.4142
A	O2	O6	H1	8 6 15.0	1.4142
A	O2	H1	H2	7 0 32.1	1.4142
A	O2	H2	H3	7 2 36.8	1.4142
A	O2	H3	H4	6 24 3.2	1.4142
A	O2	H4	H5	5 41 8.4	1.4142
A	O2	H5	H6	5 0 29.4	1.4142
A	O2	H6	H7	4 2 40.6	1.4142
A	O2	H7	O7	13 53 26.5	1.4142
A	O2	O7	O1	19 32 25.9	1.4142
A	O5	O1	O2	284 15 15.8	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

D	O1	O5	206.11404	0.004
D	O1	O2	200.74728	0.004

D	O1	O6	219.21204	0.004
D	O1	H1	203.68888	0.001
D	O1	H2	187.39792	0.001
D	O1	H3	170.63423	0.001
D	O1	H4	154.88977	0.001
D	O1	H5	140.56464	0.001
D	O1	H6	128.08130	0.001
D	O1	H7	118.73430	0.001
D	O1	O7	92.36555	0.004
D	O7	O5	267.26309	0.004
D	O7	O2	252.60791	0.004
D	O7	O6	212.47745	0.004
D	O6	O2	145.47131	0.004
D	O2	H1	154.05084	0.001
D	O2	H2	158.08155	0.001
D	O2	H3	164.92269	0.001
D	O2	H4	174.04495	0.001
D	O2	H5	185.11170	0.001
D	O2	H6	197.84501	0.001
D	O5	H1	184.05154	0.001
D	O5	H2	187.02714	0.001
D	O5	H3	192.41761	0.001
D	O5	H4	199.88042	0.001
D	O5	H7	231.48755	0.001

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:11:11.9

Ime vhodne datoteke: markovci2.txt

Ime izhodne datoteke: markovci2.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O5	1011.2688	824.1240
O1	1199.2834	908.5911
O2	1005.9215	854.6274
O7	1212.5079	1000.0090
O6	1000.0140	999.9849
H1	1021.4392	1007.9003
H2	1040.9193	1008.7892
H3	1061.8784	1009.7693
H4	1082.8605	1010.7467
H5	1103.8011	1011.7453
H6	1124.7944	1012.7826
H7	1144.0927	1013.7183

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
O1	O6	H1	4 32 21.7	1.4142
O1	H1	H2	3 8 33.7	1.4142
O1	H2	H3	4 2 43.5	1.4142
O1	H3	H4	4 53 52.9	1.4142
O1	H4	H5	5 56 52.6	1.4142
O1	H5	H6	7 13 32.1	1.4142
O1	H6	H7	7 51 44.8	1.4142
O1	H7	O7	35 55 45.8	1.4142
O7	O1	O5	40 36 59.3	1.4142
O7	O5	O2	6 1 5.9	1.4142
O7	O2	O6	35 7 43.2	1.4142
O6	O7	O1	24 38 47.3	1.4142
O6	O1	O2	63 2 24.8	1.4142
O2	O6	H1	8 6 15.0	1.4142
O2	H1	H2	7 0 32.1	1.4142

O2	H2	H3	7 2 36.8	1.4142
O2	H3	H4	6 24 3.2	1.4142
O2	H4	H5	5 41 8.4	1.4142
O2	H5	H6	5 0 29.4	1.4142
O2	H6	H7	4 2 40.6	1.4142
O2	H7	O7	13 53 26.5	1.4142
O2	O7	O1	19 32 25.9	1.4142
O5	O1	O2	284 15 15.8	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
O1	O5	206.1140	0.0040
O1	O2	200.7473	0.0040
O1	O6	219.2120	0.0040
O1	H1	203.6889	0.0010
O1	H2	187.3979	0.0010
O1	H3	170.6342	0.0010
O1	H4	154.8898	0.0010
O1	H5	140.5646	0.0010
O1	H6	128.0813	0.0010
O1	H7	118.7343	0.0010
O1	O7	92.3655	0.0040
O7	O5	267.2631	0.0040
O7	O2	252.6079	0.0040
O7	O6	212.4775	0.0040
O6	O2	145.4713	0.0040
O2	H1	154.0508	0.0010
O2	H2	158.0815	0.0010
O2	H3	164.9227	0.0010
O2	H4	174.0450	0.0010
O2	H5	185.1117	0.0010
O2	H6	197.8450	0.0010
O5	H1	184.0515	0.0010
O5	H2	187.0271	0.0010
O5	H3	192.4176	0.0010
O5	H4	199.8804	0.0010
O5	H7	231.4876	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	12
Stevilo vseh koordinat:	24
Stevilo vseh opazovanj:	49
# sestavljenih kotov:	23

# horizontalnih dolzin:	26
Stevilo vseh neznank:	24
Stevilo nadstevilnih opazovanj:	25

SESTAVLJAM GMM MODEL - ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
01	06	H1	101.46	28.91	392.24	855.21	-493.70	-884.12	5.695
01	H1	H2	94.80	46.00	493.70	884.12	-588.50	-930.13	-0.362
01	H2	H3	128.25	43.25	588.50	930.13	-716.74	-973.37	-4.196
01	H3	H4	161.58	27.62	716.74	973.37	-878.33	-1001.00	4.733
01	H4	H5	198.58	-4.19	878.33	1001.00	-1076.90	-996.81	-5.556
01	H5	H6	233.17	-60.21	1076.90	996.81	-1310.07	-936.60	2.545
01	H6	H7	228.05	-129.10	1310.07	936.60	-1538.12	-807.50	1.545
01	H7	O7	671.91	-1127.20	1538.12	807.50	-2210.04	319.70	3.316
07	O1	O5	1702.16	261.38	-2210.04	319.70	507.87	-581.09	-5.603
07	O5	O2	37.96	86.66	-507.87	581.09	469.92	-667.75	0.636
07	O2	O6	469.81	302.94	-469.92	667.75	0.11	-970.69	0.498
06	O7	O1	-392.35	115.48	0.11	-970.69	392.24	855.21	-6.051
06	O1	O2	-1024.44	797.63	-392.24	-855.21	1416.68	57.58	-20.889
02	O6	H1	-84.60	-192.44	1416.68	57.58	-1332.08	134.86	15.042
02	H1	H2	-59.68	-154.00	1332.08	-134.86	-1272.40	288.86	1.863
02	H2	H3	-95.92	-135.47	1272.40	-288.86	-1176.47	424.33	-2.100
02	H3	H4	-113.45	-99.55	1176.47	-424.33	-1063.02	523.88	2.633
02	H4	H5	-117.26	-65.30	1063.02	-523.88	-945.76	589.18	3.169
02	H5	H6	-112.38	-37.21	945.76	-589.18	-833.38	626.39	-1.713
02	H6	H7	-94.33	-15.48	833.38	-626.39	-739.05	641.87	1.929
02	H7	O7	-269.14	-25.88	739.05	-641.87	-469.92	667.75	-1.682
02	O7	O1	-193.72	-321.90	469.92	-667.75	-276.19	989.65	4.856
05	O1	O2	6150.32	2062.88	410.10	-912.83	-6560.42	-1150.05	-18.069

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
01	O5	-0.9121745	-0.4098019	0.9121745	0.4098019	0.0028705
01	O2	-0.9631934	-0.2688093	0.9631934	0.2688093	0.0035738
01	O6	-0.9089577	0.4168884	0.9089577	-0.4168884	0.0164263
01	H1	-0.8730988	0.4875433	0.8730988	-0.4875433	0.0042143
01	H2	-0.8450582	0.5346744	0.8450582	-0.5346744	0.0023132
01	H3	-0.8052450	0.5929423	0.8052450	-0.5929423	0.0032869
01	H4	-0.7516623	0.6595482	0.7516623	-0.6595482	-0.0025263
01	H5	-0.6792899	0.7338701	0.6792899	-0.7338701	-0.0027014
01	H6	-0.5815819	0.8134878	0.5815819	-0.8134878	-0.0013258
01	H7	-0.4648268	0.8854016	0.4648268	-0.8854016	-0.0003893
01	O7	0.1431696	0.9896982	-0.1431696	-0.9896982	0.0039246
07	O5	-0.7529460	-0.6580824	0.7529460	0.6580824	0.0058917
07	O2	-0.8177953	-0.5755093	0.8177953	0.5755093	0.0059263

O7	O6	-1.00000000	-0.0001134	1.00000000	0.0001134	0.0164514
O6	O2	0.0406077	-0.9991752	-0.0406077	0.9991752	0.0061844
O2	H1	0.1007274	0.9949141	-0.1007274	-0.9949141	0.0055811
O2	H2	0.2213867	0.9751861	-0.2213867	-0.9751861	0.0029419
O2	H3	0.3392874	0.9406828	-0.3392874	-0.9406828	0.0020922
O2	H4	0.4420552	0.8969878	-0.4420552	-0.8969878	0.0034500
O2	H5	0.5287588	0.8487721	-0.5287588	-0.8487721	0.0002947
O2	H6	0.6008294	0.7993773	-0.6008294	-0.7993773	0.0029964
O5	H1	0.0552566	0.9984722	-0.0552566	-0.9984722	0.0059659
O5	H2	0.1585330	0.9873537	-0.1585330	-0.9873537	0.0033074
O5	H3	0.2630161	0.9647914	-0.2630161	-0.9647914	0.0025267
O5	H4	0.3581672	0.9336575	-0.3581672	-0.9336575	0.0030552
O5	H7	0.5737751	0.8190129	-0.5737751	-0.8190129	0.0036745

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 1.73

Ref. std. odklon a-posteriori: 2.83

Globalni test: 2.68

Globalni test [SQRT]: 1.64

Matrika R [DIAG]: 28.00

Matrika R [POVPRECJE]: 0.57

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH
O5	1011.2688	824.1240			
	-0.0036	0.0026	0.0006	0.0007	
	1011.2652	824.1266	0.0007	0.0006	110.9
O1	1199.2834	908.5911			
	-0.0006	0.0019	0.0007	0.0007	
	1199.2828	908.5930	0.0008	0.0005	39.2
O2	1005.9215	854.6274			
	-0.0006	0.0019	0.0006	0.0006	
	1005.9209	854.6293	0.0007	0.0005	123.4
O7	1212.5079	1000.0090			

	-0.0039	0.0003	0.0008	0.0013	
	1212.5040	1000.0093	0.0013	0.0007	73.9
O6	1000.0140	999.9849			
	0.0142	-0.0034	0.0010	0.0012	
	1000.0282	999.9815	0.0012	0.0010	100.5
H1	1021.4392	1007.9003			
	0.0016	-0.0040	0.0009	0.0009	
	1021.4408	1007.8963	0.0009	0.0009	169.3
H2	1040.9193	1008.7892			
	0.0000	-0.0019	0.0009	0.0009	
	1040.9193	1008.7873	0.0009	0.0009	157.6
H3	1061.8784	1009.7693			
	0.0021	-0.0010	0.0009	0.0009	
	1061.8805	1009.7683	0.0010	0.0009	149.6
H4	1082.8605	1010.7467			
	-0.0025	-0.0010	0.0009	0.0009	
	1082.8580	1010.7457	0.0010	0.0008	143.7
H5	1103.8011	1011.7453			
	-0.0017	0.0032	0.0009	0.0010	
	1103.7994	1011.7485	0.0011	0.0009	124.1
H6	1124.7944	1012.7826			
	-0.0019	0.0009	0.0009	0.0010	
	1124.7925	1012.7835	0.0011	0.0008	122.9
H7	1144.0927	1013.7183			
	-0.0030	0.0005	0.0009	0.0010	
	1144.0897	1013.7188	0.0011	0.0008	120.8

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
O1	O6	H1	4	32	21.7	0.25	1.72	4	32	22.0	1.56
O1	H1	H2	3	8	33.7	0.58	1.84	3	8	34.3	1.41
O1	H2	H3	4	2	43.5	-1.89	1.78	4	2	41.6	1.49
O1	H3	H4	4	53	52.9	1.07	1.70	4	53	54.0	1.57
O1	H4	H5	5	56	52.6	-0.88	1.47	5	56	51.7	1.79
O1	H5	H6	7	13	32.1	-0.23	1.27	7	13	31.9	1.94
O1	H6	H7	7	51	44.8	-0.64	1.13	7	51	44.2	2.02
O1	H7	O7	35	55	45.8	1.41	1.09	35	55	47.2	2.05
O7	O1	O5	40	36	59.3	2.38	1.73	40	37	1.7	1.55
O7	O5	O2	6	1	5.9	-1.04	2.15	6	1	4.9	0.87
O7	O2	O6	35	7	43.2	-2.56	1.93	35	7	40.6	1.28
O6	O7	O1	24	38	47.3	-1.26	1.80	24	38	46.0	1.46
O6	O1	O2	63	2	24.8	-1.52	1.64	63	2	23.3	1.63

O2	O6	H1	8	6	15.0	-1.87	1.29	8	6	13.1	1.93
O2	H1	H2	7	0	32.1	0.04	1.40	7	0	32.1	1.84
O2	H2	H3	7	2	36.8	0.35	1.44	7	2	37.2	1.81
O2	H3	H4	6	24	3.2	-2.30	1.49	6	24	0.9	1.77
O2	H4	H5	5	41	8.4	1.86	1.54	5	41	10.3	1.73
O2	H5	H6	5	0	29.4	-0.30	1.60	5	0	29.1	1.67
O2	H6	H7	4	2	40.6	1.53	1.68	4	2	42.1	1.60
O2	H7	O7	13	53	26.5	-1.28	1.75	13	53	25.2	1.52
O2	O7	O1	19	32	25.9	5.28	2.03	19	32	31.2	1.12

O5	O1	O2	284	15	15.8	-0.91	0.36	284	15	14.9	2.29

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_

O1	O5	206.1140	0.0054	0.0064	206.1194	0.0013
O1	O2	200.7473	0.0036	0.0064	200.7509	0.0012
O1	O6	219.2120	0.0008	0.0064	219.2128	0.0014
O1	H1	203.6889	-0.0006	0.0012	203.6883	0.0011
O1	H2	187.3979	-0.0003	0.0012	187.3976	0.0011
O1	H3	170.6342	-0.0006	0.0012	170.6337	0.0011
O1	H4	154.8898	-0.0030	0.0012	154.8868	0.0011
O1	H5	140.5646	-0.0009	0.0012	140.5637	0.0012
O1	H6	128.0813	-0.0014	0.0011	128.0799	0.0012
O1	H7	118.7343	-0.0006	0.0011	118.7337	0.0012
O1	O7	92.3655	0.0018	0.0064	92.3674	0.0016
O7	O5	267.2631	0.0042	0.0064	267.2672	0.0016
O7	O2	252.6079	0.0023	0.0064	252.6102	0.0015
O7	O6	212.4775	-0.0016	0.0064	212.4758	0.0014
O6	O2	145.4713	0.0003	0.0064	145.4717	0.0015
O2	H1	154.0508	-0.0001	0.0012	154.0508	0.0011
O2	H2	158.0815	-0.0006	0.0012	158.0809	0.0011
O2	H3	164.9227	0.0003	0.0013	164.9230	0.0010
O2	H4	174.0450	0.0001	0.0013	174.0450	0.0010
O2	H5	185.1117	0.0009	0.0012	185.1126	0.0011
O2	H6	197.8450	0.0014	0.0013	197.8464	0.0010
O5	H1	184.0515	-0.0003	0.0012	184.0512	0.0011
O5	H2	187.0271	-0.0006	0.0012	187.0266	0.0011
O5	H3	192.4176	0.0006	0.0012	192.4182	0.0011
O5	H4	199.8804	0.0001	0.0013	199.8806	0.0010
O5	H7	231.4876	0.0023	0.0012	231.4899	0.0011

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrez...

Min sdX, sdY:	0.0006	0.0006
Max sdX, sdY:	0.0010	0.0013

Avr sdX, sdY: 0.0008 0.0009

KOVARIANCA MARIKA OCENJENIH KOORD. TOCK

Srednji pogresek polozajev tock mreze v 2D: 0.00132777
 Sled kovariančne matrike: 0.00001939
 Srednja varianca: 0.00093888
 Srednja standardna deviacija: 0.03064110
 Generalizirana varianca: 0.00005038
 Generalizirana standardna deviacija: 0.00709804
 Najmanjša lastna vrednost kov. matrike: 0.00000006
 Najvecja lastna vrednost kov. matrike: 0.00000313
 Razmerje najmanjše in največje lastne vrednosti kov. matrike: 0.01806265

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000000
 Najvecja lastna vrednost: 0.000404
 Norma kovariančne matrike: 0.000564
 Norma matrike kriterija: 0.000404
 Razlika norm kovariančne in matrike kriterija: 0.000161
 Sled matrike kriterija: 0.002576

Karakteristicna razdalja $d=2/3(s_{\min})$: 12.8806

Velikost Urp (reducirana in psevdoinverzna): 49 x 300
 Velikost vektorja q: 300 x 1
 Velikost optimiziranega vektorja utezi p: 49 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
01	06	H1	4 32 21.7	241415897	0.47	0.132752
01	H1	H2	3 8 33.7	211304192	0.63	0.141896
01	H2	H3	4 2 43.5	177141784	0.58	0.154976
01	H3	H4	4 53 52.9	145626222	0.52	0.170925
01	H4	H5	5 56 52.6	123512421	0.36	0.185597
01	H5	H6	7 13 32.1	96700095	0.29	0.209755
01	H6	H7	7 51 44.8	89038025	0.22	0.218594
01	H7	07	35 55 45.8	16782713	0.26	0.503494
07	01	05	40 36 59.3	7634630	0.42	0.746502
07	05	02	6 1 5.9	254062890	0.83	0.129406
07	02	06	35 7 43.2	85971423	0.61	0.222458
06	07	01	24 38 47.3	125632467	0.57	0.184024
06	01	02	63 2 24.8	37515946	0.44	0.336757
02	06	H1	8 6 15.0	92746236	0.30	0.214179
02	H1	H2	7 0 32.1	134811662	0.36	0.177648
02	H2	H3	7 2 36.8	134410368	0.38	0.177913
02	H3	H4	6 24 3.2	153133047	0.40	0.166683
02	H4	H5	5 41 8.4	174278515	0.43	0.156244
02	H5	H6	5 0 29.4	195701589	0.47	0.147444
02	H6	H7	4 2 40.6	243215723	0.52	0.132260
02	H7	07	13 53 26.5	140614201	0.54	0.173944
05	01	02	284 15 15.8	2723502	0.02	1.249860

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

O2 O7 O1 19 32 25.9 -49615965 0.83

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi (opt)	ri	std_d
O1	O5	206.1140	1765	0.96	0.000238
O1	O2	200.7473	314	0.97	0.000564
O1	O6	219.2120	1036	0.96	0.000311
O1	H1	203.6889	1372	0.56	0.000270
O1	H2	187.3979	974	0.56	0.000320
O1	H3	170.6342	833	0.55	0.000346
O1	H4	154.8898	771	0.53	0.000360
O1	H5	140.5646	1054	0.49	0.000308
O1	H6	128.0813	1400	0.46	0.000267
O1	H7	118.7343	1874	0.45	0.000231
O1	O7	92.3655	1213	0.94	0.000287
O7	O5	267.2631	1405	0.94	0.000267
O7	O2	252.6079	1256	0.95	0.000282
O7	O6	212.4775	2546	0.95	0.000198
O6	O2	145.4713	945	0.95	0.000325
O2	H1	154.0508	967	0.54	0.000322
O2	H2	158.0815	1043	0.57	0.000310
O2	H3	164.9227	848	0.60	0.000343
O2	H4	174.0450	765	0.63	0.000361
O2	H5	185.1117	1264	0.58	0.000281
O2	H6	197.8450	1353	0.60	0.000272
O5	H1	184.0515	1520	0.52	0.000256
O5	H2	187.0271	1537	0.55	0.000255
O5	H3	192.4176	1282	0.58	0.000279
O5	H4	199.8804	1178	0.60	0.000291
O5	H7	231.4876	2117	0.57	0.000217

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

OPAZOVANJA IN KOORDINATE Markovci STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X	O5	1011.2688	824.1240
X	O1	1199.2834	908.5911
X	O2	1005.9215	854.6274
X	O7	1212.5079	1000.0090
X	O6	1000.0140	999.9849
X	H1	1021.4392	1007.9003
X	H2	1040.9193	1008.7892
X	H3	1061.8784	1009.7693
X	H4	1082.8605	1010.7467
X	H5	1103.8011	1011.7453
X	H6	1124.7944	1012.7826
X	H7	1144.0927	1013.7183

SESTAVLJENI KOTI:

A	O1	O6	H1	4 32 21.7	1.4142
A	O1	H1	H2	3 8 33.7	1.4142
A	O1	H2	H3	4 2 43.5	1.4142
A	O1	H3	H4	4 53 52.9	1.4142
A	O1	H4	H5	5 56 52.6	1.4142
A	O1	H5	H6	7 13 32.1	1.4142
A	O1	H6	H7	7 51 44.8	1.4142
A	O1	H7	O7	35 55 45.8	1.4142
A	O7	O1	O5	40 36 59.3	1.4142
A	O7	O5	O2	6 1 5.9	1.4142
A	O7	O2	O6	35 7 43.2	1.4142
A	O6	O7	O1	24 38 47.3	1.4142
A	O6	O1	O2	63 2 24.8	1.4142
A	O2	O6	H1	8 6 15.0	1.4142
A	O2	H1	H2	7 0 32.1	1.4142
A	O2	H2	H3	7 2 36.8	1.4142
A	O2	H3	H4	6 24 3.2	1.4142
A	O2	H4	H5	5 41 8.4	1.4142
A	O2	H5	H6	5 0 29.4	1.4142
A	O2	H6	H7	4 2 40.6	1.4142
A	O2	H7	O7	13 53 26.5	1.4142
A	O5	O1	O2	284 15 15.8	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

D	O1	O5	206.11404	0.004
D	O1	O2	200.74728	0.004
D	O1	O6	219.21204	0.004

D	O1	H1	203.68888	0.001
D	O1	H2	187.39792	0.001
D	O1	H3	170.63423	0.001
D	O1	H4	154.88977	0.001
D	O1	H5	140.56464	0.001
D	O1	H6	128.08130	0.001
D	O1	H7	118.73430	0.001
D	O1	O7	92.36555	0.004
D	O7	O5	267.26309	0.004
D	O7	O2	252.60791	0.004
D	O7	O6	212.47745	0.004
D	O6	O2	145.47131	0.004
D	O2	H1	154.05084	0.001
D	O2	H2	158.08155	0.001
D	O2	H3	164.92269	0.001
D	O2	H4	174.04495	0.001
D	O2	H5	185.11170	0.001
D	O2	H6	197.84501	0.001
D	O5	H1	184.05154	0.001
D	O5	H2	187.02714	0.001
D	O5	H3	192.41761	0.001
D	O5	H4	199.88042	0.001
D	O5	H7	231.48755	0.001

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:13:09.3

Ime vhodne datoteke: markovci3.txt

Ime izhodne datoteke: markovci3.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O5	1011.2688	824.1240
O1	1199.2834	908.5911
O2	1005.9215	854.6274
O7	1212.5079	1000.0090
O6	1000.0140	999.9849
H1	1021.4392	1007.9003
H2	1040.9193	1008.7892
H3	1061.8784	1009.7693
H4	1082.8605	1010.7467
H5	1103.8011	1011.7453
H6	1124.7944	1012.7826
H7	1144.0927	1013.7183

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
O1	O6	H1	4 32 21.7	1.4142
O1	H1	H2	3 8 33.7	1.4142
O1	H2	H3	4 2 43.5	1.4142
O1	H3	H4	4 53 52.9	1.4142
O1	H4	H5	5 56 52.6	1.4142
O1	H5	H6	7 13 32.1	1.4142
O1	H6	H7	7 51 44.8	1.4142
O1	H7	O7	35 55 45.8	1.4142
O7	O1	O5	40 36 59.3	1.4142
O7	O5	O2	6 1 5.9	1.4142
O7	O2	O6	35 7 43.2	1.4142
O6	O7	O1	24 38 47.3	1.4142
O6	O1	O2	63 2 24.8	1.4142
O2	O6	H1	8 6 15.0	1.4142
O2	H1	H2	7 0 32.1	1.4142

O2	H2	H3	7	2	36.8	1.4142
O2	H3	H4	6	24	3.2	1.4142
O2	H4	H5	5	41	8.4	1.4142
O2	H5	H6	5	0	29.4	1.4142
O2	H6	H7	4	2	40.6	1.4142
O2	H7	O7	13	53	26.5	1.4142
O5	O1	O2	284	15	15.8	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
O1	O5	206.1140	0.0040
O1	O2	200.7473	0.0040
O1	O6	219.2120	0.0040
O1	H1	203.6889	0.0010
O1	H2	187.3979	0.0010
O1	H3	170.6342	0.0010
O1	H4	154.8898	0.0010
O1	H5	140.5646	0.0010
O1	H6	128.0813	0.0010
O1	H7	118.7343	0.0010
O1	O7	92.3655	0.0040
O7	O5	267.2631	0.0040
O7	O2	252.6079	0.0040
O7	O6	212.4775	0.0040
O6	O2	145.4713	0.0040
O2	H1	154.0508	0.0010
O2	H2	158.0815	0.0010
O2	H3	164.9227	0.0010
O2	H4	174.0450	0.0010
O2	H5	185.1117	0.0010
O2	H6	197.8450	0.0010
O5	H1	184.0515	0.0010
O5	H2	187.0271	0.0010
O5	H3	192.4176	0.0010
O5	H4	199.8804	0.0010
O5	H7	231.4876	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	12
Stevilo vseh koordinat:	24
Stevilo vseh opazovanj:	48
# sestavljenih kotov:	22
# horizontalnih dolzin:	26

Stevilo vseh neznank: 24
 Stevilo nadstevilnih opazovanj: 24

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV – KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
O1	O6	H1	101.46	28.91	392.24	855.21	-493.70	-884.12	5.695
O1	H1	H2	94.80	46.00	493.70	884.12	-588.50	-930.13	-0.362
O1	H2	H3	128.25	43.25	588.50	930.13	-716.74	-973.37	-4.196
O1	H3	H4	161.58	27.62	716.74	973.37	-878.33	-1001.00	4.733
O1	H4	H5	198.58	-4.19	878.33	1001.00	-1076.90	-996.81	-5.556
O1	H5	H6	233.17	-60.21	1076.90	996.81	-1310.07	-936.60	2.545
O1	H6	H7	228.05	-129.10	1310.07	936.60	-1538.12	-807.50	1.545
O1	H7	O7	671.91	-1127.20	1538.12	807.50	-2210.04	319.70	3.316
O7	O1	O5	1702.16	261.38	-2210.04	319.70	507.87	-581.09	-5.603
O7	O5	O2	37.96	86.66	-507.87	581.09	469.92	-667.75	0.636
O7	O2	O6	469.81	302.94	-469.92	667.75	0.11	-970.69	0.498
O6	O7	O1	-392.35	115.48	0.11	-970.69	392.24	855.21	-6.051
O6	O1	O2	-1024.44	797.63	-392.24	-855.21	1416.68	57.58	-20.889
O2	O6	H1	-84.60	-192.44	1416.68	57.58	-1332.08	134.86	15.042
O2	H1	H2	-59.68	-154.00	1332.08	-134.86	-1272.40	288.86	1.863
O2	H2	H3	-95.92	-135.47	1272.40	-288.86	-1176.47	424.33	-2.100
O2	H3	H4	-113.45	-99.55	1176.47	-424.33	-1063.02	523.88	2.633
O2	H4	H5	-117.26	-65.30	1063.02	-523.88	-945.76	589.18	3.169
O2	H5	H6	-112.38	-37.21	945.76	-589.18	-833.38	626.39	-1.713
O2	H6	H7	-94.33	-15.48	833.38	-626.39	-739.05	641.87	1.929
O2	H7	O7	-269.14	-25.88	739.05	-641.87	-469.92	667.75	-1.682
O5	O1	O2	6150.32	2062.88	410.10	-912.83	-6560.42	-1150.05	-18.069

ENACBE POPRAVKOV – HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
O1	O5	-0.9121745	-0.4098019	0.9121745	0.4098019	0.0028705
O1	O2	-0.9631934	-0.2688093	0.9631934	0.2688093	0.0035738
O1	O6	-0.9089577	0.4168884	0.9089577	-0.4168884	0.0164263
O1	H1	-0.8730988	0.4875433	0.8730988	-0.4875433	0.0042143
O1	H2	-0.8450582	0.5346744	0.8450582	-0.5346744	0.0023132
O1	H3	-0.8052450	0.5929423	0.8052450	-0.5929423	0.0032869
O1	H4	-0.7516623	0.6595482	0.7516623	-0.6595482	-0.0025263
O1	H5	-0.6792899	0.7338701	0.6792899	-0.7338701	-0.0027014
O1	H6	-0.5815819	0.8134878	0.5815819	-0.8134878	-0.0013258
O1	H7	-0.4648268	0.8854016	0.4648268	-0.8854016	-0.0003893
O1	O7	0.1431696	0.9896982	-0.1431696	-0.9896982	0.0039246
O7	O5	-0.7529460	-0.6580824	0.7529460	0.6580824	0.0058917
O7	O2	-0.8177953	-0.5755093	0.8177953	0.5755093	0.0059263
O7	O6	-1.0000000	-0.0001134	1.0000000	0.0001134	0.0164514
O6	O2	0.0406077	-0.9991752	-0.0406077	0.9991752	0.0061844

O2	H1	0.1007274	0.9949141	-0.1007274	-0.9949141	0.0055811
O2	H2	0.2213867	0.9751861	-0.2213867	-0.9751861	0.0029419
O2	H3	0.3392874	0.9406828	-0.3392874	-0.9406828	0.0020922
O2	H4	0.4420552	0.8969878	-0.4420552	-0.8969878	0.0034500
O2	H5	0.5287588	0.8487721	-0.5287588	-0.8487721	0.0002947
O2	H6	0.6008294	0.7993773	-0.6008294	-0.7993773	0.0029964
O5	H1	0.0552566	0.9984722	-0.0552566	-0.9984722	0.0059659
O5	H2	0.1585330	0.9873537	-0.1585330	-0.9873537	0.0033074
O5	H3	0.2630161	0.9647914	-0.2630161	-0.9647914	0.0025267
O5	H4	0.3581672	0.9336575	-0.3581672	-0.9336575	0.0030552
O5	H7	0.5737751	0.8190129	-0.5737751	-0.8190129	0.0036745

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 1.74

Ref. std. odklon a-posteriori: 2.23

Globalni test: 1.63

Globalni test [SQRT]: 1.28

Matrika R [DIAG]: 27.00

Matrika R [POVPRECJE]: 0.56

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK - IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH
O5	1011.2688	824.1240			
	-0.0030	0.0026	0.0005	0.0006	
	1011.2658	824.1266	0.0006	0.0005	113.9
O1	1199.2834	908.5911			
	-0.0011	0.0008	0.0006	0.0006	
	1199.2823	908.5919	0.0007	0.0004	44.8
O2	1005.9215	854.6274			
	0.0001	0.0022	0.0005	0.0005	
	1005.9216	854.6296	0.0005	0.0005	126.9
O7	1212.5079	1000.0090			
	-0.0040	0.0002	0.0006	0.0010	
	1212.5039	1000.0092	0.0010	0.0005	73.9

O6	1000.0140	999.9849			
	0.0144	-0.0036	0.0008	0.0009	
	1000.0284	999.9813	0.0009	0.0007	101.1
H1	1021.4392	1007.9003			
	0.0015	-0.0038	0.0007	0.0007	
	1021.4407	1007.8965	0.0007	0.0007	168.0
H2	1040.9193	1008.7892			
	-0.0001	-0.0017	0.0007	0.0007	
	1040.9192	1008.7875	0.0007	0.0007	156.5
H3	1061.8784	1009.7693			
	0.0020	-0.0008	0.0007	0.0007	
	1061.8804	1009.7685	0.0008	0.0007	148.9
H4	1082.8605	1010.7467			
	-0.0027	-0.0007	0.0007	0.0007	
	1082.8578	1010.7460	0.0008	0.0006	143.4
H5	1103.8011	1011.7453			
	-0.0019	0.0034	0.0007	0.0008	
	1103.7992	1011.7487	0.0008	0.0007	124.2
H6	1124.7944	1012.7826			
	-0.0021	0.0010	0.0007	0.0008	
	1124.7923	1012.7836	0.0008	0.0007	123.0
H7	1144.0927	1013.7183			
	-0.0032	0.0005	0.0007	0.0008	
	1144.0895	1013.7188	0.0008	0.0006	120.9

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
O1	O6	H1	4	32	21.7	0.60	1.34	4	32	22.3	1.22
O1	H1	H2	3	8	33.7	0.69	1.44	3	8	34.4	1.10
O1	H2	H3	4	2	43.5	-1.78	1.38	4	2	41.7	1.16
O1	H3	H4	4	53	52.9	1.16	1.33	4	53	54.1	1.23
O1	H4	H5	5	56	52.6	-0.90	1.15	5	56	51.7	1.39
O1	H5	H6	7	13	32.1	-0.24	0.99	7	13	31.9	1.51
O1	H6	H7	7	51	44.8	-0.82	0.88	7	51	44.0	1.58
O1	H7	O7	35	55	45.8	0.61	0.83	35	55	46.4	1.61
O7	O1	O5	40	36	59.3	1.45	1.33	40	37	0.8	1.22
O7	O5	O2	6	1	5.9	-0.87	1.67	6	1	5.0	0.68
O7	O2	O6	35	7	43.2	-2.64	1.51	35	7	40.6	1.00
O6	O7	O1	24	38	47.3	-0.07	1.37	24	38	47.2	1.17
O6	O1	O2	63	2	24.8	-3.19	1.22	63	2	21.6	1.33
O2	O6	H1	8	6	15.0	-2.21	1.00	8	6	12.8	1.51
O2	H1	H2	7	0	32.1	0.08	1.10	7	0	32.2	1.44

O2	H2	H3	7	2	36.8	0.42	1.13	7	2	37.2	1.41
O2	H3	H4	6	24	3.2	-2.21	1.16	6	24	1.0	1.38
O2	H4	H5	5	41	8.4	1.97	1.20	5	41	10.4	1.35
O2	H5	H6	5	0	29.4	-0.19	1.25	5	0	29.2	1.31
O2	H6	H7	4	2	40.6	1.65	1.31	4	2	42.2	1.25
O2	H7	O7	13	53	26.5	-0.91	1.36	13	53	25.6	1.19

O5	O1	O2	284	15	15.8	-0.74	0.28	284	15	15.1	1.79

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_

O1	O5	206.1140	0.0039	0.0050	206.1179	0.0010
O1	O2	200.7473	0.0021	0.0050	200.7493	0.0010
O1	O6	219.2120	0.0005	0.0050	219.2125	0.0011
O1	H1	203.6889	-0.0003	0.0010	203.6885	0.0009
O1	H2	187.3979	0.0001	0.0009	187.3980	0.0009
O1	H3	170.6342	-0.0001	0.0009	170.6341	0.0009
O1	H4	154.8898	-0.0024	0.0009	154.8874	0.0009
O1	H5	140.5646	-0.0003	0.0009	140.5644	0.0009
O1	H6	128.0813	-0.0006	0.0009	128.0807	0.0010
O1	H7	118.7343	0.0003	0.0008	118.7346	0.0010
O1	O7	92.3655	0.0029	0.0050	92.3684	0.0013
O7	O5	267.2631	0.0036	0.0050	267.2667	0.0012
O7	O2	252.6079	0.0015	0.0050	252.6094	0.0012
O7	O6	212.4775	-0.0019	0.0050	212.4755	0.0011
O6	O2	145.4713	-0.0002	0.0050	145.4711	0.0011
O2	H1	154.0508	-0.0003	0.0009	154.0506	0.0009
O2	H2	158.0815	-0.0009	0.0010	158.0806	0.0008
O2	H3	164.9227	-0.0000	0.0010	164.9227	0.0008
O2	H4	174.0450	-0.0004	0.0010	174.0446	0.0008
O2	H5	185.1117	0.0003	0.0010	185.1120	0.0008
O2	H6	197.8450	0.0008	0.0010	197.8458	0.0008
O5	H1	184.0515	-0.0002	0.0009	184.0513	0.0009
O5	H2	187.0271	-0.0005	0.0009	187.0266	0.0009
O5	H3	192.4176	0.0006	0.0010	192.4182	0.0008
O5	H4	199.8804	0.0000	0.0010	199.8805	0.0008
O5	H7	231.4876	0.0019	0.0010	231.4894	0.0008

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0005	0.0005
Max sdX, sdY:	0.0008	0.0010
Avr sdX, sdY:	0.0007	0.0007

KOVARIANCA MARIKA OCENJENIH KOORD. TOCK

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Srednji pogrešek položajev točk mreže v 2D:                0.00104229
Sled kovariančne matrike:                                  0.00001195
Srednja varianca:                                          0.00073701
Srednja standardna deviacija:                             0.02714791
Generalizirana varianca:                                   0.00003807
Generalizirana standardna deviacija:                     0.00617003
Najmanjša lastna vrednost kov. matrike:                  0.00000003
Največja lastna vrednost kov. matrike:                   0.00000195
Razmerje najmanjše in največje lastne vrednosti kov. matrike: 0.01778148

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Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:0.000000
Največja lastna vrednost:                                  0.000401
Norma kovariančne matrike:                                0.000498
Norma matrike kriterija:                                  0.000401
Razlika norm kovariančne in matrike kriterija:           0.000097
Sled matrike kriterija:                                    0.002581

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Karakteristična razdalja  $d=2/3(s_{\min})$ :                12.8806

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```

Velikost Urp (reducirana in psevdoinverzna):      48 x 300
Velikost vektorja q:                               300 x 1
Velikost optimiziranega vektorja uteži p:         48 x 1

```

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

```

-----
S      Z1      Z2      L      pi(opt)      ri      std_k
-----
O1      O6      H1      4 32 21.7      241364494      0.47  0.132766
O1      H1      H2      3 8 33.7      211814958      0.62  0.141725
O1      H2      H3      4 2 43.5      177597486      0.57  0.154777
O1      H3      H4      4 53 52.9      146047675      0.52  0.170678
O1      H4      H5      5 56 52.6      123890392      0.36  0.185313
O1      H5      H6      7 13 32.1      96600061      0.28  0.209863
O1      H6      H7      7 51 44.8      89975046      0.21  0.217452
O1      H7      O7      35 55 45.8      13496961      0.24  0.561445
O7      O1      O5      40 36 59.3      7717874      0.40  0.742466
O7      O5      O2      6 1 5.9      254704340      0.83  0.129243
O7      O2      O6      35 7 43.2      91247593      0.61  0.215931
O6      O7      O1      24 38 47.3      126844368      0.56  0.183143
O6      O1      O2      63 2 24.8      34970183      0.40  0.348800
O2      O6      H1      8 6 15.0      93322511      0.29  0.213517
O2      H1      H2      7 0 32.1      134909548      0.36  0.177584
O2      H2      H3      7 2 36.8      134774073      0.38  0.177673
O2      H3      H4      6 24 3.2      153598788      0.41  0.166430
O2      H4      H5      5 41 8.4      175045649      0.44  0.155901
O2      H5      H6      5 0 29.4      196553216      0.47  0.147125
O2      H6      H7      4 2 40.6      244790451      0.53  0.131834
O2      H7      O7      13 53 26.5      143360918      0.58  0.172270
O5      O1      O2      284 15 15.8      2671990      0.02  1.261850
-----

```

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
O1	O5	206.1140	1786	0.96	0.000237
O1	O2	200.7473	404	0.96	0.000498
O1	O6	219.2120	1049	0.95	0.000309
O1	H1	203.6889	1337	0.56	0.000273
O1	H2	187.3979	936	0.55	0.000327
O1	H3	170.6342	782	0.54	0.000358
O1	H4	154.8898	707	0.52	0.000376
O1	H5	140.5646	978	0.48	0.000320
O1	H6	128.0813	1309	0.44	0.000276
O1	H7	118.7343	1775	0.43	0.000237
O1	O7	92.3655	520	0.94	0.000439
O7	O5	267.2631	1504	0.94	0.000258
O7	O2	252.6079	1350	0.95	0.000272
O7	O6	212.4775	2542	0.95	0.000198
O6	O2	145.4713	853	0.95	0.000342
O2	H1	154.0508	956	0.54	0.000323
O2	H2	158.0815	1025	0.57	0.000312
O2	H3	164.9227	828	0.60	0.000347
O2	H4	174.0450	743	0.63	0.000367
O2	H5	185.1117	1242	0.57	0.000284
O2	H6	197.8450	1316	0.59	0.000276
O5	H1	184.0515	1512	0.52	0.000257
O5	H2	187.0271	1523	0.55	0.000256
O5	H3	192.4176	1267	0.58	0.000281
O5	H4	199.8804	1161	0.60	0.000294
O5	H7	231.4876	2155	0.57	0.000215

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

OPAZOVANJA IN KOORDINATE MELJE STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA
*H

PRIBLIZNE KOORDINATE TOCK:

X O3	70.0081	238.1196
X O4	111.2209	246.7633
X O2	146.8830	112.7620
X H1	115.9960	99.1030
X H2	108.7850	99.5730
X H3	100.0000	100.0000
X H4	117.7710	100.8330
X H5	110.5580	101.2830
X H6	102.0100	101.7620
X H7	119.5230	102.5500
X H8	112.2880	103.0170
X H9	103.9780	103.4750
X H13	129.6840	114.9470
X H14	114.7730	113.7140
X H15	104.4540	112.7210
X O1	88.8150	131.0630
X S1	76.4690	239.9050
X S2	100.0000	244.5320

SESTAVLJENI KOTI:

A	O2	O3	S1	2	31	5.9	1.4142
A	O2	S1	S2	9	24	12.8	1.4142
A	O2	S2	O4	4	41	36.8	1.4142
A	O2	O4	H1	261	3	0.1	1.4142
A	O2	H1	H4	1	34	29.1	1.4142
A	O2	H4	H7	1	48	50.5	1.4142
A	O2	H7	H2	1	22	20.4	1.4142
A	O2	H2	H5	1	33	29.9	1.4142
A	O2	H5	H8	1	48	12.8	1.4142
A	O2	H8	H3	0	30	18.3	1.4142
A	O2	H3	H6	1	27	11.0	1.4142
A	O2	H6	H9	1	33	37.9	1.4142
A	O2	H9	H15	12	8	45.0	1.4142
A	O2	H15	H14	1	46	56.8	1.4142
A	O2	H14	H13	5	31	17.1	1.4142
A	O2	H13	O1	10	15	14.3	1.4142
A	O1	O3	S1	3	28	25.9	1.4142
A	O1	S1	S2	12	6	59.7	1.4142
A	O1	S2	O4	5	19	57.3	1.4142
A	O1	O4	O2	96	31	57.7	1.4142
A	O1	O2	H13	4	1	49.2	1.4142
A	O1	H13	H14	12	13	16.8	1.4142
A	O1	H14	H7	9	7	56.4	1.4142
A	O1	H7	H4	3	21	20.7	1.4142
A	O1	H4	H15	3	20	1.6	1.4142
A	O1	H15	H1	0	3	9.3	1.4142
A	O1	H1	H8	0	27	14.9	1.4142

A	O1	H8	H5	3	47	32.6	1.4142
A	O1	H5	H2	3	45	4.5	1.4142
A	O1	H2	H6	8	8	43.2	1.4142
A	O1	H6	H3	4	26	9.5	1.4142
A	S1	O2	H13	5	54	47.1	1.4142
A	S1	H13	H7	5	39	55.1	1.4142
A	S1	H7	H14	0	31	3.0	1.4142
A	S1	H14	H4	0	20	46.3	1.4142
A	S1	H4	H1	0	51	36.6	1.4142
A	S1	H1	H8	1	1	1.4	1.4142
A	S1	H8	H5	0	50	53.8	1.4142
A	S1	H5	H2	0	50	52.3	1.4142
A	S1	H2	H15	0	33	35.1	1.4142
A	S1	H15	H9	1	0	32.1	1.4142
A	S1	H9	H6	0	55	30.8	1.4142
A	S1	H6	H3	0	55	41.2	1.4142
A	S1	H3	O1	3	4	22.0	1.4142
A	S1	O1	O3	81	29	50.5	1.4142
A	S1	O3	O4	183	44	19.7	1.4142
A	S1	O4	S2	0	6	58.2	1.4142
A	S2	O2	H13	6	41	13.0	1.4142
A	S2	H13	H7	5	4	25.4	1.4142
A	S2	H7	H4	0	46	47.5	1.4142
A	S2	H4	H14	0	36	26.7	1.4142
A	S2	H14	H1	0	9	48.0	1.4142
A	S2	H1	H8	1	19	1.6	1.4142
A	S2	H8	H5	0	44	51.1	1.4142
A	S2	H5	H2	0	44	50.9	1.4142
A	S2	H2	H15	1	32	4.2	1.4142
A	S2	H15	H9	0	19	8.8	1.4142
A	S2	H9	H6	0	48	31.9	1.4142
A	S2	H6	H3	0	48	25.4	1.4142
A	S2	H3	O1	5	37	51.1	1.4142
A	S2	O1	O3	72	23	55.6	1.4142
A	S2	O3	S1	0	50	10.9	1.4142
A	S2	S1	O4	179	38	34.1	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

#	-----			
D	S1	O2	145.29880	0.004
D	S1	H1	146.19214	0.001
D	S1	O1	109.48226	0.004
D	S1	H2	143.94966	0.001
D	S1	H3	141.81293	0.001
D	S1	H4	145.02374	0.001
D	S1	H5	142.69789	0.001
D	S1	H6	140.42808	0.001
D	S1	H7	143.89326	0.001
D	S1	H8	141.44430	0.001
D	S1	H9	139.12046	0.001
D	S1	H13	135.77072	0.001
D	S1	H14	131.81506	0.001
D	S1	H15	130.17976	0.001
D	S1	O3	6.66076	0.001

D	S1	O4	35.46103	0.001
D	O2	O3	147.05257	0.001
D	O2	O4	138.66621	0.001
D	O2	H1	33.77320	0.001
D	O2	H2	40.31671	0.001
D	O2	H3	48.59057	0.001
D	O2	H4	31.46302	0.001
D	O2	H5	38.09763	0.001
D	O2	H6	46.20351	0.001
D	O2	H7	29.20507	0.001
D	O2	H8	35.94336	0.001
D	O2	H9	43.90068	0.001
D	O2	H13	17.34237	0.001
D	O2	H14	32.12941	0.001
D	O2	H15	42.43375	0.001
D	O1	O3	108.69670	0.001
D	O1	O4	117.85057	0.001
D	O1	H1	41.95378	0.001
D	O1	H2	37.28678	0.001
D	O1	H3	33.01372	0.001
D	O1	H4	41.85951	0.001
D	O1	H5	36.87118	0.001
D	O1	H6	32.13294	0.001
D	O1	H7	41.90309	0.001
D	O1	H8	36.57187	0.001
D	O1	H13	43.92825	0.001
D	O1	H14	31.21309	0.001
D	O1	H15	24.10780	0.001
D	O1	O2	60.88406	0.004
D	S2	H1	146.25402	0.001
D	S2	H2	145.17176	0.001
D	S2	H3	144.47866	0.001
D	S2	H4	144.74250	0.001
D	S2	H5	143.58517	0.001
D	S2	H6	142.73133	0.001
D	S2	H7	143.26662	0.001
D	S2	H8	141.99635	0.001
D	S2	H9	141.06074	0.001
D	S2	H13	132.89251	0.001
D	S2	H14	131.58840	0.001
D	S2	H15	131.84244	0.001
D	S2	O3	30.64935	0.001
D	S2	O4	11.46079	0.001
D	S2	O2	139.81595	0.004
D	S2	O1	113.96611	0.004
D	S2	S1	24.00038	0.004

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 14:49:22.0

Ime vhodne datoteke: melje.txt

Ime izhodne datoteke: melje.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O3	70.0081	238.1196
O4	111.2209	246.7633
O2	146.8830	112.7620
H1	115.9960	99.1030
H2	108.7850	99.5730
H3	100.0000	100.0000
H4	117.7710	100.8330
H5	110.5580	101.2830
H6	102.0100	101.7620
H7	119.5230	102.5500
H8	112.2880	103.0170
H9	103.9780	103.4750
H13	129.6840	114.9470
H14	114.7730	113.7140
H15	104.4540	112.7210
O1	88.8150	131.0630
S1	76.4690	239.9050
S2	100.0000	244.5320

SESTAVLJENI KOTI:

S	Z1	Z2	KOT [DMS]	KK [']
O2	O3	S1	2 31 5.9	1.4142
O2	S1	S2	9 24 12.8	1.4142
O2	S2	O4	4 41 36.8	1.4142
O2	O4	H1	261 3 0.1	1.4142
O2	H1	H4	1 34 29.1	1.4142
O2	H4	H7	1 48 50.5	1.4142
O2	H7	H2	1 22 20.4	1.4142
O2	H2	H5	1 33 29.9	1.4142
O2	H5	H8	1 48 12.8	1.4142
O2	H8	H3	0 30 18.3	1.4142
O2	H3	H6	1 27 11.0	1.4142
O2	H6	H9	1 33 37.9	1.4142

O2	H9	H15	12	8	45.0	1.4142
O2	H15	H14	1	46	56.8	1.4142
O2	H14	H13	5	31	17.1	1.4142
O2	H13	O1	10	15	14.3	1.4142
O1	O3	S1	3	28	25.9	1.4142
O1	S1	S2	12	6	59.7	1.4142
O1	S2	O4	5	19	57.3	1.4142
O1	O4	O2	96	31	57.7	1.4142
O1	O2	H13	4	1	49.2	1.4142
O1	H13	H14	12	13	16.8	1.4142
O1	H14	H7	9	7	56.4	1.4142
O1	H7	H4	3	21	20.7	1.4142
O1	H4	H15	3	20	1.6	1.4142
O1	H15	H1	0	3	9.3	1.4142
O1	H1	H8	0	27	14.9	1.4142
O1	H8	H5	3	47	32.6	1.4142
O1	H5	H2	3	45	4.5	1.4142
O1	H2	H6	8	8	43.2	1.4142
O1	H6	H3	4	26	9.5	1.4142
S1	O2	H13	5	54	47.1	1.4142
S1	H13	H7	5	39	55.1	1.4142
S1	H7	H14	0	31	3.0	1.4142
S1	H14	H4	0	20	46.3	1.4142
S1	H4	H1	0	51	36.6	1.4142
S1	H1	H8	1	1	1.4	1.4142
S1	H8	H5	0	50	53.8	1.4142
S1	H5	H2	0	50	52.3	1.4142
S1	H2	H15	0	33	35.1	1.4142
S1	H15	H9	1	0	32.1	1.4142
S1	H9	H6	0	55	30.8	1.4142
S1	H6	H3	0	55	41.2	1.4142
S1	H3	O1	3	4	22.0	1.4142
S1	O1	O3	81	29	50.5	1.4142
S1	O3	O4	183	44	19.7	1.4142
S1	O4	S2	0	6	58.2	1.4142
S2	O2	H13	6	41	13.0	1.4142
S2	H13	H7	5	4	25.4	1.4142
S2	H7	H4	0	46	47.5	1.4142
S2	H4	H14	0	36	26.7	1.4142
S2	H14	H1	0	9	48.0	1.4142
S2	H1	H8	1	19	1.6	1.4142
S2	H8	H5	0	44	51.1	1.4142
S2	H5	H2	0	44	50.9	1.4142
S2	H2	H15	1	32	4.2	1.4142
S2	H15	H9	0	19	8.8	1.4142
S2	H9	H6	0	48	31.9	1.4142
S2	H6	H3	0	48	25.4	1.4142
S2	H3	O1	5	37	51.1	1.4142
S2	O1	O3	72	23	55.6	1.4142
S2	O3	S1	0	50	10.9	1.4142
S2	S1	O4	179	38	34.1	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
S1	O2	145.2988	0.0040
S1	H1	146.1921	0.0010
S1	O1	109.4823	0.0040
S1	H2	143.9497	0.0010
S1	H3	141.8129	0.0010
S1	H4	145.0237	0.0010
S1	H5	142.6979	0.0010
S1	H6	140.4281	0.0010
S1	H7	143.8933	0.0010
S1	H8	141.4443	0.0010
S1	H9	139.1205	0.0010
S1	H13	135.7707	0.0010
S1	H14	131.8151	0.0010
S1	H15	130.1798	0.0010
S1	O3	6.6608	0.0010
S1	O4	35.4610	0.0010
O2	O3	147.0526	0.0010
O2	O4	138.6662	0.0010
O2	H1	33.7732	0.0010
O2	H2	40.3167	0.0010
O2	H3	48.5906	0.0010
O2	H4	31.4630	0.0010
O2	H5	38.0976	0.0010
O2	H6	46.2035	0.0010
O2	H7	29.2051	0.0010
O2	H8	35.9434	0.0010
O2	H9	43.9007	0.0010
O2	H13	17.3424	0.0010
O2	H14	32.1294	0.0010
O2	H15	42.4338	0.0010
O1	O3	108.6967	0.0010
O1	O4	117.8506	0.0010
O1	H1	41.9538	0.0010
O1	H2	37.2868	0.0010
O1	H3	33.0137	0.0010
O1	H4	41.8595	0.0010
O1	H5	36.8712	0.0010
O1	H6	32.1329	0.0010
O1	H7	41.9031	0.0010
O1	H8	36.5719	0.0010
O1	H13	43.9282	0.0010
O1	H14	31.2131	0.0010
O1	H15	24.1078	0.0010
O1	O2	60.8841	0.0040
S2	H1	146.2540	0.0010
S2	H2	145.1718	0.0010
S2	H3	144.4787	0.0010
S2	H4	144.7425	0.0010
S2	H5	143.5852	0.0010

S2	H6	142.7313	0.0010
S2	H7	143.2666	0.0010
S2	H8	141.9964	0.0010
S2	H9	141.0607	0.0010
S2	H13	132.8925	0.0010
S2	H14	131.5884	0.0010
S2	H15	131.8424	0.0010
S2	O3	30.6493	0.0010
S2	O4	11.4608	0.0010
S2	O2	139.8159	0.0040
S2	O1	113.9661	0.0040
S2	S1	24.0004	0.0040

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh točk:	18
Stevilo vseh koordinat:	36
Stevilo vseh opazovanj:	124
# sestavljenih kotov:	63
# horizontalnih dolzin:	61
Stevilo vseh neznank:	36
Stevilo nadstevilnih opazovanj:	88

SESTAVLJAM GMM MODEL - ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
O2	O3	S1	45.78	-45.70	1195.73	733.28	-1241.52	-687.57	78.270
O2	S1	S2	147.93	-193.21	1241.52	687.57	-1389.45	-494.36	-37.345
O2	S2	O4	48.01	-111.80	1389.45	494.36	-1437.46	-382.56	-40.075
O2	O4	H1	-3907.60	5203.14	1437.46	382.56	2470.13	-5585.69	-12.223
O2	H1	H4	-15.73	480.91	-2470.13	5585.69	2485.86	-6066.60	-1.843
O2	H4	H7	16.07	550.48	-2485.86	6066.60	2469.80	-6617.08	0.262
O2	H7	H2	796.11	-1782.43	-2469.80	6617.08	1673.69	-4834.65	1.404
O2	H2	H5	42.22	328.11	-1673.69	4834.65	1631.47	-5162.76	-0.457
O2	H5	H8	75.44	361.20	-1631.47	5162.76	1556.03	-5523.96	5.451
O2	H8	H3	441.05	-1427.90	-1556.03	5523.96	1114.99	-4096.06	-2.490
O2	H3	H6	52.06	240.02	-1114.99	4096.06	1062.93	-4336.07	2.820
O2	H6	H9	68.90	256.24	-1062.93	4336.07	994.03	-4592.31	-1.432
O2	H9	H15	989.33	269.09	-994.03	4592.31	4.70	-4861.41	44.412
O2	H15	H14	194.98	1556.65	-4.70	4861.41	-190.28	-6418.05	-103.917
O2	H14	H13	1309.11	5384.30	190.28	6418.05	-1499.40	-11802.35	74.056
O2	H13	O1	-481.04	-8571.17	1499.40	11802.35	-1018.35	-3231.18	-4.127
O1	O3	S1	2.00	-116.10	1869.01	328.33	-1871.01	-212.23	66.020
O1	S1	S2	-70.70	-389.69	1871.01	212.23	-1800.31	177.46	-55.856
O1	S2	O4	-82.00	-155.30	1800.31	-177.46	-1718.31	332.76	-8.255
O1	O4	O2	-2736.66	-2898.42	1718.31	-332.76	1018.35	3231.18	1.444
O1	O2	H13	-704.01	-1136.61	-1018.35	-3231.18	1722.36	4367.79	-8.640
O1	H13	H14	-1948.61	-1124.82	-1722.36	-4367.79	3670.98	5492.60	52.019

O1	H14	H7	321.70	1885.50	-3670.98	-5492.60	3349.27	3607.11	-42.288
O1	H7	H4	-209.12	198.68	-3349.27	-3607.11	3558.39	3408.43	0.154
O1	H4	H15	-2953.24	-2143.61	-3558.39	-3408.43	6511.64	5552.04	-68.092
O1	H15	H1	2766.59	2366.99	-6511.64	-5552.04	3745.05	3185.05	69.432
O1	H1	H8	-579.91	-434.71	-3745.05	-3185.05	4324.97	3619.77	-5.479
O1	H8	H5	-192.93	321.15	-4324.97	-3619.77	4517.90	3298.61	4.235
O1	H5	H2	-153.55	336.12	-4517.90	-3298.61	4671.45	2962.49	3.906
O1	H2	H6	-1181.19	326.90	-4671.45	-2962.49	5852.64	2635.59	-25.125
O1	H6	H3	-25.45	519.04	-5852.64	-2635.59	5878.09	2116.55	16.690
S1	O2	H13	-155.75	92.53	-1241.52	-687.57	1397.27	595.04	-7.211
S1	H13	H7	29.92	166.45	-1397.27	-595.04	1367.35	428.60	-5.648
S1	H7	H14	-129.30	-25.70	-1367.35	-428.60	1496.65	454.29	3.573
S1	H14	H4	133.71	49.52	-1496.65	-454.29	1362.94	404.77	-5.673
S1	H4	H1	5.03	23.57	-1362.94	-404.77	1357.91	381.20	-1.957
S1	H1	H8	-52.34	12.19	-1357.91	-381.20	1410.26	369.02	0.801
S1	H8	H5	7.14	23.97	-1410.26	-369.02	1403.11	345.04	-1.152
S1	H5	H2	7.30	23.61	-1403.11	-345.04	1395.81	321.43	-1.217
S1	H2	H15	-151.07	-18.94	-1395.81	-321.43	1546.89	340.37	-3.513
S1	H15	H9	94.08	47.43	-1546.89	-340.37	1452.81	292.94	1.764
S1	H9	H6	9.03	26.00	-1452.81	-292.94	1443.77	266.94	-1.037
S1	H6	H3	10.01	25.79	-1443.77	-266.94	1433.76	241.15	-1.672
S1	H3	O1	-437.25	28.92	-1433.76	-241.15	1871.01	212.23	11.406
S1	O1	O3	-6325.25	29872.37	-1871.01	-212.23	8196.26	-29660.14	-1704.588
S1	O3	O4	9323.69	-35372.99	-8196.26	29660.14	-1127.43	5712.85	1961.544
S1	O4	S2	532.03	-2726.50	1127.43	-5712.85	-1659.47	8439.35	-276.005
S2	O2	H13	-122.93	147.92	-1389.45	-494.36	1512.37	346.44	-13.726
S2	H13	H7	86.58	150.39	-1512.37	-346.44	1425.80	196.05	-3.080
S2	H7	H4	12.02	21.21	-1425.80	-196.05	1413.77	174.84	-1.689
S2	H4	H14	-143.10	-0.98	-1413.77	-174.84	1556.88	175.81	-1.940
S2	H14	H1	155.51	21.68	-1556.88	-175.81	1401.37	154.14	10.176
S2	H1	H8	-45.27	28.52	-1401.37	-154.14	1446.64	125.61	-10.524
S2	H8	H5	14.52	20.06	-1446.64	-125.61	1432.12	105.55	-0.637
S2	H5	H2	14.41	19.64	-1432.12	-105.55	1417.71	85.92	-0.899
S2	H2	H15	-145.36	33.10	-1417.71	-85.92	1563.07	52.82	-6.336
S2	H15	H9	101.95	11.61	-1563.07	-52.82	1461.12	41.21	2.995
S2	H9	H6	16.67	20.87	-1461.12	-41.21	1444.45	20.34	-0.218
S2	H6	H3	17.33	20.34	-1444.45	-20.34	1427.12	0.00	-1.675
S2	H3	O1	-373.19	177.46	-1427.12	-0.00	1800.31	-177.46	-4.395
S2	O1	O3	394.18	6399.25	-1800.31	177.46	1406.13	-6576.71	-348.500
S2	O3	S1	-253.34	1862.64	-1406.13	6576.71	1659.47	-8439.35	387.507
S2	S1	O4	5175.76	-26122.33	-1659.47	8439.35	-3516.30	17682.97	845.638

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
S1	O2	0.4844805	-0.8748020	-0.4844805	0.8748020	0.0403683
S1	H1	0.2702794	-0.9627819	-0.2702794	0.9627819	0.0528152
S1	O1	0.1127077	-0.9936282	-0.1127077	0.9936282	0.0577084
S1	H2	0.2244091	-0.9744950	-0.2244091	0.9744950	0.0551805
S1	H3	0.1658630	-0.9861488	-0.1658630	0.9861488	0.0571408
S1	H4	0.2846933	-0.9586187	-0.2846933	0.9586187	0.0516762
S1	H5	0.2387988	-0.9710691	-0.2387988	0.9710691	0.0540585
S1	H6	0.1818068	-0.9833343	-0.1818068	0.9833343	0.0561936

S1	H7	0.2991012	-0.9542214	-0.2991012	0.9542214	0.0513229
S1	H8	0.2531437	-0.9674287	-0.2531437	0.9674287	0.0524325
S1	H9	0.1976566	-0.9802713	-0.1976566	0.9802713	0.0552921
S1	H13	0.3918131	-0.9200448	-0.3918131	0.9200448	0.0465764
S1	H14	0.2904540	-0.9568890	-0.2904540	0.9568890	0.0612642
S1	H15	0.2148949	-0.9766372	-0.2148949	0.9766372	0.0466969
S1	O3	-0.9638746	-0.2663564	0.9638746	0.2663564	0.0422902
S1	O4	0.9810774	0.1936160	-0.9810774	-0.1936160	-0.0388500
O2	O3	-0.5227737	0.8524715	0.5227737	-0.8524715	-0.0006128
O2	O4	-0.2571807	0.9663633	0.2571807	-0.9663633	-0.0006635
O2	H1	-0.9145634	-0.4044427	0.9145634	0.4044427	-0.0007993
O2	H2	-0.9449766	-0.3271378	0.9449766	0.3271378	-0.0003693
O2	H3	-0.9648905	-0.2626524	0.9648905	0.2626524	-0.0016378
O2	H4	-0.9253291	-0.3791650	0.9253291	0.3791650	-0.0017806
O2	H5	-0.9535227	-0.3013211	0.9535227	0.3013211	-0.0020520
O2	H6	-0.9712438	-0.2380871	0.9712438	0.2380871	-0.0019285
O2	H7	-0.9368684	-0.3496820	0.9368684	0.3496820	-0.0013965
O2	H8	-0.9625410	-0.2711363	0.9625410	0.2711363	-0.0020321
O2	H9	-0.9773659	-0.2115557	0.9773659	0.2115557	-0.0020764
O2	H13	-0.9920265	0.1260293	0.9920265	-0.1260293	-0.0051319
O2	H14	-0.9995608	0.0296351	0.9995608	-0.0296351	-0.0053006
O2	H15	-0.9999995	-0.0009663	0.9999995	0.0009663	-0.0047302
O1	O3	-0.1730230	0.9849178	0.1730230	-0.9849178	-0.0007245
O1	O4	0.1901225	0.9817604	-0.1901225	-0.9817604	-0.0007343
O1	H1	0.6478560	-0.7617629	-0.6478560	0.7617629	0.0015339
O1	H2	0.5355560	-0.8444997	-0.5355560	0.8444997	0.0015694
O1	H3	0.3387817	-0.9408650	-0.3387817	0.9408650	0.0016430
O1	H4	0.6917258	-0.7221602	-0.6917258	0.7221602	0.0010064
O1	H5	0.5896752	-0.8076405	-0.5896752	0.8076405	0.0016616
O1	H6	0.4106118	-0.9118103	-0.4106118	0.9118103	0.0020351
O1	H7	0.7328122	-0.6804310	-0.7328122	0.6804310	0.0012348
O1	H8	0.6418181	-0.7668569	-0.6418181	0.7668569	0.0007953
O1	H13	0.9302834	-0.3668416	-0.9302834	0.3668416	0.0035223
O1	H14	0.8314042	-0.5556681	-0.8314042	0.5556681	0.0087864
O1	H15	0.6488110	-0.7609496	-0.6488110	0.7609496	-0.0037073
O1	O2	0.9537535	-0.3005897	-0.9537535	0.3005897	-0.0004068
S2	H1	0.1093324	-0.9940052	-0.1093324	0.9940052	0.0520498
S2	H2	0.0604924	-0.9981687	-0.0604924	0.9981687	0.0531962
S2	H3	0.0000000	-1.0000000	-0.0000000	1.0000000	0.0533400
S2	H4	0.1227333	-0.9924397	-0.1227333	0.9924397	0.0511844
S2	H5	0.0735045	-0.9972949	-0.0735045	0.9972949	0.0523856
S2	H6	0.0140772	-0.9999009	-0.0140772	0.9999009	0.0528183
S2	H7	0.1362216	-0.9906784	-0.1362216	0.9906784	0.0513337
S2	H8	0.0865063	-0.9962513	-0.0865063	0.9962513	0.0511427
S2	H9	0.0281902	-0.9996026	-0.0281902	0.9996026	0.0523414
S2	H13	0.2232864	-0.9747529	-0.2232864	0.9747529	0.0488759
S2	H14	0.1122146	-0.9936840	-0.1122146	0.9936840	0.0610993
S2	H15	0.0337715	-0.9994296	-0.0337715	0.9994296	0.0437907
S2	O3	-0.9778987	-0.2090790	0.9778987	0.2090790	0.0203898
S2	O4	0.9807966	0.1950335	-0.9807966	-0.1950335	-0.0201914
S2	O2	0.3352093	-0.9421437	-0.3352093	0.9421437	0.0459411
S2	O1	-0.0980977	-0.9951768	0.0980977	0.9951768	0.0528278
S2	S1	-0.9812106	-0.1929396	0.9812106	0.1929396	-0.0187810

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 1.10

Ref. std. odklon a-posteriori: 1.24

Globalni test: 1.27

Globalni test [SQRT]: 1.13

Matrika R [DIAG]: 91.00

Matrika R [POVPRECJE]: 0.73

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH
O3	70.0081	238.1196			
	0.0122	0.0107	0.0003	0.0002	
	70.0203	238.1303	0.0003	0.0002	13.0
O4	111.2209	246.7633			
	0.0130	0.0056	0.0003	0.0002	
	111.2339	246.7689	0.0004	0.0002	17.2
O2	146.8830	112.7620			
	0.0020	0.0017	0.0002	0.0001	
	146.8850	112.7637	0.0002	0.0001	21.1
H1	115.9960	99.1030			
	-0.0001	0.0060	0.0002	0.0002	
	115.9959	99.1090	0.0002	0.0002	0.7
H2	108.7850	99.5730			
	-0.0002	0.0072	0.0002	0.0002	
	108.7848	99.5802	0.0002	0.0002	144.2
H3	100.0000	100.0000			
	-0.0010	0.0076	0.0002	0.0002	
	99.9990	100.0076	0.0002	0.0002	109.6
H4	117.7710	100.8330			
	-0.0009	0.0058	0.0002	0.0002	
	117.7701	100.8388	0.0002	0.0002	2.2
H5	110.5580	101.2830			
	-0.0008	0.0068	0.0002	0.0002	

	110.5572	101.2898	0.0002	0.0002	154.2
H6	102.0100	101.7620			
	-0.0030	0.0061	0.0002	0.0002	
	102.0070	101.7681	0.0002	0.0002	120.3
H7	119.5230	102.5500			
	-0.0006	0.0055	0.0002	0.0002	
	119.5224	102.5555	0.0002	0.0002	3.2
H8	112.2880	103.0170			
	-0.0008	0.0055	0.0002	0.0002	
	112.2872	103.0225	0.0002	0.0002	160.6
H9	103.9780	103.4750			
	-0.0014	0.0067	0.0005	0.0002	
	103.9766	103.4817	0.0005	0.0002	13.1
H13	129.6840	114.9470			
	-0.0030	0.0033	0.0004	0.0001	
	129.6810	114.9503	0.0004	0.0001	168.5
H14	114.7730	113.7140			
	-0.0029	0.0153	0.0003	0.0002	
	114.7701	113.7293	0.0003	0.0001	160.8
H15	104.4540	112.7210			
	-0.0028	-0.0020	0.0002	0.0002	
	104.4512	112.7190	0.0003	0.0001	139.3
O1	88.8150	131.0630			
	0.0026	0.0067	0.0001	0.0002	
	88.8176	131.0697	0.0002	0.0001	122.1
S1	76.4690	239.9050			
	-0.0152	-0.0528	0.0003	0.0002	
	76.4538	239.8522	0.0003	0.0002	15.7
S2	100.0000	244.5320			
	0.0028	-0.0459	0.0003	0.0002	
	100.0028	244.4861	0.0003	0.0002	8.8

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L	V	S_V	L_	S_L_
O2	O3	S1	2 31 5.9	0.71	1.42	2 31 6.6	0.71
O2	S1	S2	9 24 12.8	-0.88	1.45	9 24 11.9	0.66
O2	S2	O4	4 41 36.8	-0.37	1.39	4 41 36.4	0.79
O2	O4	H1	261 3 0.1	-0.11	0.90	261 2 60.0	1.32
O2	H1	H4	1 34 29.1	0.60	0.47	1 34 29.7	1.52
O2	H4	H7	1 48 50.5	0.07	0.46	1 48 50.6	1.52
O2	H7	H2	1 22 20.4	0.16	0.50	1 22 20.6	1.51
O2	H2	H5	1 33 29.9	-0.25	0.54	1 33 29.7	1.50
O2	H5	H8	1 48 12.8	-0.01	0.54	1 48 12.8	1.50

O2	H8	H3	0	30	18.3	-0.02	0.58	0	30	18.3	1.48
O2	H3	H6	1	27	11.0	-0.31	0.61	1	27	10.7	1.47
O2	H6	H9	1	33	37.9	0.29	0.54	1	33	38.2	1.50
O2	H9	H15	12	8	45.0	0.19	0.61	12	8	45.2	1.47
O2	H15	H14	1	46	56.8	0.13	0.76	1	46	56.9	1.40
O2	H14	H13	5	31	17.1	-0.43	0.66	5	31	16.7	1.45
O2	H13	O1	10	15	14.3	1.14	1.06	10	15	15.4	1.19
O1	O3	S1	3	28	25.9	0.91	1.25	3	28	26.8	0.99
O1	S1	S2	12	6	59.7	-0.15	1.35	12	6	59.5	0.85
O1	S2	O4	5	19	57.3	0.28	1.33	5	19	57.6	0.88
O1	O4	O2	96	31	57.7	0.04	1.32	96	31	57.7	0.90
O1	O2	H13	4	1	49.2	-0.89	1.46	4	1	48.3	0.64
O1	H13	H14	12	13	16.8	0.88	1.10	12	13	17.7	1.16
O1	H14	H7	9	7	56.4	-0.35	0.77	9	7	56.0	1.39
O1	H7	H4	3	21	20.7	0.37	0.71	3	21	21.1	1.43
O1	H4	H15	3	20	1.6	-0.22	0.62	3	20	1.4	1.47
O1	H15	H1	0	3	9.3	-1.64	0.60	0	3	7.7	1.47
O1	H1	H8	0	27	14.9	1.55	0.66	0	27	16.5	1.45
O1	H8	H5	3	47	32.6	0.11	0.63	3	47	32.7	1.46
O1	H5	H2	3	45	4.5	0.22	0.61	3	45	4.7	1.47
O1	H2	H6	8	8	43.2	-2.26	0.57	8	8	40.9	1.49
O1	H6	H3	4	26	9.5	1.88	0.54	4	26	11.4	1.50
S1	O2	H13	5	54	47.1	1.25	1.46	5	54	48.3	0.63
S1	H13	H7	5	39	55.1	-0.14	1.46	5	39	55.0	0.64
S1	H7	H14	0	31	3.0	-0.85	1.50	0	31	2.2	0.55
S1	H14	H4	0	20	46.3	0.37	1.50	0	20	46.7	0.54
S1	H4	H1	0	51	36.6	-1.63	1.53	0	51	35.0	0.45
S1	H1	H8	1	1	1.4	1.95	1.53	1	1	3.3	0.44
S1	H8	H5	0	50	53.8	-0.14	1.53	0	50	53.7	0.43
S1	H5	H2	0	50	52.3	-0.70	1.54	0	50	51.6	0.41
S1	H2	H15	0	33	35.1	0.20	1.54	0	33	35.3	0.42
S1	H15	H9	1	0	32.1	0.81	1.37	1	0	32.9	0.81
S1	H9	H6	0	55	30.8	3.12	1.38	0	55	33.9	0.80
S1	H6	H3	0	55	41.2	-3.19	1.55	0	55	38.0	0.36
S1	H3	O1	3	4	22.0	0.28	1.56	3	4	22.3	0.32
S1	O1	O3	81	29	50.5	-0.47	1.08	81	29	50.0	1.17
S1	O3	O4	183	44	19.7	1.63	0.91	183	44	21.3	1.30
S1	O4	S2	0	6	58.2	-2.63	1.53	0	6	55.6	0.43
S2	O2	H13	6	41	13.0	0.50	1.43	6	41	13.5	0.70
S2	H13	H7	5	4	25.4	-0.02	1.43	5	4	25.4	0.70
S2	H7	H4	0	46	47.5	-0.40	1.52	0	46	47.1	0.48
S2	H4	H14	0	36	26.7	0.08	1.49	0	36	26.8	0.57
S2	H14	H1	0	9	48.0	8.09	1.49	0	9	56.1	0.57
S2	H1	H8	1	19	1.6	-7.80	1.53	1	18	53.8	0.45
S2	H8	H5	0	44	51.1	0.16	1.53	0	44	51.3	0.44
S2	H5	H2	0	44	50.9	-0.81	1.53	0	44	50.1	0.42
S2	H2	H15	1	32	4.2	0.36	1.53	1	32	4.6	0.46
S2	H15	H9	0	19	8.8	0.57	1.37	0	19	9.4	0.81
S2	H9	H6	0	48	31.9	3.16	1.39	0	48	35.1	0.78
S2	H6	H3	0	48	25.4	-3.51	1.55	0	48	21.9	0.37
S2	H3	O1	5	37	51.1	-0.22	1.56	5	37	50.9	0.33
S2	O1	O3	72	23	55.6	0.61	1.41	72	23	56.2	0.73
S2	O3	S1	0	50	10.9	0.28	1.55	0	50	11.2	0.36
S2	S1	O4	179	38	34.1	-0.50	0.86	179	38	33.6	1.34

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
S1	O2	145.2988	0.0011	0.0045	145.2999	0.0003
S1	H1	146.1921	0.0003	0.0011	146.1924	0.0003
S1	O1	109.4823	0.0006	0.0045	109.4829	0.0003
S1	H2	143.9497	0.0001	0.0011	143.9497	0.0003
S1	H3	141.8129	-0.0001	0.0011	141.8129	0.0003
S1	H4	145.0237	-0.0004	0.0011	145.0234	0.0003
S1	H5	142.6979	-0.0003	0.0011	142.6976	0.0003
S1	H6	140.4281	0.0005	0.0011	140.4286	0.0003
S1	H7	143.8933	0.0001	0.0011	143.8933	0.0003
S1	H8	141.4443	-0.0003	0.0011	141.4440	0.0003
S1	H9	139.1205	-0.0003	0.0011	139.1202	0.0003
S1	H13	135.7707	-0.0003	0.0011	135.7705	0.0003
S1	H14	131.8151	-0.0003	0.0011	131.8148	0.0003
S1	H15	130.1798	-0.0002	0.0011	130.1795	0.0003
S1	O3	6.6608	-0.0010	0.0010	6.6598	0.0005
S1	O4	35.4610	0.0002	0.0010	35.4612	0.0005
O2	O3	147.0526	0.0018	0.0011	147.0543	0.0003
O2	O4	138.6662	0.0003	0.0011	138.6665	0.0003
O2	H1	33.7732	-0.0006	0.0011	33.7726	0.0003
O2	H2	40.3167	-0.0001	0.0011	40.3166	0.0003
O2	H3	48.5906	-0.0002	0.0011	48.5903	0.0003
O2	H4	31.4630	-0.0007	0.0011	31.4624	0.0003
O2	H5	38.0976	-0.0009	0.0011	38.0967	0.0003
O2	H6	46.2035	0.0019	0.0011	46.2054	0.0003
O2	H7	29.2051	-0.0002	0.0011	29.2049	0.0003
O2	H8	35.9434	-0.0003	0.0011	35.9430	0.0003
O2	H9	43.9007	0.0002	0.0010	43.9009	0.0005
O2	H13	17.3424	0.0001	0.0010	17.3425	0.0005
O2	H14	32.1294	0.0000	0.0011	32.1294	0.0004
O2	H15	42.4338	0.0001	0.0011	42.4338	0.0003
O1	O3	108.6967	0.0015	0.0011	108.6982	0.0003
O1	O4	117.8506	0.0002	0.0011	117.8507	0.0003
O1	H1	41.9538	0.0003	0.0011	41.9541	0.0003
O1	H2	37.2868	-0.0004	0.0011	37.2864	0.0003
O1	H3	33.0137	-0.0004	0.0011	33.0133	0.0003
O1	H4	41.8595	-0.0007	0.0011	41.8588	0.0003
O1	H5	36.8712	-0.0004	0.0011	36.8708	0.0003
O1	H6	32.1329	0.0003	0.0011	32.1332	0.0003
O1	H7	41.9031	-0.0003	0.0011	41.9028	0.0003
O1	H8	36.5719	-0.0004	0.0011	36.5714	0.0003
O1	H13	43.9282	-0.0005	0.0010	43.9278	0.0005
O1	H14	31.2131	-0.0006	0.0011	31.2125	0.0004
O1	H15	24.1078	-0.0006	0.0011	24.1072	0.0004
O1	O2	60.8841	0.0005	0.0045	60.8846	0.0003
S2	H1	146.2540	0.0001	0.0011	146.2542	0.0003
S2	H2	145.1718	0.0000	0.0011	145.1718	0.0003
S2	H3	144.4787	-0.0001	0.0011	144.4785	0.0003

S2	H4	144.7425	-0.0005	0.0011	144.7420	0.0003
S2	H5	143.5852	-0.0003	0.0011	143.5848	0.0003
S2	H6	142.7313	0.0008	0.0011	142.7321	0.0003
S2	H7	143.2666	-0.0000	0.0011	143.2666	0.0003
S2	H8	141.9964	-0.0003	0.0011	141.9960	0.0003
S2	H9	141.0607	-0.0003	0.0011	141.0604	0.0003
S2	H13	132.8925	-0.0004	0.0011	132.8921	0.0003
S2	H14	131.5884	-0.0003	0.0011	131.5881	0.0003
S2	H15	131.8424	-0.0002	0.0011	131.8422	0.0003
S2	O3	30.6493	-0.0005	0.0010	30.6488	0.0005
S2	O4	11.4608	-0.0002	0.0010	11.4606	0.0005
S2	O2	139.8159	0.0009	0.0045	139.8168	0.0002
S2	O1	113.9661	0.0005	0.0045	113.9666	0.0003
S2	S1	24.0004	0.0003	0.0045	24.0006	0.0005

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0005	0.0002
Avr sdX, sdY:	0.0003	0.0002

KOVARIANCA MARIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00033533
Sled kovariančne matrike:	0.00000197
Srednja varianca:	0.00023712
Srednja standardna deviacija:	0.01539858
Generalizirana varianca:	0.00004176
Generalizirana standardna deviacija:	0.00646222
Najmanjša lastna vrednost kov. matrike:	0.00000000
Največja lastna vrednost kov. matrike:	0.00000024
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00271361

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000001
Največja lastna vrednost:	0.000558
Norma kovariančne matrike:	0.003929
Norma matrike kriterija:	0.000558
Razlika norm kovariančne in matrike kriterija:	0.003370
Sled matrike kriterija:	0.004857

Karakteristična razdalja $d=2/3(s_{\min})$:	1.6329
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Velikost Urp (reducirana in psevdoinverzna):	124	x	666
Velikost vektorja q:	666	x	1
Velikost optimiziranega vektorja uteži p:	124	x	1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
O2	O3	S1	2 31	5.9	41482750	0.79 0.320252

O2	O4	H1	261	3	0.1	1429833	0.10	1.724974
O2	H1	H4	1	34	29.1	7216136	0.09	0.767844
O2	H4	H7	1	48	50.5	5415304	0.08	0.886367
O2	H7	H2	1	22	20.4	1838534	0.11	1.521210
O2	H2	H5	1	33	29.9	10447844	0.11	0.638134
O2	H5	H8	1	48	12.8	8718683	0.11	0.698554
O2	H8	H3	0	30	18.3	2622322	0.15	1.273744
O2	H3	H6	1	27	11.0	14320529	0.14	0.545062
O2	H6	H9	1	33	37.9	13029379	0.11	0.571430
O2	H9	H15	12	8	45.0	4362133	0.15	0.987588
O2	H15	H14	1	46	56.8	3269173	0.19	1.140791
O2	H14	H13	5	31	17.1	202779	0.13	4.580511
O1	O3	S1	3	28	25.9	19446118	0.57	0.467744
O1	S1	S2	12	6	59.7	20333675	0.71	0.457422
O1	S2	O4	5	19	57.3	49015542	0.65	0.294617
O1	O4	O2	96	31	57.7	5511814	0.38	0.878573
O1	O2	H13	4	1	49.2	12659378	0.75	0.579721
O1	H13	H14	12	13	16.8	2523945	0.37	1.298330
O1	H14	H7	9	7	56.4	519503	0.23	2.861747
O1	H7	H4	3	21	20.7	5895454	0.19	0.849506
O1	H4	H15	3	20	1.6	830703	0.12	2.263092
O1	H15	H1	0	3	9.3	982132	0.17	2.081326
O1	H1	H8	0	27	14.9	6909784	0.16	0.784681
O1	H8	H5	3	47	32.6	1120550	0.15	1.948541
O1	H5	H2	3	45	4.5	3248911	0.14	1.144343
O1	H2	H6	8	8	43.2	1352736	0.11	1.773449
O1	H6	H3	4	26	9.5	975561	0.11	2.088324
S1	H13	H7	5	39	55.1	234117	0.78	4.262933
S1	H7	H14	0	31	3.0	29640087	0.90	0.378866
S1	H4	H1	0	51	36.6	128500933	0.91	0.181958
S1	H8	H5	0	50	53.8	96991764	0.92	0.209439
S1	H5	H2	0	50	52.3	89992023	0.93	0.217432
S1	H2	H15	0	33	35.1	74811	0.94	7.541233
S1	H15	H9	1	0	32.1	1788665	0.68	1.542271
S1	H9	H6	0	55	30.8	146443091	0.83	0.170448
S1	H6	H3	0	55	41.2	139572886	0.94	0.174592
S1	H3	O1	3	4	22.0	34448299	1.01	0.351432
S1	O1	O3	81	29	50.5	377386	0.08	3.357626
S1	O4	S2	0	6	58.2	621119897	0.90	0.082763
S2	O2	H13	6	41	13.0	11270357	0.90	0.614407
S2	H13	H7	5	4	25.4	53306185	0.74	0.282512
S2	H7	H4	0	46	47.5	77794813	0.91	0.233857
S2	H4	H14	0	36	26.7	32457086	0.90	0.362052
S2	H14	H1	0	9	48.0	33809436	0.85	0.354737
S2	H1	H8	1	19	1.6	174486530	0.92	0.156151
S2	H8	H5	0	44	51.1	30387240	0.92	0.374179
S2	H5	H2	0	44	50.9	8387280	0.92	0.712221
S2	H2	H15	1	32	4.2	41318056	0.93	0.320889
S2	H15	H9	0	19	8.8	47686556	0.69	0.298694
S2	O1	O3	72	23	55.6	601994	0.39	2.658453

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

O2	S1	S2	9	24	12.8	-12532759	0.85
O2	S2	O4	4	41	36.8	-57388953	0.74
O2	H13	O1	10	15	14.3	-696434	0.75
S1	O2	H13	5	54	47.1	-47190751	0.91

S1	H14	H4	0	20	46.3	-7819376	0.86
S1	H1	H8	1	1	1.4	-194025192	0.92
S1	O3	O4	183	44	19.7	-95453	0.29
S2	H9	H6	0	48	31.9	-24834214	0.82
S2	H6	H3	0	48	25.4	-32999839	0.94
S2	H3	O1	5	37	51.1	-3753905	0.99
S2	O3	S1	0	50	10.9	-2804846	0.90
S2	S1	O4	179	38	34.1	-64696641	0.05

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi (opt)	ri	std_d
S1	H1	146.1921	1023	0.94	0.000313
S1	H2	143.9497	1075	0.93	0.000305
S1	H3	141.8129	1130	0.92	0.000297
S1	H4	145.0237	229	0.94	0.000660
S1	H5	142.6979	175	0.94	0.000756
S1	H6	140.4281	166	0.92	0.000776
S1	H7	143.8933	612	0.95	0.000404
S1	H8	141.4443	443	0.94	0.000475
S1	H9	139.1205	846	0.93	0.000344
S1	H13	135.7707	1567	0.91	0.000253
S1	H14	131.8151	1308	0.93	0.000277
S1	H15	130.1798	1207	0.93	0.000288
S1	O3	6.6608	23	0.78	0.002103
S1	O4	35.4610	2890	0.77	0.000186
O2	O3	147.0526	1960	0.95	0.000226
O2	O4	138.6662	2896	0.95	0.000186
O2	H1	33.7732	711	0.92	0.000375
O2	H2	40.3167	948	0.93	0.000325
O2	H3	48.5906	1574	0.92	0.000252
O2	H5	38.0976	84	0.93	0.001092
O2	H7	29.2051	559	0.92	0.000423
O2	H8	35.9434	860	0.93	0.000341
O2	H9	43.9007	1213	0.78	0.000287
O2	H13	17.3424	2740	0.82	0.000191
O2	H14	32.1294	1012	0.88	0.000314
O2	H15	42.4338	779	0.92	0.000358
O1	O3	108.6967	1772	0.93	0.000238
O1	O4	117.8506	3090	0.92	0.000180
O1	H1	41.9538	388	0.92	0.000508
O1	H2	37.2868	833	0.92	0.000346
O1	H3	33.0137	966	0.91	0.000322
O1	H6	32.1329	16	0.92	0.002498
O1	H7	41.9031	501	0.93	0.000447
O1	H8	36.5719	573	0.92	0.000418
O1	H13	43.9282	2344	0.83	0.000207
O1	H14	31.2131	1685	0.88	0.000244
O1	H15	24.1078	1293	0.90	0.000278
S2	H1	146.2540	1058	0.94	0.000307
S2	H2	145.1718	958	0.93	0.000323
S2	H3	144.4787	981	0.92	0.000319
S2	H4	144.7425	191	0.94	0.000724
S2	H5	143.5852	28	0.94	0.001885

S2	H7	143.2666	512	0.95	0.000442
S2	H8	141.9964	244	0.94	0.000640
S2	H9	141.0607	718	0.92	0.000373
S2	H13	132.8925	1396	0.93	0.000268
S2	H14	131.5884	1012	0.94	0.000314
S2	H15	131.8424	921	0.93	0.000329
S2	O3	30.6493	3070	0.79	0.000180
S2	O4	11.4608	2768	0.78	0.000190
S2	O2	139.8159	26	1.00	0.001948
S2	S1	24.0004	550	0.99	0.000427

 IZLOCENA OPAZOVANJA - HORIZONTALNE DOLZINE:

S1	O2	145.2988	-126	1.00
S1	O1	109.4823	-340	1.00
O2	H4	31.4630	-6	0.92
O2	H6	46.2035	-398	0.93
O1	H4	41.8595	-196	0.93
O1	H5	36.8712	-7	0.92
O1	O2	60.8841	-221	1.00
S2	H6	142.7313	-45	0.93
S2	O1	113.9661	-277	1.00

OPAZOVANJA IN KOORDINATE MELJE STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA
*H

PRIBLIZNE KOORDINATE TOCK:

X O3	70.0081	238.1196
X O4	111.2209	246.7633
X O2	146.8830	112.7620
X H1	115.9960	99.1030
X H2	108.7850	99.5730
X H3	100.0000	100.0000
X H4	117.7710	100.8330
X H5	110.5580	101.2830
X H6	102.0100	101.7620
X H7	119.5230	102.5500
X H8	112.2880	103.0170
X H9	103.9780	103.4750
X H13	129.6840	114.9470
X H14	114.7730	113.7140
X H15	104.4540	112.7210
X O1	88.8150	131.0630
X S1	76.4690	239.9050
X S2	100.0000	244.5320

SESTAVLJENI KOTI:

A	O2	O3	S1	2	31	5.9	1.4142
A	O2	O4	H1	261	3	0.1	1.4142
A	O2	H1	H4	1	34	29.1	1.4142
A	O2	H4	H7	1	48	50.5	1.4142
A	O2	H7	H2	1	22	20.4	1.4142
A	O2	H2	H5	1	33	29.9	1.4142
A	O2	H5	H8	1	48	12.8	1.4142
A	O2	H8	H3	0	30	18.3	1.4142
A	O2	H3	H6	1	27	11.0	1.4142
A	O2	H6	H9	1	33	37.9	1.4142
A	O2	H9	H15	12	8	45.0	1.4142
A	O2	H15	H14	1	46	56.8	1.4142
A	O2	H14	H13	5	31	17.1	1.4142
A	O1	O3	S1	3	28	25.9	1.4142
A	O1	S1	S2	12	6	59.7	1.4142
A	O1	S2	O4	5	19	57.3	1.4142
A	O1	O4	O2	96	31	57.7	1.4142
A	O1	O2	H13	4	1	49.2	1.4142
A	O1	H13	H14	12	13	16.8	1.4142
A	O1	H14	H7	9	7	56.4	1.4142
A	O1	H7	H4	3	21	20.7	1.4142
A	O1	H4	H15	3	20	1.6	1.4142
A	O1	H15	H1	0	3	9.3	1.4142
A	O1	H1	H8	0	27	14.9	1.4142
A	O1	H8	H5	3	47	32.6	1.4142
A	O1	H5	H2	3	45	4.5	1.4142
A	O1	H2	H6	8	8	43.2	1.4142

A	O1	H6	H3	4	26	9.5	1.4142
A	S1	H13	H7	5	39	55.1	1.4142
A	S1	H7	H14	0	31	3.0	1.4142
A	S1	H4	H1	0	51	36.6	1.4142
A	S1	H8	H5	0	50	53.8	1.4142
A	S1	H5	H2	0	50	52.3	1.4142
A	S1	H2	H15	0	33	35.1	1.4142
A	S1	H15	H9	1	0	32.1	1.4142
A	S1	H9	H6	0	55	30.8	1.4142
A	S1	H6	H3	0	55	41.2	1.4142
A	S1	H3	O1	3	4	22.0	1.4142
A	S1	O1	O3	81	29	50.5	1.4142
A	S1	O4	S2	0	6	58.2	1.4142
A	S2	O2	H13	6	41	13.0	1.4142
A	S2	H13	H7	5	4	25.4	1.4142
A	S2	H7	H4	0	46	47.5	1.4142
A	S2	H4	H14	0	36	26.7	1.4142
A	S2	H14	H1	0	9	48.0	1.4142
A	S2	H1	H8	1	19	1.6	1.4142
A	S2	H8	H5	0	44	51.1	1.4142
A	S2	H5	H2	0	44	50.9	1.4142
A	S2	H2	H15	1	32	4.2	1.4142
A	S2	H15	H9	0	19	8.8	1.4142
A	S2	O1	O3	72	23	55.6	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

D	S1	H1	146.19214	0.001
D	S1	H2	143.94966	0.001
D	S1	H3	141.81293	0.001
D	S1	H4	145.02374	0.001
D	S1	H5	142.69789	0.001
D	S1	H6	140.42808	0.001
D	S1	H7	143.89326	0.001
D	S1	H8	141.44430	0.001
D	S1	H9	139.12046	0.001
D	S1	H13	135.77072	0.001
D	S1	H14	131.81506	0.001
D	S1	H15	130.17976	0.001
D	S1	O3	6.66076	0.001
D	S1	O4	35.46103	0.001
D	O2	O3	147.05257	0.001
D	O2	O4	138.66621	0.001
D	O2	H1	33.77320	0.001
D	O2	H2	40.31671	0.001
D	O2	H3	48.59057	0.001
D	O2	H5	38.09763	0.001
D	O2	H7	29.20507	0.001
D	O2	H8	35.94336	0.001
D	O2	H9	43.90068	0.001
D	O2	H13	17.34237	0.001
D	O2	H14	32.12941	0.001
D	O2	H15	42.43375	0.001
D	O1	O3	108.69670	0.001

D	O1	O4	117.85057	0.001
D	O1	H1	41.95378	0.001
D	O1	H2	37.28678	0.001
D	O1	H3	33.01372	0.001
D	O1	H6	32.13294	0.001
D	O1	H7	41.90309	0.001
D	O1	H8	36.57187	0.001
D	O1	H13	43.92825	0.001
D	O1	H14	31.21309	0.001
D	O1	H15	24.10780	0.001
D	S2	H1	146.25402	0.001
D	S2	H2	145.17176	0.001
D	S2	H3	144.47866	0.001
D	S2	H4	144.74250	0.001
D	S2	H5	143.58517	0.001
D	S2	H7	143.26662	0.001
D	S2	H8	141.99635	0.001
D	S2	H9	141.06074	0.001
D	S2	H13	132.89251	0.001
D	S2	H14	131.58840	0.001
D	S2	H15	131.84244	0.001
D	S2	O3	30.64935	0.001
D	S2	O4	11.46079	0.001
D	S2	O2	139.81595	0.004
D	S2	S1	24.00038	0.004

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 14:56:40.8

Ime vhodne datoteke: melje2.txt

Ime izhodne datoteke: melje2.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O3	70.0081	238.1196
O4	111.2209	246.7633
O2	146.8830	112.7620
H1	115.9960	99.1030
H2	108.7850	99.5730
H3	100.0000	100.0000
H4	117.7710	100.8330
H5	110.5580	101.2830
H6	102.0100	101.7620
H7	119.5230	102.5500
H8	112.2880	103.0170
H9	103.9780	103.4750
H13	129.6840	114.9470
H14	114.7730	113.7140
H15	104.4540	112.7210
O1	88.8150	131.0630
S1	76.4690	239.9050
S2	100.0000	244.5320

SESTAVLJENI KOTI:

S	Z1	Z2	KOT [DMS]	KK [']
O2	O3	S1	2 31 5.9	1.4142
O2	O4	H1	261 3 0.1	1.4142
O2	H1	H4	1 34 29.1	1.4142
O2	H4	H7	1 48 50.5	1.4142
O2	H7	H2	1 22 20.4	1.4142
O2	H2	H5	1 33 29.9	1.4142
O2	H5	H8	1 48 12.8	1.4142
O2	H8	H3	0 30 18.3	1.4142
O2	H3	H6	1 27 11.0	1.4142
O2	H6	H9	1 33 37.9	1.4142
O2	H9	H15	12 8 45.0	1.4142
O2	H15	H14	1 46 56.8	1.4142

O2	H14	H13	5 31 17.1	1.4142
O1	O3	S1	3 28 25.9	1.4142
O1	S1	S2	12 6 59.7	1.4142
O1	S2	O4	5 19 57.3	1.4142
O1	O4	O2	96 31 57.7	1.4142
O1	O2	H13	4 1 49.2	1.4142
O1	H13	H14	12 13 16.8	1.4142
O1	H14	H7	9 7 56.4	1.4142
O1	H7	H4	3 21 20.7	1.4142
O1	H4	H15	3 20 1.6	1.4142
O1	H15	H1	0 3 9.3	1.4142
O1	H1	H8	0 27 14.9	1.4142
O1	H8	H5	3 47 32.6	1.4142
O1	H5	H2	3 45 4.5	1.4142
O1	H2	H6	8 8 43.2	1.4142
O1	H6	H3	4 26 9.5	1.4142
S1	H13	H7	5 39 55.1	1.4142
S1	H7	H14	0 31 3.0	1.4142
S1	H4	H1	0 51 36.6	1.4142
S1	H8	H5	0 50 53.8	1.4142
S1	H5	H2	0 50 52.3	1.4142
S1	H2	H15	0 33 35.1	1.4142
S1	H15	H9	1 0 32.1	1.4142
S1	H9	H6	0 55 30.8	1.4142
S1	H6	H3	0 55 41.2	1.4142
S1	H3	O1	3 4 22.0	1.4142
S1	O1	O3	81 29 50.5	1.4142
S1	O4	S2	0 6 58.2	1.4142
S2	O2	H13	6 41 13.0	1.4142
S2	H13	H7	5 4 25.4	1.4142
S2	H7	H4	0 46 47.5	1.4142
S2	H4	H14	0 36 26.7	1.4142
S2	H14	H1	0 9 48.0	1.4142
S2	H1	H8	1 19 1.6	1.4142
S2	H8	H5	0 44 51.1	1.4142
S2	H5	H2	0 44 50.9	1.4142
S2	H2	H15	1 32 4.2	1.4142
S2	H15	H9	0 19 8.8	1.4142
S2	O1	O3	72 23 55.6	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
S1	H1	146.1921	0.0010
S1	H2	143.9497	0.0010
S1	H3	141.8129	0.0010
S1	H4	145.0237	0.0010
S1	H5	142.6979	0.0010
S1	H6	140.4281	0.0010
S1	H7	143.8933	0.0010

S1	H8	141.4443	0.0010
S1	H9	139.1205	0.0010
S1	H13	135.7707	0.0010
S1	H14	131.8151	0.0010
S1	H15	130.1798	0.0010
S1	O3	6.6608	0.0010
S1	O4	35.4610	0.0010

O2	O3	147.0526	0.0010
O2	O4	138.6662	0.0010
O2	H1	33.7732	0.0010
O2	H2	40.3167	0.0010
O2	H3	48.5906	0.0010
O2	H5	38.0976	0.0010
O2	H7	29.2051	0.0010
O2	H8	35.9434	0.0010
O2	H9	43.9007	0.0010
O2	H13	17.3424	0.0010
O2	H14	32.1294	0.0010
O2	H15	42.4338	0.0010

O1	O3	108.6967	0.0010
O1	O4	117.8506	0.0010
O1	H1	41.9538	0.0010
O1	H2	37.2868	0.0010
O1	H3	33.0137	0.0010
O1	H6	32.1329	0.0010
O1	H7	41.9031	0.0010
O1	H8	36.5719	0.0010
O1	H13	43.9282	0.0010
O1	H14	31.2131	0.0010
O1	H15	24.1078	0.0010

S2	H1	146.2540	0.0010
S2	H2	145.1718	0.0010
S2	H3	144.4787	0.0010
S2	H4	144.7425	0.0010
S2	H5	143.5852	0.0010
S2	H7	143.2666	0.0010
S2	H8	141.9964	0.0010
S2	H9	141.0607	0.0010
S2	H13	132.8925	0.0010
S2	H14	131.5884	0.0010
S2	H15	131.8424	0.0010
S2	O3	30.6493	0.0010
S2	O4	11.4608	0.0010
S2	O2	139.8159	0.0040
S2	S1	24.0004	0.0040

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh točk:	18
Stevilo vseh koordinat:	36
Stevilo vseh opazovanj:	103

sestavljenih kotov: 51
 # horizontalnih dolzin: 52
 Stevilo vseh neznank: 36
 Stevilo nadstevilnih opazovanj: 67

 SESTAVLJAM GMM MODEL - ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
O2	O3	S1	45.78	-45.70	1195.73	733.28	-1241.52	-687.57	78.270
O2	O4	H1	-3907.60	5203.14	1437.46	382.56	2470.13	-5585.69	-12.223
O2	H1	H4	-15.73	480.91	-2470.13	5585.69	2485.86	-6066.60	-1.843
O2	H4	H7	16.07	550.48	-2485.86	6066.60	2469.80	-6617.08	0.262
O2	H7	H2	796.11	-1782.43	-2469.80	6617.08	1673.69	-4834.65	1.404
O2	H2	H5	42.22	328.11	-1673.69	4834.65	1631.47	-5162.76	-0.457
O2	H5	H8	75.44	361.20	-1631.47	5162.76	1556.03	-5523.96	5.451
O2	H8	H3	441.05	-1427.90	-1556.03	5523.96	1114.99	-4096.06	-2.490
O2	H3	H6	52.06	240.02	-1114.99	4096.06	1062.93	-4336.07	2.820
O2	H6	H9	68.90	256.24	-1062.93	4336.07	994.03	-4592.31	-1.432
O2	H9	H15	989.33	269.09	-994.03	4592.31	4.70	-4861.41	44.412
O2	H15	H14	194.98	1556.65	-4.70	4861.41	-190.28	-6418.05	-103.917
O2	H14	H13	1309.11	5384.30	190.28	6418.05	-1499.40	-11802.35	74.056
O1	O3	S1	2.00	-116.10	1869.01	328.33	-1871.01	-212.23	66.020
O1	S1	S2	-70.70	-389.69	1871.01	212.23	-1800.31	177.46	-55.856
O1	S2	O4	-82.00	-155.30	1800.31	-177.46	-1718.31	332.76	-8.255
O1	O4	O2	-2736.66	-2898.42	1718.31	-332.76	1018.35	3231.18	1.444
O1	O2	H13	-704.01	-1136.61	-1018.35	-3231.18	1722.36	4367.79	-8.640
O1	H13	H14	-1948.61	-1124.82	-1722.36	-4367.79	3670.98	5492.60	52.019
O1	H14	H7	321.70	1885.50	-3670.98	-5492.60	3349.27	3607.11	-42.288
O1	H7	H4	-209.12	198.68	-3349.27	-3607.11	3558.39	3408.43	0.154
O1	H4	H15	-2953.24	-2143.61	-3558.39	-3408.43	6511.64	5552.04	-68.092
O1	H15	H1	2766.59	2366.99	-6511.64	-5552.04	3745.05	3185.05	69.432
O1	H1	H8	-579.91	-434.71	-3745.05	-3185.05	4324.97	3619.77	-5.479
O1	H8	H5	-192.93	321.15	-4324.97	-3619.77	4517.90	3298.61	4.235
O1	H5	H2	-153.55	336.12	-4517.90	-3298.61	4671.45	2962.49	3.906
O1	H2	H6	-1181.19	326.90	-4671.45	-2962.49	5852.64	2635.59	-25.125
O1	H6	H3	-25.45	519.04	-5852.64	-2635.59	5878.09	2116.55	16.690
S1	H13	H7	29.92	166.45	-1397.27	-595.04	1367.35	428.60	-5.648
S1	H7	H14	-129.30	-25.70	-1367.35	-428.60	1496.65	454.29	3.573
S1	H4	H1	5.03	23.57	-1362.94	-404.77	1357.91	381.20	-1.957
S1	H8	H5	7.14	23.97	-1410.26	-369.02	1403.11	345.04	-1.152
S1	H5	H2	7.30	23.61	-1403.11	-345.04	1395.81	321.43	-1.217
S1	H2	H15	-151.07	-18.94	-1395.81	-321.43	1546.89	340.37	-3.513
S1	H15	H9	94.08	47.43	-1546.89	-340.37	1452.81	292.94	1.764
S1	H9	H6	9.03	26.00	-1452.81	-292.94	1443.77	266.94	-1.037
S1	H6	H3	10.01	25.79	-1443.77	-266.94	1433.76	241.15	-1.672
S1	H3	O1	-437.25	28.92	-1433.76	-241.15	1871.01	212.23	11.406
S1	O1	O3	-6325.25	29872.37	-1871.01	-212.23	8196.26	-29660.14	-1704.588
S1	O4	S2	532.03	-2726.50	1127.43	-5712.85	-1659.47	8439.35	-276.005
S2	O2	H13	-122.93	147.92	-1389.45	-494.36	1512.37	346.44	-13.726
S2	H13	H7	86.58	150.39	-1512.37	-346.44	1425.80	196.05	-3.080
S2	H7	H4	12.02	21.21	-1425.80	-196.05	1413.77	174.84	-1.689

S2	H4	H14	-143.10	-0.98	-1413.77	-174.84	1556.88	175.81	-1.940
S2	H14	H1	155.51	21.68	-1556.88	-175.81	1401.37	154.14	10.176
S2	H1	H8	-45.27	28.52	-1401.37	-154.14	1446.64	125.61	-10.524
S2	H8	H5	14.52	20.06	-1446.64	-125.61	1432.12	105.55	-0.637
S2	H5	H2	14.41	19.64	-1432.12	-105.55	1417.71	85.92	-0.899
S2	H2	H15	-145.36	33.10	-1417.71	-85.92	1563.07	52.82	-6.336
S2	H15	H9	101.95	11.61	-1563.07	-52.82	1461.12	41.21	2.995
S2	O1	O3	394.18	6399.25	-1800.31	177.46	1406.13	-6576.71	-348.500

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
S1	H1	0.2702794	-0.9627819	-0.2702794	0.9627819	0.0528152
S1	H2	0.2244091	-0.9744950	-0.2244091	0.9744950	0.0551805
S1	H3	0.1658630	-0.9861488	-0.1658630	0.9861488	0.0571408
S1	H4	0.2846933	-0.9586187	-0.2846933	0.9586187	0.0516762
S1	H5	0.2387988	-0.9710691	-0.2387988	0.9710691	0.0540585
S1	H6	0.1818068	-0.9833343	-0.1818068	0.9833343	0.0561936
S1	H7	0.2991012	-0.9542214	-0.2991012	0.9542214	0.0513229
S1	H8	0.2531437	-0.9674287	-0.2531437	0.9674287	0.0524325
S1	H9	0.1976566	-0.9802713	-0.1976566	0.9802713	0.0552921
S1	H13	0.3918131	-0.9200448	-0.3918131	0.9200448	0.0465764
S1	H14	0.2904540	-0.9568890	-0.2904540	0.9568890	0.0612642
S1	H15	0.2148949	-0.9766372	-0.2148949	0.9766372	0.0466969
S1	O3	-0.9638746	-0.2663564	0.9638746	0.2663564	0.0422902
S1	O4	0.9810774	0.1936160	-0.9810774	-0.1936160	-0.0388500
O2	O3	-0.5227737	0.8524715	0.5227737	-0.8524715	-0.0006128
O2	O4	-0.2571807	0.9663633	0.2571807	-0.9663633	-0.0006635
O2	H1	-0.9145634	-0.4044427	0.9145634	0.4044427	-0.0007993
O2	H2	-0.9449766	-0.3271378	0.9449766	0.3271378	-0.0003693
O2	H3	-0.9648905	-0.2626524	0.9648905	0.2626524	-0.0016378
O2	H5	-0.9535227	-0.3013211	0.9535227	0.3013211	-0.0020520
O2	H7	-0.9368684	-0.3496820	0.9368684	0.3496820	-0.0013965
O2	H8	-0.9625410	-0.2711363	0.9625410	0.2711363	-0.0020321
O2	H9	-0.9773659	-0.2115557	0.9773659	0.2115557	-0.0020764
O2	H13	-0.9920265	0.1260293	0.9920265	-0.1260293	-0.0051319
O2	H14	-0.9995608	0.0296351	0.9995608	-0.0296351	-0.0053006
O2	H15	-0.9999995	-0.0009663	0.9999995	0.0009663	-0.0047302
O1	O3	-0.1730230	0.9849178	0.1730230	-0.9849178	-0.0007245
O1	O4	0.1901225	0.9817604	-0.1901225	-0.9817604	-0.0007343
O1	H1	0.6478560	-0.7617629	-0.6478560	0.7617629	0.0015339
O1	H2	0.5355560	-0.8444997	-0.5355560	0.8444997	0.0015694
O1	H3	0.3387817	-0.9408650	-0.3387817	0.9408650	0.0016430
O1	H6	0.4106118	-0.9118103	-0.4106118	0.9118103	0.0020351
O1	H7	0.7328122	-0.6804310	-0.7328122	0.6804310	0.0012348
O1	H8	0.6418181	-0.7668569	-0.6418181	0.7668569	0.0007953
O1	H13	0.9302834	-0.3668416	-0.9302834	0.3668416	0.0035223
O1	H14	0.8314042	-0.5556681	-0.8314042	0.5556681	0.0087864
O1	H15	0.6488110	-0.7609496	-0.6488110	0.7609496	-0.0037073
S2	H1	0.1093324	-0.9940052	-0.1093324	0.9940052	0.0520498
S2	H2	0.0604924	-0.9981687	-0.0604924	0.9981687	0.0531962
S2	H3	0.0000000	-1.0000000	-0.0000000	1.0000000	0.0533400
S2	H4	0.1227333	-0.9924397	-0.1227333	0.9924397	0.0511844

S2	H5	0.0735045	-0.9972949	-0.0735045	0.9972949	0.0523856
S2	H7	0.1362216	-0.9906784	-0.1362216	0.9906784	0.0513337
S2	H8	0.0865063	-0.9962513	-0.0865063	0.9962513	0.0511427
S2	H9	0.0281902	-0.9996026	-0.0281902	0.9996026	0.0523414
S2	H13	0.2232864	-0.9747529	-0.2232864	0.9747529	0.0488759
S2	H14	0.1122146	-0.9936840	-0.1122146	0.9936840	0.0610993
S2	H15	0.0337715	-0.9994296	-0.0337715	0.9994296	0.0437907
S2	O3	-0.9778987	-0.2090790	0.9778987	0.2090790	0.0203898
S2	O4	0.9807966	0.1950335	-0.9807966	-0.1950335	-0.0201914
S2	O2	0.3352093	-0.9421437	-0.3352093	0.9421437	0.0459411
S2	S1	-0.9812106	-0.1929396	0.9812106	0.1929396	-0.0187810

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.89

Ref. std. odklon a-posteriori: 1.02

Globalni test: 1.32

Globalni test [SQRT]: 1.15

Matrika R [DIAG]: 70.00

Matrika R [POVPRECJE]: 0.68

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK - IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH
O3	70.0081	238.1196			
	0.0123	0.0107	0.0004	0.0002	
	70.0204	238.1303	0.0004	0.0002	11.8
O4	111.2209	246.7633			
	0.0129	0.0060	0.0004	0.0003	
	111.2338	246.7693	0.0004	0.0003	29.1
O2	146.8830	112.7620			
	0.0021	0.0019	0.0002	0.0002	
	146.8851	112.7639	0.0003	0.0002	15.4
H1	115.9960	99.1030			
	-0.0001	0.0060	0.0002	0.0002	
	115.9959	99.1090	0.0002	0.0002	177.3

H2	108.7850	99.5730				
	-0.0002	0.0071	0.0002	0.0002		
	108.7848	99.5801	0.0002	0.0002	142.8	
H3	100.0000	100.0000				
	-0.0011	0.0075	0.0002	0.0002		
	99.9989	100.0075	0.0003	0.0002	110.9	
H4	117.7710	100.8330				
	-0.0006	0.0058	0.0002	0.0002		
	117.7704	100.8388	0.0002	0.0002	0.8	
H5	110.5580	101.2830				
	-0.0008	0.0067	0.0002	0.0002		
	110.5572	101.2897	0.0002	0.0002	151.0	
H6	102.0100	101.7620				
	-0.0032	0.0060	0.0002	0.0002		
	102.0068	101.7680	0.0003	0.0002	122.8	
H7	119.5230	102.5500				
	-0.0006	0.0055	0.0002	0.0002		
	119.5224	102.5555	0.0002	0.0002	3.1	
H8	112.2880	103.0170				
	-0.0007	0.0054	0.0002	0.0002		
	112.2873	103.0224	0.0002	0.0002	157.6	
H9	103.9780	103.4750				
	-0.0016	0.0065	0.0005	0.0003		
	103.9764	103.4815	0.0005	0.0002	13.5	
H13	129.6840	114.9470				
	-0.0029	0.0034	0.0004	0.0002		
	129.6811	114.9504	0.0004	0.0001	168.5	
H14	114.7730	113.7140				
	-0.0030	0.0153	0.0003	0.0002		
	114.7700	113.7293	0.0003	0.0001	161.5	
H15	104.4540	112.7210				
	-0.0028	-0.0020	0.0002	0.0002		
	104.4512	112.7190	0.0003	0.0001	139.1	
O1	88.8150	131.0630				
	0.0025	0.0069	0.0002	0.0003		
	88.8175	131.0699	0.0003	0.0001	120.9	
S1	76.4690	239.9050				
	-0.0151	-0.0528	0.0004	0.0002		
	76.4539	239.8522	0.0004	0.0002	11.0	
S2	100.0000	244.5320				
	0.0029	-0.0458	0.0004	0.0002		
	100.0029	244.4862	0.0004	0.0002	3.4	

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
O2	O3	S1	2	31	5.9	0.68	1.44	2	31	6.6	0.76
O2	O4	H1	261	3	0.1	-0.96	0.85	261	2	59.1	1.38
O2	H1	H4	1	34	29.1	0.33	0.48	1	34	29.4	1.55
O2	H4	H7	1	48	50.5	0.20	0.43	1	48	50.7	1.57
O2	H7	H2	1	22	20.4	0.33	0.51	1	22	20.7	1.54
O2	H2	H5	1	33	29.9	-0.24	0.51	1	33	29.7	1.54
O2	H5	H8	1	48	12.8	-0.23	0.52	1	48	12.6	1.54
O2	H8	H3	0	30	18.3	0.16	0.58	0	30	18.5	1.51
O2	H3	H6	1	27	11.0	-0.02	0.56	1	27	11.0	1.52
O2	H6	H9	1	33	37.9	-0.06	0.48	1	33	37.8	1.55
O2	H9	H15	12	8	45.0	0.35	0.62	12	8	45.4	1.50
O2	H15	H14	1	46	56.8	0.23	0.77	1	46	57.0	1.43
O2	H14	H13	5	31	17.1	-0.74	0.68	5	31	16.4	1.47
O1	O3	S1	3	28	25.9	0.90	1.24	3	28	26.8	1.05
O1	S1	S2	12	6	59.7	-0.10	1.09	12	6	59.6	1.20
O1	S2	O4	5	19	57.3	-0.31	1.21	5	19	57.0	1.08
O1	O4	O2	96	31	57.7	0.10	1.31	96	31	57.8	0.95
O1	O2	H13	4	1	49.2	-0.69	1.47	4	1	48.5	0.69
O1	H13	H14	12	13	16.8	1.50	1.14	12	13	18.3	1.16
O1	H14	H7	9	7	56.4	-1.06	0.84	9	7	55.3	1.39
O1	H7	H4	3	21	20.7	-0.26	0.64	3	21	20.4	1.49
O1	H4	H15	3	20	1.6	0.81	0.63	3	20	2.4	1.50
O1	H15	H1	0	3	9.3	-1.70	0.62	0	3	7.6	1.50
O1	H1	H8	0	27	14.9	1.04	0.83	0	27	15.9	1.39
O1	H8	H5	3	47	32.6	0.66	0.70	3	47	33.3	1.46
O1	H5	H2	3	45	4.5	0.20	0.62	3	45	4.7	1.50
O1	H2	H6	8	8	43.2	-1.32	0.50	8	8	41.9	1.54
O1	H6	H3	4	26	9.5	0.79	0.41	4	26	10.3	1.57
S1	H13	H7	5	39	55.1	0.04	1.48	5	39	55.1	0.66
S1	H7	H14	0	31	3.0	-0.61	1.53	0	31	2.4	0.54
S1	H4	H1	0	51	36.6	-1.28	1.56	0	51	35.3	0.43
S1	H8	H5	0	50	53.8	0.06	1.57	0	50	53.9	0.43
S1	H5	H2	0	50	52.3	-0.68	1.57	0	50	51.6	0.42
S1	H2	H15	0	33	35.1	0.15	1.56	0	33	35.2	0.43
S1	H15	H9	1	0	32.1	1.10	1.40	1	0	33.2	0.81
S1	H9	H6	0	55	30.8	3.16	1.41	0	55	34.0	0.81
S1	H6	H3	0	55	41.2	-3.44	1.58	0	55	37.8	0.38
S1	H3	O1	3	4	22.0	0.42	1.59	3	4	22.4	0.35
S1	O1	O3	81	29	50.5	0.19	1.07	81	29	50.7	1.22
S1	O4	S2	0	6	58.2	-0.26	0.48	0	6	57.9	1.55
S2	O2	H13	6	41	13.0	0.38	1.44	6	41	13.4	0.75
S2	H13	H7	5	4	25.4	0.14	1.45	5	4	25.5	0.72
S2	H7	H4	0	46	47.5	-0.59	1.54	0	46	46.9	0.50
S2	H4	H14	0	36	26.7	0.53	1.52	0	36	27.2	0.56
S2	H14	H1	0	9	48.0	7.97	1.50	0	9	56.0	0.61
S2	H1	H8	1	19	1.6	-7.98	1.57	1	18	53.6	0.43
S2	H8	H5	0	44	51.1	0.36	1.56	0	44	51.5	0.44
S2	H5	H2	0	44	50.9	-0.80	1.56	0	44	50.1	0.44

S2	H2	H15	1 32	4.2	0.32	1.55	1 32	4.5	0.47
S2	H15	H9	0 19	8.8	0.84	1.41	0 19	9.6	0.81
S2	O1	O3	72 23	55.6	-0.17	1.07	72 23	55.4	1.22

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
S1	H1	146.1921	0.0002	0.0011	146.1924	0.0003
S1	H2	143.9497	0.0001	0.0011	143.9497	0.0003
S1	H3	141.8129	-0.0000	0.0011	141.8129	0.0003
S1	H4	145.0237	-0.0004	0.0011	145.0233	0.0003
S1	H5	142.6979	-0.0003	0.0011	142.6976	0.0003
S1	H6	140.4281	0.0005	0.0011	140.4285	0.0003
S1	H7	143.8933	0.0000	0.0011	143.8933	0.0003
S1	H8	141.4443	-0.0003	0.0011	141.4440	0.0003
S1	H9	139.1205	-0.0002	0.0011	139.1202	0.0003
S1	H13	135.7707	-0.0003	0.0011	135.7704	0.0004
S1	H14	131.8151	-0.0004	0.0011	131.8146	0.0003
S1	H15	130.1798	-0.0003	0.0011	130.1795	0.0003
S1	O3	6.6608	-0.0010	0.0010	6.6597	0.0006
S1	O4	35.4610	-0.0000	0.0010	35.4610	0.0006
O2	O3	147.0526	0.0016	0.0011	147.0541	0.0003
O2	O4	138.6662	0.0006	0.0011	138.6668	0.0004
O2	H1	33.7732	-0.0005	0.0011	33.7727	0.0003
O2	H2	40.3167	0.0001	0.0011	40.3168	0.0003
O2	H3	48.5906	-0.0000	0.0011	48.5905	0.0004
O2	H5	38.0976	-0.0007	0.0011	38.0969	0.0003
O2	H7	29.2051	-0.0002	0.0011	29.2049	0.0003
O2	H8	35.9434	-0.0003	0.0011	35.9431	0.0003
O2	H9	43.9007	0.0005	0.0010	43.9012	0.0006
O2	H13	17.3424	-0.0000	0.0010	17.3423	0.0005
O2	H14	32.1294	0.0002	0.0011	32.1296	0.0004
O2	H15	42.4338	0.0001	0.0011	42.4339	0.0004
O1	O3	108.6967	0.0013	0.0011	108.6980	0.0004
O1	O4	117.8506	0.0004	0.0010	117.8509	0.0005
O1	H1	41.9538	0.0006	0.0011	41.9544	0.0004
O1	H2	37.2868	-0.0001	0.0011	37.2867	0.0004
O1	H3	33.0137	-0.0001	0.0011	33.0136	0.0004
O1	H6	32.1329	0.0005	0.0011	32.1334	0.0004
O1	H7	41.9031	-0.0000	0.0011	41.9031	0.0004
O1	H8	36.5719	-0.0001	0.0011	36.5718	0.0004
O1	H13	43.9282	-0.0001	0.0010	43.9281	0.0005
O1	H14	31.2131	-0.0004	0.0011	31.2127	0.0004
O1	H15	24.1078	-0.0003	0.0011	24.1075	0.0004
S2	H1	146.2540	0.0002	0.0011	146.2542	0.0003
S2	H2	145.1718	0.0001	0.0011	145.1719	0.0003
S2	H3	144.4787	0.0000	0.0011	144.4787	0.0003
S2	H4	144.7425	-0.0005	0.0011	144.7420	0.0003
S2	H5	143.5852	-0.0003	0.0011	143.5849	0.0003
S2	H7	143.2666	0.0000	0.0011	143.2666	0.0003
S2	H8	141.9964	-0.0002	0.0011	141.9961	0.0003

S2	H9	141.0607	-0.0002	0.0011	141.0606	0.0004
S2	H13	132.8925	-0.0004	0.0011	132.8921	0.0003
S2	H14	131.5884	-0.0003	0.0011	131.5881	0.0003
S2	H15	131.8424	-0.0002	0.0011	131.8423	0.0003
S2	O3	30.6493	-0.0006	0.0010	30.6488	0.0006
S2	O4	11.4608	-0.0003	0.0009	11.4605	0.0007
S2	O2	139.8159	0.0007	0.0046	139.8167	0.0003
S2	S1	24.0004	0.0003	0.0045	24.0006	0.0007

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestričnih geodetskih mrež...

Min sdX, sdY:	0.0002	0.0002
Max sdX, sdY:	0.0005	0.0003
Avr sdX, sdY:	0.0003	0.0002

KOVARIANCA MARIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00036636
Sled kovariančne matrike:	0.00000242
Srednja varianca:	0.00025905
Srednja standardna deviacija:	0.01609512
Generalizirana varianca:	0.00006173
Generalizirana standardna deviacija:	0.00785709
Najmanjša lastna vrednost kov. matrike:	0.00000000
Največja lastna vrednost kov. matrike:	0.00000026
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00159632

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000001
Največja lastna vrednost:	0.000571
Norma kovariančne matrike:	0.009242
Norma matrike kriterija:	0.000571
Razlika norm kovariančne in matrike kriterija:	0.008671
Sled matrike kriterija:	0.004973

Karakteristična razdalja $d=2/3(s_{\min})$:	1.6329
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Velikost Urp (reducirana in psevdoinverzna):	103	x	666
Velikost vektorja q:	666	x	1
Velikost optimiziranega vektorja uteži p:	103	x	1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
O2	O3	S1	2 31 5.9	32564223	0.77	0.361455
O2	O4	H1	261 3 0.1	1482979	0.12	1.693782
O2	H1	H4	1 34 29.1	7426249	0.09	0.756903
O2	H4	H7	1 48 50.5	5460348	0.06	0.882704
O2	H7	H2	1 22 20.4	1979314	0.11	1.466114
O2	H2	H5	1 33 29.9	10588958	0.10	0.633868
O2	H5	H8	1 48 12.8	8906517	0.09	0.691148

O2	H8	H3	0	30	18.3	3052133	0.15	1.180656
O2	H3	H6	1	27	11.0	14360314	0.11	0.544306
O2	H6	H9	1	33	37.9	13150662	0.09	0.568789
O2	H9	H15	12	8	45.0	4554759	0.17	0.966479
O2	H15	H14	1	46	56.8	3419644	0.22	1.115410
O2	H14	H13	5	31	17.1	270356	0.11	3.966954
O1	O3	S1	3	28	25.9	19639328	0.57	0.465438
O1	S1	S2	12	6	59.7	7393145	0.40	0.758596
O1	S2	O4	5	19	57.3	24360049	0.52	0.417913
O1	O4	O2	96	31	57.7	4668533	0.31	0.954630
O1	O2	H13	4	1	49.2	6620926	0.71	0.801615
O1	H13	H14	12	13	16.8	2392953	0.34	1.333393
O1	H14	H7	9	7	56.4	516644	0.28	2.869654
O1	H7	H4	3	21	20.7	5950319	0.12	0.845581
O1	H4	H15	3	20	1.6	808333	0.14	2.294193
O1	H15	H1	0	3	9.3	1038530	0.19	2.024024
O1	H1	H8	0	27	14.9	2810896	0.18	1.230276
O1	H8	H5	3	47	32.6	1557715	0.18	1.652651
O1	H5	H2	3	45	4.5	3386495	0.15	1.120856
O1	H2	H6	8	8	43.2	1275492	0.06	1.826359
O1	H6	H3	4	26	9.5	2496322	0.07	1.305494
S1	H13	H7	5	39	55.1	3293405	0.79	1.136587
S1	H7	H14	0	31	3.0	30218724	0.79	0.375221
S1	H4	H1	0	51	36.6	126760692	0.78	0.183203
S1	H8	H5	0	50	53.8	78177200	0.85	0.233284
S1	H5	H2	0	50	52.3	88547828	0.93	0.219198
S1	H15	H9	1	0	32.1	5235882	0.74	0.901426
S1	H9	H6	0	55	30.8	121211578	0.78	0.187350
S1	H6	H3	0	55	41.2	79395631	0.94	0.231487
S1	H3	O1	3	4	22.0	32413128	0.95	0.362297
S1	O1	O3	81	29	50.5	92648	0.01	6.776530
S1	O4	S2	0	6	58.2	728845	0.09	2.416059
S2	H13	H7	5	4	25.4	51794915	0.74	0.286604
S2	H7	H4	0	46	47.5	77227602	0.88	0.234714
S2	H4	H14	0	36	26.7	25415818	0.94	0.409141
S2	H14	H1	0	9	48.0	34491701	0.84	0.351211
S2	H1	H8	1	19	1.6	23869863	0.90	0.422182
S2	H8	H5	0	44	51.1	45393946	0.93	0.306144
S2	H5	H2	0	44	50.9	8658397	0.93	0.700981
S2	H2	H15	1	32	4.2	45310680	0.91	0.306425
S2	H15	H9	0	19	8.8	44786012	0.58	0.308215
S2	O1	O3	72	23	55.6	1473968	0.21	1.698952

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

S1	H2	H15	0	33	35.1	-3159304	0.93
S2	O2	H13	6	41	13.0	-14412769	0.87

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
S1	H1	146.1921	1004	0.93	0.000316
S1	H2	143.9497	929	0.92	0.000328
S1	H3	141.8129	961	0.91	0.000323

S1	H7	143.8933	445	0.94	0.000474
S1	H8	141.4443	394	0.93	0.000504
S1	H9	139.1205	665	0.91	0.000388
S1	H13	135.7707	1428	0.90	0.000265
S1	H14	131.8151	1158	0.92	0.000294
S1	H15	130.1798	1046	0.91	0.000309
S1	O3	6.6608	409	0.77	0.000495
S1	O4	35.4610	2887	0.71	0.000186
O2	O3	147.0526	2051	0.93	0.000221
O2	O4	138.6662	2999	0.88	0.000183
O2	H1	33.7732	556	0.92	0.000424
O2	H2	40.3167	912	0.91	0.000331
O2	H3	48.5906	1549	0.90	0.000254
O2	H5	38.0976	1	0.92	0.009242
O2	H7	29.2051	492	0.91	0.000451
O2	H8	35.9434	840	0.92	0.000345
O2	H9	43.9007	1182	0.77	0.000291
O2	H13	17.3424	2285	0.80	0.000209
O2	H14	32.1294	966	0.87	0.000322
O2	H15	42.4338	698	0.90	0.000378
O1	O3	108.6967	1785	0.91	0.000237
O1	O4	117.8506	3123	0.84	0.000179
O1	H1	41.9538	433	0.90	0.000481
O1	H2	37.2868	726	0.89	0.000371
O1	H3	33.0137	826	0.88	0.000348
O1	H7	41.9031	402	0.90	0.000499
O1	H8	36.5719	572	0.90	0.000418
O1	H13	43.9282	2298	0.80	0.000209
O1	H14	31.2131	1642	0.85	0.000247
O1	H15	24.1078	1208	0.88	0.000288
S2	H1	146.2540	1115	0.93	0.000299
S2	H2	145.1718	923	0.93	0.000329
S2	H3	144.4787	929	0.91	0.000328
S2	H4	144.7425	61	0.93	0.001278
S2	H7	143.2666	445	0.94	0.000474
S2	H8	141.9964	295	0.93	0.000583
S2	H9	141.0607	681	0.91	0.000383
S2	H13	132.8925	1363	0.92	0.000271
S2	H14	131.5884	952	0.93	0.000324
S2	H15	131.8424	851	0.92	0.000343
S2	O3	30.6493	3067	0.71	0.000181
S2	O4	11.4608	1433	0.68	0.000264
S2	S1	24.0004	985	0.98	0.000319

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

S1	H4	145.0237	-20	0.93
S1	H5	142.6979	-47	0.93
S1	H6	140.4281	-15	0.91
O1	H6	32.1329	-145	0.89
S2	H5	143.5852	-82	0.93
S2	O2	139.8159	-194	1.00

OPAZOVANJA IN KOORDINATE MELJE STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA
*H

PRIBLIZNE KOORDINATE TOCK:

X O3	70.0081	238.1196
X O4	111.2209	246.7633
X O2	146.8830	112.7620
X H1	115.9960	99.1030
X H2	108.7850	99.5730
X H3	100.0000	100.0000
X H4	117.7710	100.8330
X H5	110.5580	101.2830
X H6	102.0100	101.7620
X H7	119.5230	102.5500
X H8	112.2880	103.0170
X H9	103.9780	103.4750
X H13	129.6840	114.9470
X H14	114.7730	113.7140
X H15	104.4540	112.7210
X O1	88.8150	131.0630
X S1	76.4690	239.9050
X S2	100.0000	244.5320

SESTAVLJENI KOTI:

A	O2	O3	S1	2	31	5.9	1.4142
A	O2	O4	H1	261	3	0.1	1.4142
A	O2	H1	H4	1	34	29.1	1.4142
A	O2	H4	H7	1	48	50.5	1.4142
A	O2	H7	H2	1	22	20.4	1.4142
A	O2	H2	H5	1	33	29.9	1.4142
A	O2	H5	H8	1	48	12.8	1.4142
A	O2	H8	H3	0	30	18.3	1.4142
A	O2	H3	H6	1	27	11.0	1.4142
A	O2	H6	H9	1	33	37.9	1.4142
A	O2	H9	H15	12	8	45.0	1.4142
A	O2	H15	H14	1	46	56.8	1.4142
A	O2	H14	H13	5	31	17.1	1.4142
A	O1	O3	S1	3	28	25.9	1.4142
A	O1	S1	S2	12	6	59.7	1.4142
A	O1	S2	O4	5	19	57.3	1.4142
A	O1	O4	O2	96	31	57.7	1.4142
A	O1	O2	H13	4	1	49.2	1.4142
A	O1	H13	H14	12	13	16.8	1.4142
A	O1	H14	H7	9	7	56.4	1.4142
A	O1	H7	H4	3	21	20.7	1.4142
A	O1	H4	H15	3	20	1.6	1.4142
A	O1	H15	H1	0	3	9.3	1.4142
A	O1	H1	H8	0	27	14.9	1.4142
A	O1	H8	H5	3	47	32.6	1.4142
A	O1	H5	H2	3	45	4.5	1.4142
A	O1	H2	H6	8	8	43.2	1.4142

A	O1	H6	H3	4	26	9.5	1.4142
A	S1	H13	H7	5	39	55.1	1.4142
A	S1	H7	H14	0	31	3.0	1.4142
A	S1	H4	H1	0	51	36.6	1.4142
A	S1	H8	H5	0	50	53.8	1.4142
A	S1	H5	H2	0	50	52.3	1.4142
A	S1	H15	H9	1	0	32.1	1.4142
A	S1	H9	H6	0	55	30.8	1.4142
A	S1	H6	H3	0	55	41.2	1.4142
A	S1	H3	O1	3	4	22.0	1.4142
A	S1	O1	O3	81	29	50.5	1.4142
A	S1	O4	S2	0	6	58.2	1.4142
A	S2	H13	H7	5	4	25.4	1.4142
A	S2	H7	H4	0	46	47.5	1.4142
A	S2	H4	H14	0	36	26.7	1.4142
A	S2	H14	H1	0	9	48.0	1.4142
A	S2	H1	H8	1	19	1.6	1.4142
A	S2	H8	H5	0	44	51.1	1.4142
A	S2	H5	H2	0	44	50.9	1.4142
A	S2	H2	H15	1	32	4.2	1.4142
A	S2	H15	H9	0	19	8.8	1.4142
A	S2	O1	O3	72	23	55.6	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

D	S1	H1	146.19214	0.001
D	S1	H2	143.94966	0.001
D	S1	H3	141.81293	0.001
D	S1	H7	143.89326	0.001
D	S1	H8	141.44430	0.001
D	S1	H9	139.12046	0.001
D	S1	H13	135.77072	0.001
D	S1	H14	131.81506	0.001
D	S1	H15	130.17976	0.001
D	S1	O3	6.66076	0.001
D	S1	O4	35.46103	0.001
D	O2	O3	147.05257	0.001
D	O2	O4	138.66621	0.001
D	O2	H1	33.77320	0.001
D	O2	H2	40.31671	0.001
D	O2	H3	48.59057	0.001
D	O2	H5	38.09763	0.001
D	O2	H7	29.20507	0.001
D	O2	H8	35.94336	0.001
D	O2	H9	43.90068	0.001
D	O2	H13	17.34237	0.001
D	O2	H14	32.12941	0.001
D	O2	H15	42.43375	0.001
D	O1	O3	108.69670	0.001
D	O1	O4	117.85057	0.001
D	O1	H1	41.95378	0.001
D	O1	H2	37.28678	0.001
D	O1	H3	33.01372	0.001
D	O1	H7	41.90309	0.001

D	O1	H8	36.57187	0.001
D	O1	H13	43.92825	0.001
D	O1	H14	31.21309	0.001
D	O1	H15	24.10780	0.001
D	S2	H1	146.25402	0.001
D	S2	H2	145.17176	0.001
D	S2	H3	144.47866	0.001
D	S2	H4	144.74250	0.001
D	S2	H7	143.26662	0.001
D	S2	H8	141.99635	0.001
D	S2	H9	141.06074	0.001
D	S2	H13	132.89251	0.001
D	S2	H14	131.58840	0.001
D	S2	H15	131.84244	0.001
D	S2	O3	30.64935	0.001
D	S2	O4	11.46079	0.001
D	S2	S1	24.00038	0.004

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 14:59:41.8

Ime vhodne datoteke: melje3.txt

Ime izhodne datoteke: melje3.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O3	70.0081	238.1196
O4	111.2209	246.7633
O2	146.8830	112.7620
H1	115.9960	99.1030
H2	108.7850	99.5730
H3	100.0000	100.0000
H4	117.7710	100.8330
H5	110.5580	101.2830
H6	102.0100	101.7620
H7	119.5230	102.5500
H8	112.2880	103.0170
H9	103.9780	103.4750
H13	129.6840	114.9470
H14	114.7730	113.7140
H15	104.4540	112.7210
O1	88.8150	131.0630
S1	76.4690	239.9050
S2	100.0000	244.5320

SESTAVLJENI KOTI:

S	Z1	Z2	KOT [DMS]	KK [']
O2	O3	S1	2 31 5.9	1.4142
O2	O4	H1	261 3 0.1	1.4142
O2	H1	H4	1 34 29.1	1.4142
O2	H4	H7	1 48 50.5	1.4142
O2	H7	H2	1 22 20.4	1.4142
O2	H2	H5	1 33 29.9	1.4142
O2	H5	H8	1 48 12.8	1.4142
O2	H8	H3	0 30 18.3	1.4142
O2	H3	H6	1 27 11.0	1.4142
O2	H6	H9	1 33 37.9	1.4142
O2	H9	H15	12 8 45.0	1.4142
O2	H15	H14	1 46 56.8	1.4142

O2	H14	H13	5	31	17.1	1.4142
O1	O3	S1	3	28	25.9	1.4142
O1	S1	S2	12	6	59.7	1.4142
O1	S2	O4	5	19	57.3	1.4142
O1	O4	O2	96	31	57.7	1.4142
O1	O2	H13	4	1	49.2	1.4142
O1	H13	H14	12	13	16.8	1.4142
O1	H14	H7	9	7	56.4	1.4142
O1	H7	H4	3	21	20.7	1.4142
O1	H4	H15	3	20	1.6	1.4142
O1	H15	H1	0	3	9.3	1.4142
O1	H1	H8	0	27	14.9	1.4142
O1	H8	H5	3	47	32.6	1.4142
O1	H5	H2	3	45	4.5	1.4142
O1	H2	H6	8	8	43.2	1.4142
O1	H6	H3	4	26	9.5	1.4142
S1	H13	H7	5	39	55.1	1.4142
S1	H7	H14	0	31	3.0	1.4142
S1	H4	H1	0	51	36.6	1.4142
S1	H8	H5	0	50	53.8	1.4142
S1	H5	H2	0	50	52.3	1.4142
S1	H15	H9	1	0	32.1	1.4142
S1	H9	H6	0	55	30.8	1.4142
S1	H6	H3	0	55	41.2	1.4142
S1	H3	O1	3	4	22.0	1.4142
S1	O1	O3	81	29	50.5	1.4142
S1	O4	S2	0	6	58.2	1.4142
S2	H13	H7	5	4	25.4	1.4142
S2	H7	H4	0	46	47.5	1.4142
S2	H4	H14	0	36	26.7	1.4142
S2	H14	H1	0	9	48.0	1.4142
S2	H1	H8	1	19	1.6	1.4142
S2	H8	H5	0	44	51.1	1.4142
S2	H5	H2	0	44	50.9	1.4142
S2	H2	H15	1	32	4.2	1.4142
S2	H15	H9	0	19	8.8	1.4142
S2	O1	O3	72	23	55.6	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
S1	H1	146.1921	0.0010
S1	H2	143.9497	0.0010
S1	H3	141.8129	0.0010
S1	H7	143.8933	0.0010
S1	H8	141.4443	0.0010
S1	H9	139.1205	0.0010
S1	H13	135.7707	0.0010
S1	H14	131.8151	0.0010
S1	H15	130.1798	0.0010

S1	O3	6.6608	0.0010
S1	O4	35.4610	0.0010
O2	O3	147.0526	0.0010
O2	O4	138.6662	0.0010
O2	H1	33.7732	0.0010
O2	H2	40.3167	0.0010
O2	H3	48.5906	0.0010
O2	H5	38.0976	0.0010
O2	H7	29.2051	0.0010
O2	H8	35.9434	0.0010
O2	H9	43.9007	0.0010
O2	H13	17.3424	0.0010
O2	H14	32.1294	0.0010
O2	H15	42.4338	0.0010
O1	O3	108.6967	0.0010
O1	O4	117.8506	0.0010
O1	H1	41.9538	0.0010
O1	H2	37.2868	0.0010
O1	H3	33.0137	0.0010
O1	H7	41.9031	0.0010
O1	H8	36.5719	0.0010
O1	H13	43.9282	0.0010
O1	H14	31.2131	0.0010
O1	H15	24.1078	0.0010
S2	H1	146.2540	0.0010
S2	H2	145.1718	0.0010
S2	H3	144.4787	0.0010
S2	H4	144.7425	0.0010
S2	H7	143.2666	0.0010
S2	H8	141.9964	0.0010
S2	H9	141.0607	0.0010
S2	H13	132.8925	0.0010
S2	H14	131.5884	0.0010
S2	H15	131.8424	0.0010
S2	O3	30.6493	0.0010
S2	O4	11.4608	0.0010
S2	S1	24.0004	0.0040

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	18
Stevilo vseh koordinat:	36
Stevilo vseh opazovanj:	95
# sestavljenih kotov:	49
# horizontalnih dolzin:	46
Stevilo vseh neznank:	36
Stevilo nadstevilnih opazovanj:	59

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV – KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
O2	O3	S1	45.78	-45.70	1195.73	733.28	-1241.52	-687.57	78.270
O2	O4	H1	-3907.60	5203.14	1437.46	382.56	2470.13	-5585.69	-12.223
O2	H1	H4	-15.73	480.91	-2470.13	5585.69	2485.86	-6066.60	-1.843
O2	H4	H7	16.07	550.48	-2485.86	6066.60	2469.80	-6617.08	0.262
O2	H7	H2	796.11	-1782.43	-2469.80	6617.08	1673.69	-4834.65	1.404
O2	H2	H5	42.22	328.11	-1673.69	4834.65	1631.47	-5162.76	-0.457
O2	H5	H8	75.44	361.20	-1631.47	5162.76	1556.03	-5523.96	5.451
O2	H8	H3	441.05	-1427.90	-1556.03	5523.96	1114.99	-4096.06	-2.490
O2	H3	H6	52.06	240.02	-1114.99	4096.06	1062.93	-4336.07	2.820
O2	H6	H9	68.90	256.24	-1062.93	4336.07	994.03	-4592.31	-1.432
O2	H9	H15	989.33	269.09	-994.03	4592.31	4.70	-4861.41	44.412
O2	H15	H14	194.98	1556.65	-4.70	4861.41	-190.28	-6418.05	-103.917
O2	H14	H13	1309.11	5384.30	190.28	6418.05	-1499.40	-11802.35	74.056
O1	O3	S1	2.00	-116.10	1869.01	328.33	-1871.01	-212.23	66.020
O1	S1	S2	-70.70	-389.69	1871.01	212.23	-1800.31	177.46	-55.856
O1	S2	O4	-82.00	-155.30	1800.31	-177.46	-1718.31	332.76	-8.255
O1	O4	O2	-2736.66	-2898.42	1718.31	-332.76	1018.35	3231.18	1.444
O1	O2	H13	-704.01	-1136.61	-1018.35	-3231.18	1722.36	4367.79	-8.640
O1	H13	H14	-1948.61	-1124.82	-1722.36	-4367.79	3670.98	5492.60	52.019
O1	H14	H7	321.70	1885.50	-3670.98	-5492.60	3349.27	3607.11	-42.288
O1	H7	H4	-209.12	198.68	-3349.27	-3607.11	3558.39	3408.43	0.154
O1	H4	H15	-2953.24	-2143.61	-3558.39	-3408.43	6511.64	5552.04	-68.092
O1	H15	H1	2766.59	2366.99	-6511.64	-5552.04	3745.05	3185.05	69.432
O1	H1	H8	-579.91	-434.71	-3745.05	-3185.05	4324.97	3619.77	-5.479
O1	H8	H5	-192.93	321.15	-4324.97	-3619.77	4517.90	3298.61	4.235
O1	H5	H2	-153.55	336.12	-4517.90	-3298.61	4671.45	2962.49	3.906
O1	H2	H6	-1181.19	326.90	-4671.45	-2962.49	5852.64	2635.59	-25.125
O1	H6	H3	-25.45	519.04	-5852.64	-2635.59	5878.09	2116.55	16.690
S1	H13	H7	29.92	166.45	-1397.27	-595.04	1367.35	428.60	-5.648
S1	H7	H14	-129.30	-25.70	-1367.35	-428.60	1496.65	454.29	3.573
S1	H4	H1	5.03	23.57	-1362.94	-404.77	1357.91	381.20	-1.957
S1	H8	H5	7.14	23.97	-1410.26	-369.02	1403.11	345.04	-1.152
S1	H5	H2	7.30	23.61	-1403.11	-345.04	1395.81	321.43	-1.217
S1	H15	H9	94.08	47.43	-1546.89	-340.37	1452.81	292.94	1.764
S1	H9	H6	9.03	26.00	-1452.81	-292.94	1443.77	266.94	-1.037
S1	H6	H3	10.01	25.79	-1443.77	-266.94	1433.76	241.15	-1.672
S1	H3	O1	-437.25	28.92	-1433.76	-241.15	1871.01	212.23	11.406
S1	O1	O3	-6325.25	29872.37	-1871.01	-212.23	8196.26	-29660.14	-1704.588
S1	O4	S2	532.03	-2726.50	1127.43	-5712.85	-1659.47	8439.35	-276.005
S2	H13	H7	86.58	150.39	-1512.37	-346.44	1425.80	196.05	-3.080
S2	H7	H4	12.02	21.21	-1425.80	-196.05	1413.77	174.84	-1.689
S2	H4	H14	-143.10	-0.98	-1413.77	-174.84	1556.88	175.81	-1.940
S2	H14	H1	155.51	21.68	-1556.88	-175.81	1401.37	154.14	10.176
S2	H1	H8	-45.27	28.52	-1401.37	-154.14	1446.64	125.61	-10.524
S2	H8	H5	14.52	20.06	-1446.64	-125.61	1432.12	105.55	-0.637
S2	H5	H2	14.41	19.64	-1432.12	-105.55	1417.71	85.92	-0.899
S2	H2	H15	-145.36	33.10	-1417.71	-85.92	1563.07	52.82	-6.336
S2	H15	H9	101.95	11.61	-1563.07	-52.82	1461.12	41.21	2.995
S2	O1	O3	394.18	6399.25	-1800.31	177.46	1406.13	-6576.71	-348.500

ENACBE POPRAVKOV – HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
S1	H1	0.2702794	-0.9627819	-0.2702794	0.9627819	0.0528152
S1	H2	0.2244091	-0.9744950	-0.2244091	0.9744950	0.0551805
S1	H3	0.1658630	-0.9861488	-0.1658630	0.9861488	0.0571408
S1	H7	0.2991012	-0.9542214	-0.2991012	0.9542214	0.0513229
S1	H8	0.2531437	-0.9674287	-0.2531437	0.9674287	0.0524325
S1	H9	0.1976566	-0.9802713	-0.1976566	0.9802713	0.0552921
S1	H13	0.3918131	-0.9200448	-0.3918131	0.9200448	0.0465764
S1	H14	0.2904540	-0.9568890	-0.2904540	0.9568890	0.0612642
S1	H15	0.2148949	-0.9766372	-0.2148949	0.9766372	0.0466969
S1	O3	-0.9638746	-0.2663564	0.9638746	0.2663564	0.0422902
S1	O4	0.9810774	0.1936160	-0.9810774	-0.1936160	-0.0388500
O2	O3	-0.5227737	0.8524715	0.5227737	-0.8524715	-0.0006128
O2	O4	-0.2571807	0.9663633	0.2571807	-0.9663633	-0.0006635
O2	H1	-0.9145634	-0.4044427	0.9145634	0.4044427	-0.0007993
O2	H2	-0.9449766	-0.3271378	0.9449766	0.3271378	-0.0003693
O2	H3	-0.9648905	-0.2626524	0.9648905	0.2626524	-0.0016378
O2	H5	-0.9535227	-0.3013211	0.9535227	0.3013211	-0.0020520
O2	H7	-0.9368684	-0.3496820	0.9368684	0.3496820	-0.0013965
O2	H8	-0.9625410	-0.2711363	0.9625410	0.2711363	-0.0020321
O2	H9	-0.9773659	-0.2115557	0.9773659	0.2115557	-0.0020764
O2	H13	-0.9920265	0.1260293	0.9920265	-0.1260293	-0.0051319
O2	H14	-0.9995608	0.0296351	0.9995608	-0.0296351	-0.0053006
O2	H15	-0.9999995	-0.0009663	0.9999995	0.0009663	-0.0047302
O1	O3	-0.1730230	0.9849178	0.1730230	-0.9849178	-0.0007245
O1	O4	0.1901225	0.9817604	-0.1901225	-0.9817604	-0.0007343
O1	H1	0.6478560	-0.7617629	-0.6478560	0.7617629	0.0015339
O1	H2	0.5355560	-0.8444997	-0.5355560	0.8444997	0.0015694
O1	H3	0.3387817	-0.9408650	-0.3387817	0.9408650	0.0016430
O1	H7	0.7328122	-0.6804310	-0.7328122	0.6804310	0.0012348
O1	H8	0.6418181	-0.7668569	-0.6418181	0.7668569	0.0007953
O1	H13	0.9302834	-0.3668416	-0.9302834	0.3668416	0.0035223
O1	H14	0.8314042	-0.5556681	-0.8314042	0.5556681	0.0087864
O1	H15	0.6488110	-0.7609496	-0.6488110	0.7609496	-0.0037073
S2	H1	0.1093324	-0.9940052	-0.1093324	0.9940052	0.0520498
S2	H2	0.0604924	-0.9981687	-0.0604924	0.9981687	0.0531962
S2	H3	0.0000000	-1.0000000	-0.0000000	1.0000000	0.0533400
S2	H4	0.1227333	-0.9924397	-0.1227333	0.9924397	0.0511844
S2	H7	0.1362216	-0.9906784	-0.1362216	0.9906784	0.0513337
S2	H8	0.0865063	-0.9962513	-0.0865063	0.9962513	0.0511427
S2	H9	0.0281902	-0.9996026	-0.0281902	0.9996026	0.0523414
S2	H13	0.2232864	-0.9747529	-0.2232864	0.9747529	0.0488759
S2	H14	0.1122146	-0.9936840	-0.1122146	0.9936840	0.0610993
S2	H15	0.0337715	-0.9994296	-0.0337715	0.9994296	0.0437907
S2	O3	-0.9778987	-0.2090790	0.9778987	0.2090790	0.0203898
S2	O4	0.9807966	0.1950335	-0.9807966	-0.1950335	-0.0201914
S2	S1	-0.9812106	-0.1929396	0.9812106	0.1929396	-0.0187810

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.80

Ref. std. odklon a-posteriori: 0.95

Globalni test: 1.41

Globalni test [SQRT]: 1.19

Matrika R [DIAG]: 62.00

Matrika R [POVPRECJE]: 0.65

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH
O3	70.0081 0.0123 70.0204	238.1196 0.0106 238.1302	0.0004 0.0004	0.0002 0.0002	11.4
O4	111.2209 0.0129 111.2338	246.7633 0.0060 246.7693	0.0004 0.0004	0.0004 0.0003	29.7
O2	146.8830 0.0022 146.8852	112.7620 0.0019 112.7639	0.0003 0.0003	0.0002 0.0002	16.2
H1	115.9960 -0.0001 115.9959	99.1030 0.0060 99.1090	0.0002 0.0002	0.0002 0.0002	177.4
H2	108.7850 -0.0002 108.7848	99.5730 0.0071 99.5801	0.0002 0.0002	0.0002 0.0002	136.9
H3	100.0000 -0.0011 99.9989	100.0000 0.0075 100.0075	0.0002 0.0003	0.0003 0.0002	109.8
H4	117.7710 -0.0006 117.7704	100.8330 0.0058 100.8388	0.0002 0.0002	0.0002 0.0002	179.1
H5	110.5580 -0.0008 110.5572	101.2830 0.0067 101.2897	0.0002 0.0002	0.0002 0.0002	144.8

H6	102.0100	101.7620				
	-0.0032	0.0060	0.0002	0.0003		
	102.0068	101.7680	0.0003	0.0002	117.2	
H7	119.5230	102.5500				
	-0.0006	0.0055	0.0002	0.0002		
	119.5224	102.5555	0.0002	0.0002	2.8	
H8	112.2880	103.0170				
	-0.0007	0.0054	0.0002	0.0002		
	112.2873	103.0224	0.0002	0.0002	157.7	
H9	103.9780	103.4750				
	-0.0017	0.0065	0.0005	0.0003		
	103.9763	103.4815	0.0005	0.0002	13.5	
H13	129.6840	114.9470				
	-0.0029	0.0034	0.0004	0.0002		
	129.6811	114.9504	0.0004	0.0001	168.2	
H14	114.7730	113.7140				
	-0.0030	0.0153	0.0003	0.0002		
	114.7700	113.7293	0.0003	0.0001	161.5	
H15	104.4540	112.7210				
	-0.0027	-0.0020	0.0002	0.0002		
	104.4513	112.7190	0.0003	0.0001	137.8	
O1	88.8150	131.0630				
	0.0025	0.0070	0.0002	0.0003		
	88.8175	131.0700	0.0003	0.0001	121.1	
S1	76.4690	239.9050				
	-0.0151	-0.0529	0.0004	0.0002		
	76.4539	239.8521	0.0004	0.0002	10.7	
S2	100.0000	244.5320				
	0.0029	-0.0459	0.0004	0.0002		
	100.0029	244.4861	0.0004	0.0002	3.6	

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
O2	O3	S1	2	31	5.9	0.69	1.48	2	31	6.6	0.78
O2	O4	H1	261	3	0.1	-0.94	0.87	261	2	59.2	1.43
O2	H1	H4	1	34	29.1	0.40	0.46	1	34	29.5	1.61
O2	H4	H7	1	48	50.5	0.14	0.40	1	48	50.6	1.63
O2	H7	H2	1	22	20.4	0.25	0.53	1	22	20.6	1.59
O2	H2	H5	1	33	29.9	-0.06	0.46	1	33	29.8	1.61
O2	H5	H8	1	48	12.8	-0.32	0.45	1	48	12.5	1.62
O2	H8	H3	0	30	18.3	0.15	0.60	0	30	18.5	1.57
O2	H3	H6	1	27	11.0	-0.24	0.43	1	27	10.8	1.62
O2	H6	H9	1	33	37.9	0.12	0.34	1	33	38.0	1.64

O2	H9	H15	12	8	45.0	0.34	0.65	12	8	45.3	1.55
O2	H15	H14	1	46	56.8	0.25	0.82	1	46	57.0	1.46
O2	H14	H13	5	31	17.1	-0.76	0.70	5	31	16.3	1.52
O1	O3	S1	3	28	25.9	0.93	1.28	3	28	26.8	1.08
O1	S1	S2	12	6	59.7	-0.12	1.13	12	6	59.6	1.24
O1	S2	O4	5	19	57.3	-0.29	1.25	5	19	57.0	1.12
O1	O4	O2	96	31	57.7	-0.08	1.34	96	31	57.6	1.00
O1	O2	H13	4	1	49.2	-0.54	1.51	4	1	48.7	0.72
O1	H13	H14	12	13	16.8	1.51	1.17	12	13	18.3	1.20
O1	H14	H7	9	7	56.4	-1.02	0.87	9	7	55.4	1.43
O1	H7	H4	3	21	20.7	-0.23	0.66	3	21	20.5	1.54
O1	H4	H15	3	20	1.6	0.72	0.59	3	20	2.3	1.57
O1	H15	H1	0	3	9.3	-1.68	0.72	0	3	7.6	1.51
O1	H1	H8	0	27	14.9	1.13	0.83	0	27	16.0	1.46
O1	H8	H5	3	47	32.6	0.60	0.72	3	47	33.2	1.52
O1	H5	H2	3	45	4.5	-0.04	0.72	3	45	4.5	1.52
O1	H2	H6	8	8	43.2	-1.05	0.50	8	8	42.2	1.60
O1	H6	H3	4	26	9.5	0.78	0.42	4	26	10.3	1.62
S1	H13	H7	5	39	55.1	0.02	1.53	5	39	55.1	0.69
S1	H7	H14	0	31	3.0	-0.62	1.58	0	31	2.4	0.56
S1	H4	H1	0	51	36.6	-1.31	1.62	0	51	35.3	0.45
S1	H8	H5	0	50	53.8	0.06	1.62	0	50	53.9	0.44
S1	H5	H2	0	50	52.3	-0.76	1.62	0	50	51.5	0.43
S1	H15	H9	1	0	32.1	1.25	1.46	1	0	33.3	0.83
S1	H9	H6	0	55	30.8	3.04	1.45	0	55	33.8	0.84
S1	H6	H3	0	55	41.2	-3.41	1.63	0	55	37.8	0.39
S1	H3	O1	3	4	22.0	0.46	1.64	3	4	22.5	0.36
S1	O1	O3	81	29	50.5	0.38	1.08	81	29	50.9	1.28
S1	O4	S2	0	6	58.2	-0.21	0.49	0	6	58.0	1.60
S2	H13	H7	5	4	25.4	0.11	1.50	5	4	25.5	0.75
S2	H7	H4	0	46	47.5	-0.57	1.59	0	46	46.9	0.52
S2	H4	H14	0	36	26.7	0.50	1.57	0	36	27.2	0.59
S2	H14	H1	0	9	48.0	7.97	1.55	0	9	56.0	0.63
S2	H1	H8	1	19	1.6	-7.94	1.62	1	18	53.7	0.45
S2	H8	H5	0	44	51.1	0.36	1.61	0	44	51.5	0.46
S2	H5	H2	0	44	50.9	-0.88	1.62	0	44	50.0	0.44
S2	H2	H15	1	32	4.2	0.38	1.61	1	32	4.6	0.45
S2	H15	H9	0	19	8.8	0.98	1.46	0	19	9.8	0.82
S2	O1	O3	72	23	55.6	-0.18	1.07	72	23	55.4	1.29

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
S1	H1	146.1921	0.0002	0.0011	146.1924	0.0003
S1	H2	143.9497	0.0001	0.0011	143.9497	0.0003
S1	H3	141.8129	-0.0001	0.0011	141.8129	0.0004
S1	H7	143.8933	-0.0000	0.0011	143.8932	0.0003
S1	H8	141.4443	-0.0003	0.0011	141.4440	0.0003
S1	H9	139.1205	-0.0003	0.0011	139.1202	0.0004
S1	H13	135.7707	-0.0004	0.0011	135.7703	0.0004
S1	H14	131.8151	-0.0005	0.0011	131.8146	0.0003

S1	H15	130.1798	-0.0003	0.0011	130.1794	0.0004
S1	O3	6.6608	-0.0010	0.0010	6.6598	0.0006
S1	O4	35.4610	-0.0000	0.0010	35.4610	0.0006
O2	O3	147.0526	0.0015	0.0011	147.0541	0.0003
O2	O4	138.6662	0.0006	0.0011	138.6668	0.0004
O2	H1	33.7732	-0.0003	0.0011	33.7729	0.0004
O2	H2	40.3167	0.0002	0.0011	40.3169	0.0004
O2	H3	48.5906	0.0001	0.0011	48.5907	0.0004
O2	H5	38.0976	-0.0006	0.0011	38.0970	0.0004
O2	H7	29.2051	-0.0001	0.0011	29.2050	0.0004
O2	H8	35.9434	-0.0002	0.0011	35.9432	0.0004
O2	H9	43.9007	0.0007	0.0010	43.9014	0.0006
O2	H13	17.3424	0.0001	0.0011	17.3425	0.0005
O2	H14	32.1294	0.0003	0.0011	32.1297	0.0004
O2	H15	42.4338	0.0002	0.0011	42.4340	0.0004
O1	O3	108.6967	0.0012	0.0011	108.6979	0.0004
O1	O4	117.8506	0.0003	0.0011	117.8509	0.0005
O1	H1	41.9538	0.0007	0.0011	41.9545	0.0004
O1	H2	37.2868	0.0000	0.0011	37.2868	0.0004
O1	H3	33.0137	-0.0000	0.0011	33.0137	0.0004
O1	H7	41.9031	0.0001	0.0011	41.9032	0.0004
O1	H8	36.5719	-0.0000	0.0011	36.5719	0.0004
O1	H13	43.9282	-0.0001	0.0011	43.9281	0.0005
O1	H14	31.2131	-0.0004	0.0011	31.2127	0.0005
O1	H15	24.1078	-0.0002	0.0011	24.1076	0.0004
S2	H1	146.2540	0.0002	0.0011	146.2542	0.0003
S2	H2	145.1718	0.0001	0.0011	145.1719	0.0003
S2	H3	144.4787	-0.0000	0.0011	144.4786	0.0004
S2	H4	144.7425	-0.0005	0.0011	144.7420	0.0003
S2	H7	143.2666	-0.0000	0.0011	143.2666	0.0003
S2	H8	141.9964	-0.0003	0.0011	141.9961	0.0003
S2	H9	141.0607	-0.0002	0.0011	141.0606	0.0004
S2	H13	132.8925	-0.0005	0.0011	132.8920	0.0004
S2	H14	131.5884	-0.0004	0.0011	131.5880	0.0003
S2	H15	131.8424	-0.0002	0.0011	131.8422	0.0003
S2	O3	30.6493	-0.0006	0.0010	30.6488	0.0006
S2	O4	11.4608	-0.0003	0.0010	11.4605	0.0007
S2	S1	24.0004	0.0002	0.0047	24.0006	0.0007

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0002	0.0002
Max sdX, sdY:	0.0005	0.0004
Avr sdX, sdY:	0.0003	0.0002

KOVARIANCA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00038923
Sled kovariančne matrike:	0.00000265
Srednja varianca:	0.00027523

Srednja standardna deviacija: 0.01659007
 Generalizirana varianca: 0.00004613
 Generalizirana standardna deviacija: 0.00679202
 Najmanjsa lastna vrednost kov. matrike: 0.00000000
 Najvecja lastna vrednost kov. matrike: 0.00000029
 Razmerje najmanjse in največje lastne vrednosti kov. matrike: 0.00157765

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000001
 Najvecja lastna vrednost: 0.000565
 Norma kovariančne matrike: 0.002303
 Norma matrike kriterija: 0.000565
 Razlika norm kovariančne in matrike kriterija: 0.001737
 Sled matrike kriterija: 0.004961

Karakteristicna razdalja $d=2/3(s_{\min})$: 1.6329

Velikost Urp (reducirana in psevdoinverzna): 95 x 666
 Velikost vektorja q: 666 x 1
 Velikost optimiziranega vektorja utezi p: 95 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			pi(opt)	ri	std_k
O2	O3	S1	2	31	5.9	32579840	0.77	0.361369
O2	O4	H1	261	3	0.1	1520996	0.12	1.672481
O2	H1	H4	1	34	29.1	7437149	0.09	0.756348
O2	H4	H7	1	48	50.5	5465364	0.04	0.882299
O2	H7	H2	1	22	20.4	2009226	0.10	1.455160
O2	H2	H5	1	33	29.9	10534962	0.09	0.635490
O2	H5	H8	1	48	12.8	8849334	0.06	0.693378
O2	H8	H3	0	30	18.3	3114805	0.13	1.168718
O2	H3	H6	1	27	11.0	14259850	0.05	0.546220
O2	H6	H9	1	33	37.9	13076372	0.06	0.570403
O2	H9	H15	12	8	45.0	4601899	0.17	0.961516
O2	H15	H14	1	46	56.8	3456031	0.23	1.109523
O2	H14	H13	5	31	17.1	360681	0.11	3.434501
O1	O3	S1	3	28	25.9	19431332	0.57	0.467922
O1	S1	S2	12	6	59.7	6717501	0.39	0.795832
O1	S2	O4	5	19	57.3	24140534	0.52	0.419809
O1	O4	O2	96	31	57.7	4428187	0.30	0.980194
O1	O2	H13	4	1	49.2	5710162	0.70	0.863179
O1	H13	H14	12	13	16.8	2262189	0.34	1.371389
O1	H14	H7	9	7	56.4	552561	0.27	2.774820
O1	H7	H4	3	21	20.7	5958414	0.11	0.845006
O1	H4	H15	3	20	1.6	803532	0.14	2.301036
O1	H15	H1	0	3	9.3	1038186	0.26	2.024359
O1	H1	H8	0	27	14.9	2835587	0.08	1.224908
O1	H8	H5	3	47	32.6	1602965	0.20	1.629157
O1	H5	H2	3	45	4.5	3378663	0.24	1.122155
O1	H2	H6	8	8	43.2	1275043	0.01	1.826681
O1	H6	H3	4	26	9.5	2515543	0.07	1.300497
S1	H13	H7	5	39	55.1	2497139	0.79	1.305280
S1	H7	H14	0	31	3.0	30363870	0.80	0.374323
S1	H4	H1	0	51	36.6	126767689	0.79	0.183198

S1	H8	H5	0	50	53.8	75484596	0.86	0.237408
S1	H5	H2	0	50	52.3	87502029	0.86	0.220504
S1	H15	H9	1	0	32.1	4047715	0.70	1.025227
S1	H9	H6	0	55	30.8	121219343	0.74	0.187344
S1	H6	H3	0	55	41.2	78873040	0.94	0.232253
S1	H3	O1	3	4	22.0	33072343	0.95	0.358668
S1	O1	O3	81	29	50.5	92058	0.01	6.798194
S1	O4	S2	0	6	58.2	696575	0.09	2.471390
S2	H13	H7	5	4	25.4	51810707	0.71	0.286560
S2	H7	H4	0	46	47.5	77384324	0.89	0.234476
S2	H4	H14	0	36	26.7	25367806	0.95	0.409528
S2	H14	H1	0	9	48.0	34727409	0.82	0.350017
S2	H1	H8	1	19	1.6	23841683	0.91	0.422432
S2	H8	H5	0	44	51.1	47687046	0.93	0.298693
S2	H5	H2	0	44	50.9	10016912	0.94	0.651716
S2	H2	H15	1	32	4.2	42247953	0.90	0.317338
S2	H15	H9	0	19	8.8	45943536	0.59	0.304308
S2	O1	O3	72	23	55.6	1461769	0.19	1.706026

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
S1	H1	146.1921	989	0.92	0.000318
S1	H2	143.9497	929	0.92	0.000328
S1	H3	141.8129	961	0.90	0.000323
S1	H7	143.8933	427	0.93	0.000484
S1	H8	141.4443	386	0.92	0.000509
S1	H9	139.1205	663	0.91	0.000388
S1	H13	135.7707	1479	0.89	0.000260
S1	H14	131.8151	1133	0.92	0.000297
S1	H15	130.1798	1030	0.91	0.000312
S1	O3	6.6608	425	0.76	0.000485
S1	O4	35.4610	2892	0.71	0.000186
O2	O3	147.0526	2073	0.92	0.000220
O2	O4	138.6662	3000	0.87	0.000183
O2	H1	33.7732	529	0.91	0.000435
O2	H2	40.3167	893	0.91	0.000335
O2	H3	48.5906	1530	0.89	0.000256
O2	H7	29.2051	482	0.91	0.000455
O2	H8	35.9434	825	0.91	0.000348
O2	H9	43.9007	1180	0.75	0.000291
O2	H13	17.3424	1646	0.79	0.000246
O2	H14	32.1294	991	0.86	0.000318
O2	H15	42.4338	712	0.89	0.000375
O1	O3	108.6967	1779	0.90	0.000237
O1	O4	117.8506	3137	0.83	0.000179
O1	H1	41.9538	414	0.89	0.000491
O1	H2	37.2868	723	0.88	0.000372
O1	H3	33.0137	822	0.88	0.000349
O1	H7	41.9031	392	0.89	0.000505
O1	H8	36.5719	559	0.89	0.000423

O1	H13	43.9282	2291	0.79	0.000209
O1	H14	31.2131	1622	0.84	0.000248
O1	H15	24.1078	1195	0.88	0.000289
S2	H1	146.2540	1090	0.93	0.000303
S2	H2	145.1718	913	0.92	0.000331
S2	H3	144.4787	921	0.91	0.000329
S2	H4	144.7425	25	0.93	0.001990
S2	H7	143.2666	413	0.93	0.000492
S2	H8	141.9964	276	0.93	0.000602
S2	H9	141.0607	673	0.90	0.000386
S2	H13	132.8925	1401	0.91	0.000267
S2	H14	131.5884	918	0.92	0.000330
S2	H15	131.8424	821	0.92	0.000349
S2	O3	30.6493	3064	0.71	0.000181
S2	O4	11.4608	1449	0.67	0.000263
S2	S1	24.0004	1030	0.98	0.000312

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

O2	H5	38.0976	-19	0.91
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OPAZOVANJA IN KOORDINATE MELJE STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA
*H

PRIBLIZNE KOORDINATE TOCK:

X O3	70.0081	238.1196
X O4	111.2209	246.7633
X O2	146.8830	112.7620
X H1	115.9960	99.1030
X H2	108.7850	99.5730
X H3	100.0000	100.0000
X H4	117.7710	100.8330
X H5	110.5580	101.2830
X H6	102.0100	101.7620
X H7	119.5230	102.5500
X H8	112.2880	103.0170
X H9	103.9780	103.4750
X H13	129.6840	114.9470
X H14	114.7730	113.7140
X H15	104.4540	112.7210
X O1	88.8150	131.0630
X S1	76.4690	239.9050
X S2	100.0000	244.5320

SESTAVLJENI KOTI:

A	O2	O3	S1	2	31	5.9	1.4142
A	O2	O4	H1	261	3	0.1	1.4142
A	O2	H1	H4	1	34	29.1	1.4142
A	O2	H4	H7	1	48	50.5	1.4142
A	O2	H7	H2	1	22	20.4	1.4142
A	O2	H2	H5	1	33	29.9	1.4142
A	O2	H5	H8	1	48	12.8	1.4142
A	O2	H8	H3	0	30	18.3	1.4142
A	O2	H3	H6	1	27	11.0	1.4142
A	O2	H6	H9	1	33	37.9	1.4142
A	O2	H9	H15	12	8	45.0	1.4142
A	O2	H15	H14	1	46	56.8	1.4142
A	O2	H14	H13	5	31	17.1	1.4142
A	O1	O3	S1	3	28	25.9	1.4142
A	O1	S1	S2	12	6	59.7	1.4142
A	O1	S2	O4	5	19	57.3	1.4142
A	O1	O4	O2	96	31	57.7	1.4142
A	O1	O2	H13	4	1	49.2	1.4142
A	O1	H13	H14	12	13	16.8	1.4142
A	O1	H14	H7	9	7	56.4	1.4142
A	O1	H7	H4	3	21	20.7	1.4142
A	O1	H4	H15	3	20	1.6	1.4142
A	O1	H15	H1	0	3	9.3	1.4142
A	O1	H1	H8	0	27	14.9	1.4142
A	O1	H8	H5	3	47	32.6	1.4142
A	O1	H5	H2	3	45	4.5	1.4142
A	O1	H2	H6	8	8	43.2	1.4142

A	O1	H6	H3	4	26	9.5	1.4142
A	S1	H13	H7	5	39	55.1	1.4142
A	S1	H7	H14	0	31	3.0	1.4142
A	S1	H4	H1	0	51	36.6	1.4142
A	S1	H8	H5	0	50	53.8	1.4142
A	S1	H5	H2	0	50	52.3	1.4142
A	S1	H15	H9	1	0	32.1	1.4142
A	S1	H9	H6	0	55	30.8	1.4142
A	S1	H6	H3	0	55	41.2	1.4142
A	S1	H3	O1	3	4	22.0	1.4142
A	S1	O1	O3	81	29	50.5	1.4142
A	S1	O4	S2	0	6	58.2	1.4142
A	S2	H13	H7	5	4	25.4	1.4142
A	S2	H7	H4	0	46	47.5	1.4142
A	S2	H4	H14	0	36	26.7	1.4142
A	S2	H14	H1	0	9	48.0	1.4142
A	S2	H1	H8	1	19	1.6	1.4142
A	S2	H8	H5	0	44	51.1	1.4142
A	S2	H5	H2	0	44	50.9	1.4142
A	S2	H2	H15	1	32	4.2	1.4142
A	S2	H15	H9	0	19	8.8	1.4142
A	S2	O1	O3	72	23	55.6	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

D	S1	H1	146.19214	0.001
D	S1	H2	143.94966	0.001
D	S1	H3	141.81293	0.001
D	S1	H7	143.89326	0.001
D	S1	H8	141.44430	0.001
D	S1	H9	139.12046	0.001
D	S1	H13	135.77072	0.001
D	S1	H14	131.81506	0.001
D	S1	H15	130.17976	0.001
D	S1	O3	6.66076	0.001
D	S1	O4	35.46103	0.001
D	O2	O3	147.05257	0.001
D	O2	O4	138.66621	0.001
D	O2	H1	33.77320	0.001
D	O2	H2	40.31671	0.001
D	O2	H3	48.59057	0.001
D	O2	H7	29.20507	0.001
D	O2	H8	35.94336	0.001
D	O2	H9	43.90068	0.001
D	O2	H13	17.34237	0.001
D	O2	H14	32.12941	0.001
D	O2	H15	42.43375	0.001
D	O1	O3	108.69670	0.001
D	O1	O4	117.85057	0.001
D	O1	H1	41.95378	0.001
D	O1	H2	37.28678	0.001
D	O1	H3	33.01372	0.001
D	O1	H7	41.90309	0.001
D	O1	H8	36.57187	0.001

D	O1	H13	43.92825	0.001
D	O1	H14	31.21309	0.001
D	O1	H15	24.10780	0.001
D	S2	H1	146.25402	0.001
D	S2	H2	145.17176	0.001
D	S2	H3	144.47866	0.001
D	S2	H4	144.74250	0.001
D	S2	H7	143.26662	0.001
D	S2	H8	141.99635	0.001
D	S2	H9	141.06074	0.001
D	S2	H13	132.89251	0.001
D	S2	H14	131.58840	0.001
D	S2	H15	131.84244	0.001
D	S2	O3	30.64935	0.001
D	S2	O4	11.46079	0.001
D	S2	S1	24.00038	0.004

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 15:00:38.6

Ime vhodne datoteke: melje4.txt

Ime izhodne datoteke: melje4.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
O3	70.0081	238.1196
O4	111.2209	246.7633
O2	146.8830	112.7620
H1	115.9960	99.1030
H2	108.7850	99.5730
H3	100.0000	100.0000
H4	117.7710	100.8330
H5	110.5580	101.2830
H6	102.0100	101.7620
H7	119.5230	102.5500
H8	112.2880	103.0170
H9	103.9780	103.4750
H13	129.6840	114.9470
H14	114.7730	113.7140
H15	104.4540	112.7210
O1	88.8150	131.0630
S1	76.4690	239.9050
S2	100.0000	244.5320

SESTAVLJENI KOTI:

S	Z1	Z2	KOT [DMS]	KK [']
O2	O3	S1	2 31 5.9	1.4142
O2	O4	H1	261 3 0.1	1.4142
O2	H1	H4	1 34 29.1	1.4142
O2	H4	H7	1 48 50.5	1.4142
O2	H7	H2	1 22 20.4	1.4142
O2	H2	H5	1 33 29.9	1.4142
O2	H5	H8	1 48 12.8	1.4142
O2	H8	H3	0 30 18.3	1.4142
O2	H3	H6	1 27 11.0	1.4142
O2	H6	H9	1 33 37.9	1.4142
O2	H9	H15	12 8 45.0	1.4142
O2	H15	H14	1 46 56.8	1.4142

O2	H14	H13	5	31	17.1	1.4142
O1	O3	S1	3	28	25.9	1.4142
O1	S1	S2	12	6	59.7	1.4142
O1	S2	O4	5	19	57.3	1.4142
O1	O4	O2	96	31	57.7	1.4142
O1	O2	H13	4	1	49.2	1.4142
O1	H13	H14	12	13	16.8	1.4142
O1	H14	H7	9	7	56.4	1.4142
O1	H7	H4	3	21	20.7	1.4142
O1	H4	H15	3	20	1.6	1.4142
O1	H15	H1	0	3	9.3	1.4142
O1	H1	H8	0	27	14.9	1.4142
O1	H8	H5	3	47	32.6	1.4142
O1	H5	H2	3	45	4.5	1.4142
O1	H2	H6	8	8	43.2	1.4142
O1	H6	H3	4	26	9.5	1.4142
S1	H13	H7	5	39	55.1	1.4142
S1	H7	H14	0	31	3.0	1.4142
S1	H4	H1	0	51	36.6	1.4142
S1	H8	H5	0	50	53.8	1.4142
S1	H5	H2	0	50	52.3	1.4142
S1	H15	H9	1	0	32.1	1.4142
S1	H9	H6	0	55	30.8	1.4142
S1	H6	H3	0	55	41.2	1.4142
S1	H3	O1	3	4	22.0	1.4142
S1	O1	O3	81	29	50.5	1.4142
S1	O4	S2	0	6	58.2	1.4142
S2	H13	H7	5	4	25.4	1.4142
S2	H7	H4	0	46	47.5	1.4142
S2	H4	H14	0	36	26.7	1.4142
S2	H14	H1	0	9	48.0	1.4142
S2	H1	H8	1	19	1.6	1.4142
S2	H8	H5	0	44	51.1	1.4142
S2	H5	H2	0	44	50.9	1.4142
S2	H2	H15	1	32	4.2	1.4142
S2	H15	H9	0	19	8.8	1.4142
S2	O1	O3	72	23	55.6	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
S1	H1	146.1921	0.0010
S1	H2	143.9497	0.0010
S1	H3	141.8129	0.0010
S1	H7	143.8933	0.0010
S1	H8	141.4443	0.0010
S1	H9	139.1205	0.0010
S1	H13	135.7707	0.0010
S1	H14	131.8151	0.0010
S1	H15	130.1798	0.0010

S1	O3	6.6608	0.0010
S1	O4	35.4610	0.0010
O2	O3	147.0526	0.0010
O2	O4	138.6662	0.0010
O2	H1	33.7732	0.0010
O2	H2	40.3167	0.0010
O2	H3	48.5906	0.0010
O2	H7	29.2051	0.0010
O2	H8	35.9434	0.0010
O2	H9	43.9007	0.0010
O2	H13	17.3424	0.0010
O2	H14	32.1294	0.0010
O2	H15	42.4338	0.0010
O1	O3	108.6967	0.0010
O1	O4	117.8506	0.0010
O1	H1	41.9538	0.0010
O1	H2	37.2868	0.0010
O1	H3	33.0137	0.0010
O1	H7	41.9031	0.0010
O1	H8	36.5719	0.0010
O1	H13	43.9282	0.0010
O1	H14	31.2131	0.0010
O1	H15	24.1078	0.0010
S2	H1	146.2540	0.0010
S2	H2	145.1718	0.0010
S2	H3	144.4787	0.0010
S2	H4	144.7425	0.0010
S2	H7	143.2666	0.0010
S2	H8	141.9964	0.0010
S2	H9	141.0607	0.0010
S2	H13	132.8925	0.0010
S2	H14	131.5884	0.0010
S2	H15	131.8424	0.0010
S2	O3	30.6493	0.0010
S2	O4	11.4608	0.0010
S2	S1	24.0004	0.0040

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh točk:	18
Stevilo vseh koordinat:	36
Stevilo vseh opazovanj:	94
# sestavljenih kotov:	49
# horizontalnih dolzin:	45
Stevilo vseh neznank:	36
Stevilo nadstevilnih opazovanj:	58

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
O2	O3	S1	45.78	-45.70	1195.73	733.28	-1241.52	-687.57	78.270
O2	O4	H1	-3907.60	5203.14	1437.46	382.56	2470.13	-5585.69	-12.223
O2	H1	H4	-15.73	480.91	-2470.13	5585.69	2485.86	-6066.60	-1.843
O2	H4	H7	16.07	550.48	-2485.86	6066.60	2469.80	-6617.08	0.262
O2	H7	H2	796.11	-1782.43	-2469.80	6617.08	1673.69	-4834.65	1.404
O2	H2	H5	42.22	328.11	-1673.69	4834.65	1631.47	-5162.76	-0.457
O2	H5	H8	75.44	361.20	-1631.47	5162.76	1556.03	-5523.96	5.451
O2	H8	H3	441.05	-1427.90	-1556.03	5523.96	1114.99	-4096.06	-2.490
O2	H3	H6	52.06	240.02	-1114.99	4096.06	1062.93	-4336.07	2.820
O2	H6	H9	68.90	256.24	-1062.93	4336.07	994.03	-4592.31	-1.432
O2	H9	H15	989.33	269.09	-994.03	4592.31	4.70	-4861.41	44.412
O2	H15	H14	194.98	1556.65	-4.70	4861.41	-190.28	-6418.05	-103.917
O2	H14	H13	1309.11	5384.30	190.28	6418.05	-1499.40	-11802.35	74.056
O1	O3	S1	2.00	-116.10	1869.01	328.33	-1871.01	-212.23	66.020
O1	S1	S2	-70.70	-389.69	1871.01	212.23	-1800.31	177.46	-55.856
O1	S2	O4	-82.00	-155.30	1800.31	-177.46	-1718.31	332.76	-8.255
O1	O4	O2	-2736.66	-2898.42	1718.31	-332.76	1018.35	3231.18	1.444
O1	O2	H13	-704.01	-1136.61	-1018.35	-3231.18	1722.36	4367.79	-8.640
O1	H13	H14	-1948.61	-1124.82	-1722.36	-4367.79	3670.98	5492.60	52.019
O1	H14	H7	321.70	1885.50	-3670.98	-5492.60	3349.27	3607.11	-42.288
O1	H7	H4	-209.12	198.68	-3349.27	-3607.11	3558.39	3408.43	0.154
O1	H4	H15	-2953.24	-2143.61	-3558.39	-3408.43	6511.64	5552.04	-68.092
O1	H15	H1	2766.59	2366.99	-6511.64	-5552.04	3745.05	3185.05	69.432
O1	H1	H8	-579.91	-434.71	-3745.05	-3185.05	4324.97	3619.77	-5.479
O1	H8	H5	-192.93	321.15	-4324.97	-3619.77	4517.90	3298.61	4.235
O1	H5	H2	-153.55	336.12	-4517.90	-3298.61	4671.45	2962.49	3.906
O1	H2	H6	-1181.19	326.90	-4671.45	-2962.49	5852.64	2635.59	-25.125
O1	H6	H3	-25.45	519.04	-5852.64	-2635.59	5878.09	2116.55	16.690
S1	H13	H7	29.92	166.45	-1397.27	-595.04	1367.35	428.60	-5.648
S1	H7	H14	-129.30	-25.70	-1367.35	-428.60	1496.65	454.29	3.573
S1	H4	H1	5.03	23.57	-1362.94	-404.77	1357.91	381.20	-1.957
S1	H8	H5	7.14	23.97	-1410.26	-369.02	1403.11	345.04	-1.152
S1	H5	H2	7.30	23.61	-1403.11	-345.04	1395.81	321.43	-1.217
S1	H15	H9	94.08	47.43	-1546.89	-340.37	1452.81	292.94	1.764
S1	H9	H6	9.03	26.00	-1452.81	-292.94	1443.77	266.94	-1.037
S1	H6	H3	10.01	25.79	-1443.77	-266.94	1433.76	241.15	-1.672
S1	H3	O1	-437.25	28.92	-1433.76	-241.15	1871.01	212.23	11.406
S1	O1	O3	-6325.25	29872.37	-1871.01	-212.23	8196.26	-29660.14	-1704.588
S1	O4	S2	532.03	-2726.50	1127.43	-5712.85	-1659.47	8439.35	-276.005
S2	H13	H7	86.58	150.39	-1512.37	-346.44	1425.80	196.05	-3.080
S2	H7	H4	12.02	21.21	-1425.80	-196.05	1413.77	174.84	-1.689
S2	H4	H14	-143.10	-0.98	-1413.77	-174.84	1556.88	175.81	-1.940
S2	H14	H1	155.51	21.68	-1556.88	-175.81	1401.37	154.14	10.176
S2	H1	H8	-45.27	28.52	-1401.37	-154.14	1446.64	125.61	-10.524
S2	H8	H5	14.52	20.06	-1446.64	-125.61	1432.12	105.55	-0.637
S2	H5	H2	14.41	19.64	-1432.12	-105.55	1417.71	85.92	-0.899
S2	H2	H15	-145.36	33.10	-1417.71	-85.92	1563.07	52.82	-6.336
S2	H15	H9	101.95	11.61	-1563.07	-52.82	1461.12	41.21	2.995
S2	O1	O3	394.18	6399.25	-1800.31	177.46	1406.13	-6576.71	-348.500

ENACBE POPRAVKOV – HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
S1	H1	0.2702794	-0.9627819	-0.2702794	0.9627819	0.0528152
S1	H2	0.2244091	-0.9744950	-0.2244091	0.9744950	0.0551805
S1	H3	0.1658630	-0.9861488	-0.1658630	0.9861488	0.0571408
S1	H7	0.2991012	-0.9542214	-0.2991012	0.9542214	0.0513229
S1	H8	0.2531437	-0.9674287	-0.2531437	0.9674287	0.0524325
S1	H9	0.1976566	-0.9802713	-0.1976566	0.9802713	0.0552921
S1	H13	0.3918131	-0.9200448	-0.3918131	0.9200448	0.0465764
S1	H14	0.2904540	-0.9568890	-0.2904540	0.9568890	0.0612642
S1	H15	0.2148949	-0.9766372	-0.2148949	0.9766372	0.0466969
S1	O3	-0.9638746	-0.2663564	0.9638746	0.2663564	0.0422902
S1	O4	0.9810774	0.1936160	-0.9810774	-0.1936160	-0.0388500
O2	O3	-0.5227737	0.8524715	0.5227737	-0.8524715	-0.0006128
O2	O4	-0.2571807	0.9663633	0.2571807	-0.9663633	-0.0006635
O2	H1	-0.9145634	-0.4044427	0.9145634	0.4044427	-0.0007993
O2	H2	-0.9449766	-0.3271378	0.9449766	0.3271378	-0.0003693
O2	H3	-0.9648905	-0.2626524	0.9648905	0.2626524	-0.0016378
O2	H7	-0.9368684	-0.3496820	0.9368684	0.3496820	-0.0013965
O2	H8	-0.9625410	-0.2711363	0.9625410	0.2711363	-0.0020321
O2	H9	-0.9773659	-0.2115557	0.9773659	0.2115557	-0.0020764
O2	H13	-0.9920265	0.1260293	0.9920265	-0.1260293	-0.0051319
O2	H14	-0.9995608	0.0296351	0.9995608	-0.0296351	-0.0053006
O2	H15	-0.9999995	-0.0009663	0.9999995	0.0009663	-0.0047302
O1	O3	-0.1730230	0.9849178	0.1730230	-0.9849178	-0.0007245
O1	O4	0.1901225	0.9817604	-0.1901225	-0.9817604	-0.0007343
O1	H1	0.6478560	-0.7617629	-0.6478560	0.7617629	0.0015339
O1	H2	0.5355560	-0.8444997	-0.5355560	0.8444997	0.0015694
O1	H3	0.3387817	-0.9408650	-0.3387817	0.9408650	0.0016430
O1	H7	0.7328122	-0.6804310	-0.7328122	0.6804310	0.0012348
O1	H8	0.6418181	-0.7668569	-0.6418181	0.7668569	0.0007953
O1	H13	0.9302834	-0.3668416	-0.9302834	0.3668416	0.0035223
O1	H14	0.8314042	-0.5556681	-0.8314042	0.5556681	0.0087864
O1	H15	0.6488110	-0.7609496	-0.6488110	0.7609496	-0.0037073
S2	H1	0.1093324	-0.9940052	-0.1093324	0.9940052	0.0520498
S2	H2	0.0604924	-0.9981687	-0.0604924	0.9981687	0.0531962
S2	H3	0.0000000	-1.0000000	-0.0000000	1.0000000	0.0533400
S2	H4	0.1227333	-0.9924397	-0.1227333	0.9924397	0.0511844
S2	H7	0.1362216	-0.9906784	-0.1362216	0.9906784	0.0513337
S2	H8	0.0865063	-0.9962513	-0.0865063	0.9962513	0.0511427
S2	H9	0.0281902	-0.9996026	-0.0281902	0.9996026	0.0523414
S2	H13	0.2232864	-0.9747529	-0.2232864	0.9747529	0.0488759
S2	H14	0.1122146	-0.9936840	-0.1122146	0.9936840	0.0610993
S2	H15	0.0337715	-0.9994296	-0.0337715	0.9994296	0.0437907
S2	O3	-0.9778987	-0.2090790	0.9778987	0.2090790	0.0203898
S2	O4	0.9807966	0.1950335	-0.9807966	-0.1950335	-0.0201914
S2	S1	-0.9812106	-0.1929396	0.9812106	0.1929396	-0.0187810

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreže:

Globalni test:

Ref. std. odklon a-priori: 0.80

Ref. std. odklon a-posteriori: 0.95

Globalni test: 1.42

Globalni test [SQRT]: 1.19

Matrika R [DIAG]: 61.00

Matrika R [POVPRECJE]: 0.65

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH
O3	70.0081	238.1196			
	0.0123	0.0106	0.0004	0.0002	
	70.0204	238.1302	0.0004	0.0002	11.5
O4	111.2209	246.7633			
	0.0128	0.0060	0.0004	0.0004	
	111.2337	246.7693	0.0004	0.0003	29.6
O2	146.8830	112.7620			
	0.0021	0.0019	0.0003	0.0002	
	146.8851	112.7639	0.0003	0.0002	16.2
H1	115.9960	99.1030			
	-0.0001	0.0060	0.0002	0.0002	
	115.9959	99.1090	0.0002	0.0002	177.0
H2	108.7850	99.5730			
	-0.0002	0.0071	0.0002	0.0002	
	108.7848	99.5801	0.0002	0.0002	136.6
H3	100.0000	100.0000			
	-0.0011	0.0075	0.0002	0.0003	
	99.9989	100.0075	0.0003	0.0002	109.6
H4	117.7710	100.8330			
	-0.0006	0.0058	0.0002	0.0002	
	117.7704	100.8388	0.0002	0.0002	178.9
H5	110.5580	101.2830			
	-0.0008	0.0067	0.0002	0.0002	
	110.5572	101.2897	0.0002	0.0002	147.1
H6	102.0100	101.7620			

	-0.0032	0.0060	0.0002	0.0003	
	102.0068	101.7680	0.0003	0.0002	117.1
H7	119.5230	102.5500			
	-0.0006	0.0055	0.0002	0.0002	
	119.5224	102.5555	0.0002	0.0002	2.6
H8	112.2880	103.0170			
	-0.0007	0.0054	0.0002	0.0002	
	112.2873	103.0224	0.0002	0.0002	157.7
H9	103.9780	103.4750			
	-0.0017	0.0065	0.0005	0.0003	
	103.9763	103.4815	0.0005	0.0002	13.5
H13	129.6840	114.9470			
	-0.0029	0.0034	0.0004	0.0002	
	129.6811	114.9504	0.0004	0.0001	168.1
H14	114.7730	113.7140			
	-0.0030	0.0153	0.0003	0.0002	
	114.7700	113.7293	0.0003	0.0001	161.5
H15	104.4540	112.7210			
	-0.0027	-0.0020	0.0002	0.0002	
	104.4513	112.7190	0.0003	0.0001	137.8
O1	88.8150	131.0630			
	0.0025	0.0070	0.0002	0.0003	
	88.8175	131.0700	0.0003	0.0001	121.2
S1	76.4690	239.9050			
	-0.0151	-0.0529	0.0004	0.0002	
	76.4539	239.8521	0.0004	0.0002	10.7
S2	100.0000	244.5320			
	0.0029	-0.0459	0.0004	0.0002	
	100.0029	244.4861	0.0004	0.0002	3.6

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
O2	O3	S1	2	31	5.9	0.69	1.49	2	31	6.6	0.79
O2	O4	H1	261	3	0.1	-0.97	0.87	261	2	59.1	1.44
O2	H1	H4	1	34	29.1	0.41	0.46	1	34	29.5	1.62
O2	H4	H7	1	48	50.5	0.14	0.41	1	48	50.6	1.64
O2	H7	H2	1	22	20.4	0.25	0.54	1	22	20.6	1.60
O2	H2	H5	1	33	29.9	-0.09	0.46	1	33	29.8	1.62
O2	H5	H8	1	48	12.8	-0.29	0.45	1	48	12.5	1.63
O2	H8	H3	0	30	18.3	0.15	0.60	0	30	18.5	1.57
O2	H3	H6	1	27	11.0	-0.23	0.43	1	27	10.8	1.63
O2	H6	H9	1	33	37.9	0.12	0.34	1	33	38.0	1.65
O2	H9	H15	12	8	45.0	0.35	0.65	12	8	45.3	1.55
O2	H15	H14	1	46	56.8	0.25	0.83	1	46	57.1	1.47

O2	H14	H13	5	31	17.1	-0.76	0.70	5	31	16.3	1.53
O1	O3	S1	3	28	25.9	0.94	1.29	3	28	26.8	1.09
O1	S1	S2	12	6	59.7	-0.12	1.13	12	6	59.6	1.25
O1	S2	O4	5	19	57.3	-0.30	1.25	5	19	57.0	1.13
O1	O4	O2	96	31	57.7	-0.00	1.34	96	31	57.7	1.02
O1	O2	H13	4	1	49.2	-0.57	1.52	4	1	48.6	0.73
O1	H13	H14	12	13	16.8	1.49	1.18	12	13	18.3	1.21
O1	H14	H7	9	7	56.4	-1.03	0.87	9	7	55.4	1.44
O1	H7	H4	3	21	20.7	-0.24	0.66	3	21	20.5	1.55
O1	H4	H15	3	20	1.6	0.73	0.59	3	20	2.3	1.58
O1	H15	H1	0	3	9.3	-1.68	0.73	0	3	7.6	1.52
O1	H1	H8	0	27	14.9	1.12	0.83	0	27	16.0	1.46
O1	H8	H5	3	47	32.6	0.50	0.70	3	47	33.1	1.54
O1	H5	H2	3	45	4.5	0.07	0.69	3	45	4.6	1.54
O1	H2	H6	8	8	43.2	-1.05	0.50	8	8	42.1	1.61
O1	H6	H3	4	26	9.5	0.79	0.42	4	26	10.3	1.63
S1	H13	H7	5	39	55.1	0.02	1.54	5	39	55.1	0.69
S1	H7	H14	0	31	3.0	-0.63	1.59	0	31	2.4	0.56
S1	H4	H1	0	51	36.6	-1.31	1.62	0	51	35.3	0.45
S1	H8	H5	0	50	53.8	0.03	1.63	0	50	53.8	0.45
S1	H5	H2	0	50	52.3	-0.73	1.63	0	50	51.6	0.43
S1	H15	H9	1	0	32.1	1.26	1.47	1	0	33.4	0.83
S1	H9	H6	0	55	30.8	3.03	1.46	0	55	33.8	0.85
S1	H6	H3	0	55	41.2	-3.41	1.64	0	55	37.8	0.40
S1	H3	O1	3	4	22.0	0.45	1.65	3	4	22.4	0.36
S1	O1	O3	81	29	50.5	0.39	1.09	81	29	50.9	1.29
S1	O4	S2	0	6	58.2	-0.22	0.49	0	6	58.0	1.61
S2	H13	H7	5	4	25.4	0.11	1.51	5	4	25.5	0.75
S2	H7	H4	0	46	47.5	-0.57	1.60	0	46	46.9	0.52
S2	H4	H14	0	36	26.7	0.50	1.58	0	36	27.2	0.59
S2	H14	H1	0	9	48.0	7.97	1.56	0	9	56.0	0.63
S2	H1	H8	1	19	1.6	-7.95	1.62	1	18	53.7	0.45
S2	H8	H5	0	44	51.1	0.33	1.62	0	44	51.4	0.46
S2	H5	H2	0	44	50.9	-0.85	1.63	0	44	50.0	0.45
S2	H2	H15	1	32	4.2	0.37	1.62	1	32	4.6	0.45
S2	H15	H9	0	19	8.8	0.99	1.47	0	19	9.8	0.82
S2	O1	O3	72	23	55.6	-0.18	1.08	72	23	55.4	1.29

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
S1	H1	146.1921	0.0002	0.0011	146.1924	0.0003
S1	H2	143.9497	0.0000	0.0011	143.9497	0.0003
S1	H3	141.8129	-0.0001	0.0011	141.8129	0.0004
S1	H7	143.8933	-0.0000	0.0011	143.8932	0.0003
S1	H8	141.4443	-0.0003	0.0011	141.4440	0.0003
S1	H9	139.1205	-0.0003	0.0011	139.1202	0.0004
S1	H13	135.7707	-0.0004	0.0011	135.7703	0.0004
S1	H14	131.8151	-0.0005	0.0011	131.8146	0.0003
S1	H15	130.1798	-0.0003	0.0011	130.1794	0.0004
S1	O3	6.6608	-0.0010	0.0010	6.6598	0.0006

S1	O4	35.4610	-0.0001	0.0010	35.4610	0.0006
O2	O3	147.0526	0.0015	0.0011	147.0541	0.0003
O2	O4	138.6662	0.0006	0.0011	138.6668	0.0004
O2	H1	33.7732	-0.0004	0.0011	33.7728	0.0004
O2	H2	40.3167	0.0001	0.0011	40.3168	0.0004
O2	H3	48.5906	0.0001	0.0011	48.5906	0.0004
O2	H7	29.2051	-0.0001	0.0011	29.2050	0.0004
O2	H8	35.9434	-0.0002	0.0011	35.9431	0.0004
O2	H9	43.9007	0.0007	0.0010	43.9013	0.0006
O2	H13	17.3424	0.0000	0.0011	17.3424	0.0006
O2	H14	32.1294	0.0002	0.0011	32.1296	0.0005
O2	H15	42.4338	0.0002	0.0011	42.4339	0.0004
O1	O3	108.6967	0.0012	0.0011	108.6979	0.0004
O1	O4	117.8506	0.0003	0.0011	117.8509	0.0005
O1	H1	41.9538	0.0006	0.0011	41.9544	0.0004
O1	H2	37.2868	0.0000	0.0011	37.2868	0.0004
O1	H3	33.0137	-0.0000	0.0011	33.0137	0.0004
O1	H7	41.9031	0.0000	0.0011	41.9031	0.0004
O1	H8	36.5719	-0.0000	0.0011	36.5718	0.0004
O1	H13	43.9282	-0.0001	0.0011	43.9281	0.0005
O1	H14	31.2131	-0.0004	0.0011	31.2127	0.0005
O1	H15	24.1078	-0.0002	0.0011	24.1076	0.0004
S2	H1	146.2540	0.0002	0.0011	146.2542	0.0003
S2	H2	145.1718	0.0001	0.0011	145.1718	0.0003
S2	H3	144.4787	-0.0000	0.0011	144.4786	0.0004
S2	H4	144.7425	-0.0005	0.0011	144.7420	0.0003
S2	H7	143.2666	-0.0000	0.0012	143.2666	0.0003
S2	H8	141.9964	-0.0003	0.0011	141.9961	0.0003
S2	H9	141.0607	-0.0002	0.0011	141.0606	0.0004
S2	H13	132.8925	-0.0005	0.0011	132.8920	0.0004
S2	H14	131.5884	-0.0004	0.0011	131.5880	0.0003
S2	H15	131.8424	-0.0002	0.0011	131.8422	0.0003
S2	O3	30.6493	-0.0006	0.0010	30.6488	0.0006
S2	O4	11.4608	-0.0003	0.0010	11.4605	0.0007
S2	S1	24.0004	0.0002	0.0047	24.0006	0.0007

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestričnih geodetskih mrež...

Min sdX, sdY:	0.0002	0.0002
Max sdX, sdY:	0.0005	0.0004
Avr sdX, sdY:	0.0003	0.0002

KOVARIANCNA MATRIKA OCENJENIH KOORD. TOČK

Srednji pogrešek položajev točk mreže v 2D:	0.00039223
Sled kovariančne matrike:	0.00000269
Srednja varianca:	0.00027735
Srednja standardna deviacija:	0.01665374
Generalizirana varianca:	0.00004539
Generalizirana standardna deviacija:	0.00673708

Najmanjsa lastna vrednost kov. matrike: 0.00000000
 Najvecja lastna vrednost kov. matrike: 0.00000029
 Razmerje najmanjse in najvecje lastne vrednosti kov. matrike: 0.00157732

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000001
 Najvecja lastna vrednost: 0.000565
 Norma kovariančne matrike: 0.001990
 Norma matrike kriterija: 0.000565
 Razlika norm kovariančne in matrike kriterija: 0.001425
 Sled matrike kriterija: 0.004960

Karakteristicna razdalja $d=2/3(s_{\min})$: 1.6329

Velikost Urp (reducirana in psevdoinverzna): 94 x 666
 Velikost vektorja q: 666 x 1
 Velikost optimiziranega vektorja utezi p: 94 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			pi(opt)	ri	std_k
O2	O3	S1	2	31	5.9	32581987	0.77	0.361357
O2	O4	H1	261	3	0.1	1521123	0.11	1.672411
O2	H1	H4	1	34	29.1	7437136	0.09	0.756349
O2	H4	H7	1	48	50.5	5465347	0.04	0.882300
O2	H7	H2	1	22	20.4	2009362	0.10	1.455111
O2	H2	H5	1	33	29.9	10533789	0.09	0.635525
O2	H5	H8	1	48	12.8	8850981	0.06	0.693313
O2	H8	H3	0	30	18.3	3114890	0.13	1.168702
O2	H3	H6	1	27	11.0	14259770	0.05	0.546222
O2	H6	H9	1	33	37.9	13076340	0.06	0.570403
O2	H9	H15	12	8	45.0	4601901	0.17	0.961516
O2	H15	H14	1	46	56.8	3456068	0.23	1.109517
O2	H14	H13	5	31	17.1	360832	0.11	3.433783
O1	O3	S1	3	28	25.9	19432141	0.57	0.467913
O1	S1	S2	12	6	59.7	6717445	0.39	0.795835
O1	S2	O4	5	19	57.3	24140356	0.52	0.419811
O1	O4	O2	96	31	57.7	4426197	0.29	0.980415
O1	O2	H13	4	1	49.2	5708285	0.70	0.863321
O1	H13	H14	12	13	16.8	2262045	0.34	1.371433
O1	H14	H7	9	7	56.4	552310	0.27	2.775452
O1	H7	H4	3	21	20.7	5958746	0.11	0.844982
O1	H4	H15	3	20	1.6	803373	0.14	2.301264
O1	H15	H1	0	3	9.3	1038150	0.26	2.024394
O1	H1	H8	0	27	14.9	2837225	0.08	1.224555
O1	H8	H5	3	47	32.6	1593580	0.18	1.633948
O1	H5	H2	3	45	4.5	3382569	0.24	1.121507
O1	H2	H6	8	8	43.2	1275981	0.01	1.826009
O1	H6	H3	4	26	9.5	2515451	0.07	1.300521
S1	H13	H7	5	39	55.1	2500871	0.79	1.304306
S1	H7	H14	0	31	3.0	30381320	0.80	0.374216
S1	H4	H1	0	51	36.6	126764429	0.79	0.183200
S1	H8	H5	0	50	53.8	75789801	0.86	0.236930
S1	H5	H2	0	50	52.3	87233922	0.86	0.220842
S1	H15	H9	1	0	32.1	4057386	0.70	1.024005

S1	H9	H6	0	55	30.8	121220400	0.74	0.187343
S1	H6	H3	0	55	41.2	78877497	0.94	0.232246
S1	H3	O1	3	4	22.0	33079882	0.95	0.358627
S1	O1	O3	81	29	50.5	92054	0.01	6.798349
S1	O4	S2	0	6	58.2	696476	0.09	2.471565
S2	H13	H7	5	4	25.4	51825651	0.71	0.286519
S2	H7	H4	0	46	47.5	77386997	0.89	0.234472
S2	H4	H14	0	36	26.7	25371916	0.95	0.409495
S2	H14	H1	0	9	48.0	34735756	0.82	0.349975
S2	H1	H8	1	19	1.6	23878999	0.91	0.422102
S2	H8	H5	0	44	51.1	47383986	0.93	0.299647
S2	H5	H2	0	44	50.9	10134336	0.94	0.647929
S2	H2	H15	1	32	4.2	42288894	0.90	0.317185
S2	H15	H9	0	19	8.8	45947347	0.59	0.304295
S2	O1	O3	72	23	55.6	1461680	0.19	1.706078

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
S1	H1	146.1921	989	0.92	0.000318
S1	H2	143.9497	929	0.92	0.000328
S1	H3	141.8129	961	0.90	0.000323
S1	H7	143.8933	427	0.93	0.000484
S1	H8	141.4443	386	0.92	0.000509
S1	H9	139.1205	663	0.91	0.000388
S1	H13	135.7707	1479	0.89	0.000260
S1	H14	131.8151	1133	0.92	0.000297
S1	H15	130.1798	1030	0.91	0.000312
S1	O3	6.6608	425	0.76	0.000485
S1	O4	35.4610	2892	0.70	0.000186
O2	O3	147.0526	2073	0.92	0.000220
O2	O4	138.6662	3000	0.87	0.000183
O2	H1	33.7732	526	0.91	0.000436
O2	H2	40.3167	892	0.90	0.000335
O2	H3	48.5906	1529	0.89	0.000256
O2	H7	29.2051	480	0.90	0.000457
O2	H8	35.9434	825	0.90	0.000348
O2	H9	43.9007	1178	0.75	0.000291
O2	H13	17.3424	1644	0.78	0.000247
O2	H14	32.1294	989	0.86	0.000318
O2	H15	42.4338	710	0.89	0.000375
O1	O3	108.6967	1780	0.90	0.000237
O1	O4	117.8506	3137	0.83	0.000179
O1	H1	41.9538	414	0.89	0.000492
O1	H2	37.2868	723	0.88	0.000372
O1	H3	33.0137	822	0.88	0.000349
O1	H7	41.9031	392	0.89	0.000505
O1	H8	36.5719	559	0.89	0.000423
O1	H13	43.9282	2291	0.79	0.000209
O1	H14	31.2131	1622	0.84	0.000248
O1	H15	24.1078	1194	0.88	0.000289

S2	H1	146.2540	1090	0.93	0.000303
S2	H2	145.1718	913	0.92	0.000331
S2	H3	144.4787	921	0.91	0.000329
S2	H4	144.7425	25	0.93	0.001990
S2	H7	143.2666	413	0.93	0.000492
S2	H8	141.9964	276	0.93	0.000602
S2	H9	141.0607	673	0.90	0.000386
S2	H13	132.8925	1401	0.91	0.000267
S2	H14	131.5884	918	0.92	0.000330
S2	H15	131.8424	821	0.92	0.000349
S2	O3	30.6493	3064	0.71	0.000181
S2	O4	11.4608	1449	0.67	0.000263
S2	S1	24.0004	1030	0.98	0.000312

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

OPAZOVANJA IN KOORDINATE MOSTE (KASTE): STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X P3	33175.0298	41030.3075
X X	33213.7019	41065.9033
X XI	33195.2762	41068.4340
X PT2	33174.2267	41044.1623
X T1	33229.8776	41038.7461
X T2	33229.9348	41023.1540
X T3	33221.9563	41014.2821
X T4	33207.6049	41008.7314
X T8	33146.6767	41036.9589
X T9	33150.6886	41052.6379
X T10	33154.6569	41064.3652
X T11	33162.5754	41068.7114
X T12	33148.3016	41032.7032
X T13	33175.1244	41048.6453
X T14	33181.2516	41047.3658
X A	33141.4703	41080.2471
X B	33144.2458	41083.1230
X C	33147.4553	41085.2296
X D	33151.9813	41086.7848
X 1A	33140.2799	41082.6151
X 1B	33144.8606	41086.3695
X 2A	33138.3632	41089.0790
X 2B	33142.5276	41094.8358
X 2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

A	P3	X	T1	33 52 35.7	1.4142
A	P3	T1	T2	16 10 3.4	1.4142
A	P3	T2	T3	11 26 0.5	1.4142
A	P3	T3	T4	14 39 45.8	1.4142
A	P3	T4	T12	151 34 37.2	1.4142
A	P3	T12	T8	8 6 11.2	1.4142
A	P3	T8	T9	29 20 18.0	1.4142
A	P3	T9	A	13 34 21.4	1.4142
A	P3	A	1A	0 17 51.6	1.4142
A	P3	1A	2A	1 38 20.6	1.4142
A	P3	2A	T10	1 4 53.1	1.4142
A	P3	T10	B	0 38 37.5	1.4142
A	P3	B	1B	1 56 54.3	1.4142
A	P3	1B	2B	1 33 3.9	1.4142
A	P3	2B	C	0 4 30.1	1.4142
A	P3	C	D	4 27 21.6	1.4142
A	P3	D	2C	2 12 3.4	1.4142
A	P3	2C	T11	2 2 45.3	1.4142
A	P3	T11	PT2	14 38 19.8	1.4142
A	P3	PT2	T13	3 37 18.5	1.4142
A	P3	T13	T14	19 44 41.4	1.4142
A	P3	T14	XI	7 55 33.3	1.4142

A	PT2	X	T14	4	20	41.2	1.4142
A	PT2	T14	T1	30	3	7.6	1.4142
A	PT2	T1	T2	15	6	8.4	1.4142
A	PT2	T2	T3	11	23	12.7	1.4142
A	PT2	T3	T4	14	39	36.9	1.4142
A	PT2	T4	P3	39	58	58.9	1.4142
A	PT2	P3	T12	69	26	14.6	1.4142
A	PT2	T12	T8	9	12	18.7	1.4142
A	PT2	T8	T9	34	27	34.7	1.4142
A	PT2	T9	T10	26	8	2.0	1.4142
A	PT2	T10	A	1	51	2.0	1.4142
A	PT2	A	1A	0	47	37.4	1.4142
A	PT2	1A	2A	2	49	58.1	1.4142
A	PT2	2A	B	1	1	23.8	1.4142
A	PT2	B	1B	2	45	17.5	1.4142
A	PT2	1B	C	1	43	18.8	1.4142
A	PT2	C	2B	1	4	32.5	1.4142
A	PT2	2B	D	4	27	36.5	1.4142
A	PT2	D	T11	2	11	31.9	1.4142
A	PT2	T11	2C	1	28	49.1	1.4142
A	PT2	2C	T13	35	14	51.0	1.4142
A	PT2	T13	XI	29	35	1.5	1.4142
A	XI	X	P3	110	9	24.1	1.4142
A	XI	P3	PT2	12	57	45.1	1.4142
A	X	P3	PT2	13	46	54.8	1.4142
A	X	PT2	XI	36	39	45.5	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

#	-----					
D	P3	X	52.5645	0.0010		
D	P3	T1	55.5029	0.0010		
D	P3	T2	55.3769	0.0010		
D	P3	T3	49.5965	0.0010		
D	P3	T4	39.0825	0.0010		
D	P3	T12	26.8285	0.0010		
D	P3	T8	29.1096	0.0010		
D	P3	T9	33.0144	0.0010		
D	P3	A	60.1456	0.0010		
D	P3	1A	62.8236	0.0010		
D	P3	2A	69.2968	0.0010		
D	P3	T10	39.6737	0.0010		
D	P3	B	61.1092	0.0010		
D	P3	1B	63.6896	0.0010		
D	P3	2B	72.2780	0.0010		
D	P3	C	61.4322	0.0010		
D	P3	D	60.9794	0.0010		
D	P3	2C	71.8722	0.0010		
D	P3	T11	40.3663	0.0010		
D	P3	PT2	13.8775	0.0010		
D	P3	T13	18.3384	0.0010		
D	P3	T14	18.1577	0.0010		
D	P3	XI	43.1723	0.0010		

D	PT2	X	45.0703	0.0010
D	PT2	T14	7.7240	0.0010
D	PT2	T1	55.9224	0.0010
D	PT2	T2	59.5438	0.0010
D	PT2	T3	56.3188	0.0010
D	PT2	T4	48.6854	0.0010
D	PT2	P3	13.8778	0.0010
D	PT2	T12	28.3456	0.0010
D	PT2	T8	28.4664	0.0010
D	PT2	T9	25.0016	0.0010
D	PT2	T10	28.1142	0.0010
D	PT2	A	48.7124	0.0010
D	PT2	1A	51.3188	0.0010
D	PT2	2A	57.5035	0.0010
D	PT2	B	49.1383	0.0010
D	PT2	1B	51.4441	0.0010
D	PT2	C	49.0001	0.0010
D	PT2	2B	59.7986	0.0010
D	PT2	D	48.0594	0.0010
D	PT2	T11	27.1668	0.0010
D	PT2	2C	58.7168	0.0010
D	PT2	T13	4.5737	0.0010
D	PT2	XI	32.1324	0.0010
D	XI	X	18.5967	0.0010
D	XI	P3	43.1728	0.0010
D	XI	PT2	32.1324	0.0010
D	X	P3	52.5649	0.0010
D	X	PT2	45.0703	0.0010
D	X	XI	18.5967	0.0010

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:14:16.9

Ime vhodne datoteke: kaste.txt

Ime izhodne datoteke: kaste.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
P3	33175.0298	41030.3075
X	33213.7019	41065.9033
XI	33195.2762	41068.4340
PT2	33174.2267	41044.1623
T1	33229.8776	41038.7461
T2	33229.9348	41023.1540
T3	33221.9563	41014.2821
T4	33207.6049	41008.7314
T8	33146.6767	41036.9589
T9	33150.6886	41052.6379
T10	33154.6569	41064.3652
T11	33162.5754	41068.7114
T12	33148.3016	41032.7032
T13	33175.1244	41048.6453
T14	33181.2516	41047.3658
A	33141.4703	41080.2471
B	33144.2458	41083.1230
C	33147.4553	41085.2296
D	33151.9813	41086.7848
1A	33140.2799	41082.6151
1B	33144.8606	41086.3695
2A	33138.3632	41089.0790
2B	33142.5276	41094.8358
2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
P3	X	T1	33 52 35.7	1.4142
P3	T1	T2	16 10 3.4	1.4142
P3	T2	T3	11 26 0.5	1.4142
P3	T3	T4	14 39 45.8	1.4142
P3	T4	T12	151 34 37.2	1.4142
P3	T12	T8	8 6 11.2	1.4142

P3	T8	T9	29	20	18.0	1.4142
P3	T9	A	13	34	21.4	1.4142
P3	A	1A	0	17	51.6	1.4142
P3	1A	2A	1	38	20.6	1.4142
P3	2A	T10	1	4	53.1	1.4142
P3	T10	B	0	38	37.5	1.4142
P3	B	1B	1	56	54.3	1.4142
P3	1B	2B	1	33	3.9	1.4142
P3	2B	C	0	4	30.1	1.4142
P3	C	D	4	27	21.6	1.4142
P3	D	2C	2	12	3.4	1.4142
P3	2C	T11	2	2	45.3	1.4142
P3	T11	PT2	14	38	19.8	1.4142
P3	PT2	T13	3	37	18.5	1.4142
P3	T13	T14	19	44	41.4	1.4142
P3	T14	XI	7	55	33.3	1.4142
PT2	X	T14	4	20	41.2	1.4142
PT2	T14	T1	30	3	7.6	1.4142
PT2	T1	T2	15	6	8.4	1.4142
PT2	T2	T3	11	23	12.7	1.4142
PT2	T3	T4	14	39	36.9	1.4142
PT2	T4	P3	39	58	58.9	1.4142
PT2	P3	T12	69	26	14.6	1.4142
PT2	T12	T8	9	12	18.7	1.4142
PT2	T8	T9	34	27	34.7	1.4142
PT2	T9	T10	26	8	2.0	1.4142
PT2	T10	A	1	51	2.0	1.4142
PT2	A	1A	0	47	37.4	1.4142
PT2	1A	2A	2	49	58.1	1.4142
PT2	2A	B	1	1	23.8	1.4142
PT2	B	1B	2	45	17.5	1.4142
PT2	1B	C	1	43	18.8	1.4142
PT2	C	2B	1	4	32.5	1.4142
PT2	2B	D	4	27	36.5	1.4142
PT2	D	T11	2	11	31.9	1.4142
PT2	T11	2C	1	28	49.1	1.4142
PT2	2C	T13	35	14	51.0	1.4142
PT2	T13	XI	29	35	1.5	1.4142
XI	X	P3	110	9	24.1	1.4142
XI	P3	PT2	12	57	45.1	1.4142
X	P3	PT2	13	46	54.8	1.4142
X	PT2	XI	36	39	45.5	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
P3	X	52.5645	0.0010
P3	T1	55.5029	0.0010
P3	T2	55.3769	0.0010
P3	T3	49.5965	0.0010

P3	T4	39.0825	0.0010
P3	T12	26.8285	0.0010
P3	T8	29.1096	0.0010
P3	T9	33.0144	0.0010
P3	A	60.1456	0.0010
P3	1A	62.8236	0.0010
P3	2A	69.2968	0.0010
P3	T10	39.6737	0.0010
P3	B	61.1092	0.0010
P3	1B	63.6896	0.0010
P3	2B	72.2780	0.0010
P3	C	61.4322	0.0010
P3	D	60.9794	0.0010
P3	2C	71.8722	0.0010
P3	T11	40.3663	0.0010
P3	PT2	13.8775	0.0010
P3	T13	18.3384	0.0010
P3	T14	18.1577	0.0010
P3	XI	43.1723	0.0010
PT2	X	45.0703	0.0010
PT2	T14	7.7240	0.0010
PT2	T1	55.9224	0.0010
PT2	T2	59.5438	0.0010
PT2	T3	56.3188	0.0010
PT2	T4	48.6854	0.0010
PT2	P3	13.8778	0.0010
PT2	T12	28.3456	0.0010
PT2	T8	28.4664	0.0010
PT2	T9	25.0016	0.0010
PT2	T10	28.1142	0.0010
PT2	A	48.7124	0.0010
PT2	1A	51.3188	0.0010
PT2	2A	57.5035	0.0010
PT2	B	49.1383	0.0010
PT2	1B	51.4441	0.0010
PT2	C	49.0001	0.0010
PT2	2B	59.7986	0.0010
PT2	D	48.0594	0.0010
PT2	T11	27.1668	0.0010
PT2	2C	58.7168	0.0010
PT2	T13	4.5737	0.0010
PT2	XI	32.1324	0.0010
XI	X	18.5967	0.0010
XI	P3	43.1728	0.0010
XI	PT2	32.1324	0.0010
X	P3	52.5649	0.0010
X	PT2	45.0703	0.0010
X	XI	18.5967	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	24
Stevilo vseh koordinat:	48
Stevilo vseh opazovanj:	100
# sestavljenih kotov:	48
# horizontalnih dolzin:	52
Stevilo vseh neznank:	48
Stevilo nadstevilnih opazovanj:	52

SESTAVLJAM GMM MODEL - ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
P3	X	T1	-2092.49	-786.32	2657.71	-2887.39	-565.22	3673.71	17.414
P3	T1	T2	-1046.51	-20.34	565.22	-3673.71	481.29	3694.05	7.973
P3	T2	T3	-862.99	-242.36	-481.29	-3694.05	1344.29	3936.41	-5.806
P3	T3	T4	-1570.82	-464.75	-1344.29	-3936.41	2915.11	4401.16	2.592
P3	T4	T12	3601.29	12056.78	-2915.11	-4401.16	-686.19	-7655.62	94.916
P3	T12	T8	931.41	-760.23	686.19	7655.62	-1617.60	-6895.38	-81.286
P3	T8	T9	2603.65	-2294.02	1617.60	6895.38	-4221.25	-4601.36	-27.777
P3	T9	A	-1375.89	-2689.27	4221.25	4601.36	-2845.36	-1912.09	-24.391
P3	A	1A	-109.51	-94.56	2845.36	1912.09	-2735.85	-1817.53	21.333
P3	1A	2A	-209.56	-241.41	2735.85	1817.53	-2526.29	-1576.11	-3.086
P3	2A	T10	1934.01	1091.99	2526.29	1576.11	-4460.31	-2668.10	-33.784
P3	T10	B	-1545.24	-969.03	4460.31	2668.10	-2915.06	-1699.07	26.762
P3	B	1B	-62.05	-163.75	2915.06	1699.07	-2853.01	-1535.32	4.605
P3	1B	2B	-303.36	-251.09	2853.01	1535.32	-2549.65	-1284.23	5.358
P3	2B	C	449.86	221.72	2549.65	1284.23	-2999.50	-1505.95	-2.832
P3	C	D	131.25	-228.28	2999.50	1505.95	-3130.75	-1277.67	11.467
P3	D	2C	-433.02	-295.62	3130.75	1277.67	-2697.74	-982.04	-11.703
P3	2C	T11	2162.08	594.00	2697.74	982.04	-4859.82	-1576.04	-39.742
P3	T11	PT2	9977.93	-715.97	4859.82	1576.04	-14837.75	-860.08	41.765
P3	PT2	T13	-3589.98	-918.10	14837.75	860.08	-11247.77	58.02	-31.570
P3	T13	T14	-575.75	-3834.46	11247.77	-58.02	-10672.02	3892.49	-5.763
P3	T14	XI	-6452.03	1651.53	10672.02	-3892.49	-4219.99	2240.95	18.077
PT2	X	T14	8876.55	-20298.06	2208.02	-4009.11	-11084.57	24307.16	-53.763
PT2	T14	T1	-11441.91	20635.53	11084.57	-24307.16	357.34	3671.63	74.297
PT2	T1	T2	-865.11	430.03	-357.34	-3671.63	1222.45	3241.60	3.759
PT2	T2	T3	-721.21	136.86	-1222.45	-3241.60	1943.66	3104.74	-4.264
PT2	T3	T4	-1140.66	199.11	-1943.66	-3104.74	3084.32	2905.63	2.325
PT2	T4	P3	-11753.43	2045.55	-3084.32	-2905.63	14837.75	860.08	-33.201
PT2	P3	T12	11895.82	7515.90	-14837.75	-860.08	2941.93	-6655.83	123.360
PT2	T12	T8	1109.61	352.01	-2941.93	6655.83	1832.31	-7007.84	-44.183
PT2	T8	T9	4625.54	749.40	-1832.31	7007.84	-2793.23	-7757.23	-13.734
PT2	T9	T10	2474.08	-2654.99	2793.23	7757.23	-5267.31	-5102.25	-89.533
PT2	T10	A	-2133.53	-2257.52	5267.31	5102.25	-3133.78	-2844.73	19.891
PT2	A	1A	-119.17	-183.37	3133.78	2844.73	-3014.61	-2661.35	-1.374
PT2	1A	2A	-210.26	-422.24	3014.61	2661.35	-2804.35	-2239.12	1.400
PT2	2A	B	520.81	319.65	2804.35	2239.12	-3325.16	-2558.77	11.798
PT2	B	1B	-32.25	-267.69	3325.16	2558.77	-3292.92	-2291.08	-16.761
PT2	1B	C	231.81	6.66	3292.92	2291.08	-3524.73	-2297.74	24.536
PT2	C	2B	-599.11	-467.60	3524.73	2297.74	-2925.62	-1830.14	-14.420
PT2	2B	D	877.71	154.88	2925.62	1830.14	-3803.33	-1985.02	26.363

PT2	D	T11	3054.12	1269.61	3803.33	1985.02	-6857.45	-3254.63	-75.465
PT2	T11	2C	-3644.10	-1830.95	6857.45	3254.63	-3213.35	-1423.68	48.312
PT2	2C	T13	41023.28	-10281.86	3213.35	1423.68	-44236.63	8858.18	-101.498
PT2	T13	XI	-39386.40	4651.84	44236.63	-8858.18	-4850.24	4206.34	93.912
	XI	X	P3	-2710.95	13228.10	-1509.04	-10987.15	4219.99	-2240.95
	XI	P3	PT2	-630.24	1965.39	-4219.99	2240.95	4850.24	-4206.34
	X	P3	PT2	449.69	1121.71	-2657.71	2887.39	2208.02	-4009.11
	X	PT2	XI	3717.06	6978.04	-2208.02	4009.11	-1509.04	-10987.15

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
P3	X	0.7357654	0.6772365	-0.7357654	-0.6772365	-0.0041319
P3	T1	0.9883704	0.1520656	-0.9883704	-0.1520656	-0.0097370
P3	T2	0.9916190	-0.1291967	-0.9916190	0.1291967	-0.0078510
P3	T3	0.9463393	-0.3231749	-0.9463393	0.3231749	-0.0091039
P3	T4	0.8337078	-0.5522059	-0.8337078	0.5522059	-0.0099363
P3	T12	-0.9960071	0.0892740	0.9960071	-0.0892740	0.0068508
P3	T8	-0.9735694	0.2283912	0.9735694	-0.2283912	0.0132330
P3	T9	-0.7368882	0.6760147	0.7368882	-0.6760147	0.0180202
P3	A	-0.5577621	0.8300009	0.5577621	-0.8300009	0.0225285
P3	1A	-0.5533563	0.8329446	0.5533563	-0.8329446	-0.0251879
P3	2A	-0.5293179	0.8484236	0.5293179	-0.8484236	-0.0253862
P3	T10	-0.5133518	0.8581783	0.5133518	-0.8581783	0.0123427
P3	B	-0.5035654	0.8639571	0.5035654	-0.8639571	0.0228840
P3	1B	-0.4738803	0.8805893	0.4738803	-0.8805893	-0.0254148
P3	2B	-0.4498474	0.8931054	0.4498474	-0.8931054	-0.0263944
P3	C	-0.4486898	0.8936876	0.4486898	-0.8936876	0.0233947
P3	D	-0.3778484	0.9258675	0.3778484	-0.9258675	0.0199342
P3	2C	-0.3420657	0.9396760	0.3420657	-0.9396760	-0.0260565
P3	T11	-0.3084841	0.9512295	0.3084841	-0.9512295	0.0066069
P3	PT2	-0.0578683	0.9983242	0.0578683	-0.9983242	0.0005565
P3	T13	0.0051587	0.9999867	-0.0051587	-0.9999867	-0.0003560
P3	T14	0.3426565	0.9394608	-0.3426565	-0.9394608	-0.0001563
P3	XI	0.4690052	0.8831954	-0.4690052	-0.8831954	-0.0034835
PT2	X	0.8759380	0.4824236	-0.8759380	-0.4824236	-0.0040987
PT2	T14	0.9098601	0.4149151	-0.9098601	-0.4149151	-0.0031430
PT2	T1	0.9952973	-0.0968669	-0.9952973	0.0968669	-0.0085565
PT2	T2	0.9356773	-0.3528569	-0.9356773	0.3528569	-0.0060718
PT2	T3	0.8476054	-0.5306271	-0.8476054	0.5306271	-0.0076904
PT2	T4	0.6857075	-0.7278772	-0.6857075	0.7278772	-0.0083735
PT2	P3	0.0578683	-0.9983242	-0.0578683	0.9983242	0.0002565
PT2	T12	-0.9146367	-0.4042767	0.9146367	0.4042767	-0.0009042
PT2	T8	-0.9674761	-0.2529625	0.9674761	0.2529625	0.0097562
PT2	T9	-0.9408634	0.3387861	0.9408634	-0.3387861	0.0159528
PT2	T10	-0.6957629	0.7182715	0.6957629	-0.7182715	0.0129086
PT2	A	-0.6721338	0.7404297	0.6721338	-0.7404297	0.0225416
PT2	1A	-0.6618174	0.7496651	0.6618174	-0.7496651	-0.0254958
PT2	2A	-0.6239537	0.7814613	0.6239537	-0.7814613	-0.0256732
PT2	B	-0.6098530	0.7925146	0.6098530	-0.7925146	0.0225636
PT2	1B	-0.5711244	0.8208635	0.5711244	-0.8208635	-0.0260530
PT2	C	-0.5461014	0.8377191	0.5461014	-0.8377191	0.0226599
PT2	2B	-0.5303377	0.8477865	0.5303377	-0.8477865	-0.0270638

PT2	D	-0.4626898	0.8865202	0.4626898	-0.8865202	0.0190289
PT2	T11	-0.4287709	0.9034133	0.4287709	-0.9034133	0.0069208
PT2	2C	-0.4050755	0.9142833	0.4050755	-0.9142833	-0.0289702
PT2	T13	0.1963475	0.9805344	-0.1963475	-0.9805344	-0.0017032
PT2	XI	0.6551798	0.7554730	-0.6551798	-0.7554730	-0.0045792
XI	X	0.9906994	-0.1360688	-0.9906994	0.1360688	0.0019791
XI	P3	-0.4690052	-0.8831954	0.4690052	0.8831954	-0.0039835
XI	PT2	-0.6551798	-0.7554730	0.6551798	0.7554730	-0.0045792
X	P3	-0.7357654	-0.6772365	0.7357654	0.6772365	-0.0045319
X	PT2	-0.8759380	-0.4824236	0.8759380	0.4824236	-0.0040987
X	XI	-0.9906994	0.1360688	0.9906994	-0.1360688	0.0019791

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.72

Ref. std. odklon a-posteriori: 0.64

Globalni test: 0.78

Globalni test [SQRT]: 0.88

Matrika R [DIAG]: 55.00

Matrika R [POVPRECJE]: 0.55

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK - IZRAVNANE KOORDINATE TOCK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH

P3	33175.0298	41030.3075			
	-0.0061	-0.0005	0.0001	0.0001	
	33175.0237	41030.3070	0.0001	0.0001	136.9
X	33213.7019	41065.9033			
	0.0004	-0.0011	0.0003	0.0002	
	33213.7023	41065.9022	0.0003	0.0001	28.1
XI	33195.2762	41068.4340			
	0.0018	-0.0007	0.0002	0.0002	
	33195.2780	41068.4333	0.0002	0.0001	47.8
PT2	33174.2267	41044.1623			
	-0.0048	-0.0011	0.0001	0.0001	
	33174.2219	41044.1612	0.0001	0.0001	138.5

T1	33229.8776	41038.7461				
	0.0037	0.0005	0.0006	0.0002		
	33229.8813	41038.7466	0.0006	0.0002	179.0	
T2	33229.9348	41023.1540				
	0.0021	0.0001	0.0005	0.0002		
	33229.9369	41023.1541	0.0006	0.0002	163.8	
T3	33221.9563	41014.2821				
	0.0029	-0.0034	0.0005	0.0003		
	33221.9592	41014.2787	0.0006	0.0002	153.2	
T4	33207.6049	41008.7314				
	0.0028	-0.0056	0.0004	0.0004		
	33207.6077	41008.7258	0.0005	0.0001	139.8	
T8	33146.6767	41036.9589				
	0.0069	-0.0061	0.0003	0.0001		
	33146.6836	41036.9528	0.0003	0.0001	0.5	
T9	33150.6886	41052.6379				
	0.0083	-0.0113	0.0003	0.0002		
	33150.6969	41052.6266	0.0004	0.0001	151.0	
T10	33154.6569	41064.3652				
	0.0085	-0.0058	0.0003	0.0004		
	33154.6654	41064.3594	0.0005	0.0001	129.7	
T11	33162.5754	41068.7114				
	0.0065	-0.0033	0.0002	0.0005		
	33162.5819	41068.7081	0.0006	0.0001	113.3	
T12	33148.3016	41032.7032				
	0.0003	-0.0139	0.0003	0.0001		
	33148.3019	41032.6893	0.0003	0.0001	8.5	
T13	33175.1244	41048.6453				
	-0.0019	-0.0006	0.0001	0.0004		
	33175.1225	41048.6447	0.0004	0.0001	82.4	
T14	33181.2516	41047.3658				
	-0.0019	-0.0024	0.0001	0.0001		
	33181.2497	41047.3634	0.0001	0.0001	29.3	
A	33141.4703	41080.2471				
	0.0150	-0.0135	0.0004	0.0005		
	33141.4853	41080.2336	0.0006	0.0002	129.2	
B	33144.2458	41083.1230				
	0.0117	-0.0167	0.0004	0.0005		
	33144.2575	41083.1063	0.0006	0.0002	125.0	
C	33147.4553	41085.2296				
	0.0089	-0.0191	0.0003	0.0005		
	33147.4642	41085.2105	0.0006	0.0002	120.9	

D	33151.9813	41086.7848				
	0.0030	-0.0184	0.0003	0.0005		
	33151.9843	41086.7664	0.0006	0.0002	115.8	
1A	33140.2799	41082.6151				
	-0.0165	0.0227	0.0004	0.0005		
	33140.2634	41082.6378	0.0006	0.0002	128.6	
1B	33144.8606	41086.3695				
	-0.0130	0.0247	0.0003	0.0005		
	33144.8476	41086.3942	0.0006	0.0002	122.6	
2A	33138.3632	41089.0790				
	-0.0148	0.0237	0.0004	0.0005		
	33138.3484	41089.1027	0.0006	0.0002	126.3	
2B	33142.5276	41094.8358				
	-0.0137	0.0252	0.0003	0.0005		
	33142.5139	41094.8610	0.0006	0.0002	120.3	
2C	33150.4537	41097.8196				
	-0.0100	0.0269	0.0003	0.0006		
	33150.4437	41097.8465	0.0006	0.0002	112.7	

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L			V		S_V			L_			S_L_	
P3	X	T1	33	52	35.7	0.06	0.89	33	52	35.8	0.88				
P3	T1	T2	16	10	3.4	-0.23	0.79	16	10	3.2	0.97				
P3	T2	T3	11	26	0.5	-0.26	0.77	11	26	0.2	0.99				
P3	T3	T4	14	39	45.8	0.04	0.72	14	39	45.8	1.02				
P3	T4	T12	151	34	37.2	0.10	0.52	151	34	37.3	1.14				
P3	T12	T8	8	6	11.2	-0.03	0.42	8	6	11.2	1.18				
P3	T8	T9	29	20	18.0	0.38	0.51	29	20	18.4	1.14				
P3	T9	A	13	34	21.4	-0.16	0.77	13	34	21.2	0.98				
P3	A	1A	0	17	51.6	-0.05	0.94	0	17	51.6	0.83				
P3	1A	2A	1	38	20.6	-0.79	0.94	1	38	19.8	0.82				
P3	2A	T10	1	4	53.1	1.34	0.89	1	4	54.4	0.88				
P3	T10	B	0	38	37.5	-0.27	0.89	0	38	37.2	0.88				
P3	B	1B	1	56	54.3	-0.66	0.95	1	56	53.6	0.81				
P3	1B	2B	1	33	3.9	-0.06	0.95	1	33	3.8	0.81				
P3	2B	C	0	4	30.1	0.69	0.96	0	4	30.8	0.81				
P3	C	D	4	27	21.6	-0.12	0.96	4	27	21.5	0.80				
P3	D	2C	2	12	3.4	-0.92	0.97	2	12	2.5	0.80				
P3	2C	T11	2	2	45.3	1.02	0.96	2	2	46.3	0.80				
P3	T11	PT2	14	38	19.8	3.53	1.01	14	38	23.3	0.73				
P3	PT2	T13	3	37	18.5	-3.17	0.91	3	37	15.3	0.86				
P3	T13	T14	19	44	41.4	-0.30	0.48	19	44	41.1	1.16				
P3	T14	XI	7	55	33.3	-0.99	0.68	7	55	32.3	1.05				
PT2	X	T14	4	20	41.2	-0.06	0.62	4	20	41.1	1.09				
PT2	T14	T1	30	3	7.6	-0.01	0.54	30	3	7.6	1.13				
PT2	T1	T2	15	6	8.4	0.23	0.83	15	6	8.6	0.94				
PT2	T2	T3	11	23	12.7	0.30	0.85	11	23	13.0	0.92				

PT2	T3	T4	14	39	36.9	-0.01	0.86	14	39	36.9	0.91
PT2	T4	P3	39	58	58.9	-4.09	0.92	39	58	54.8	0.85
PT2	P3	T12	69	26	14.6	3.92	0.70	69	26	18.5	1.04
PT2	T12	T8	9	12	18.7	0.01	0.42	9	12	18.7	1.18
PT2	T8	T9	34	27	34.7	-0.36	0.43	34	27	34.3	1.17
PT2	T9	T10	26	8	2.0	-0.24	0.52	26	8	1.8	1.14
PT2	T10	A	1	51	2.0	0.36	0.68	1	51	2.4	1.05
PT2	A	1A	0	47	37.4	0.04	0.76	0	47	37.4	0.99
PT2	1A	2A	2	49	58.1	0.66	0.78	2	49	58.8	0.98
PT2	2A	B	1	1	23.8	-0.88	0.77	1	1	22.9	0.98
PT2	B	1B	2	45	17.5	0.52	0.77	2	45	18.0	0.99
PT2	1B	C	1	43	18.8	-0.50	0.77	1	43	18.3	0.99
PT2	C	2B	1	4	32.5	0.57	0.78	1	4	33.1	0.98
PT2	2B	D	4	27	36.5	-0.47	0.78	4	27	36.0	0.98
PT2	D	T11	2	11	31.9	-0.06	0.71	2	11	31.8	1.03
PT2	T11	2C	1	28	49.1	0.79	0.72	1	28	49.9	1.02
PT2	2C	T13	35	14	51.0	-0.83	0.55	35	14	50.2	1.12
PT2	T13	XI	29	35	1.5	0.55	0.62	29	35	2.1	1.09
XI	X	P3	110	9	24.1	0.65	0.92	110	9	24.8	0.85
XI	P3	PT2	12	57	45.1	0.34	1.18	12	57	45.4	0.43
X	P3	PT2	13	46	54.8	1.15	1.18	13	46	55.9	0.42
X	PT2	XI	36	39	45.5	0.55	0.93	36	39	46.1	0.84

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
P3	X	52.5645	0.0003	0.0008	52.5648	0.0003
P3	T1	55.5029	0.0001	0.0007	55.5030	0.0006
P3	T2	55.3769	0.0002	0.0007	55.3771	0.0006
P3	T3	49.5965	0.0003	0.0007	49.5968	0.0006
P3	T4	39.0825	0.0003	0.0007	39.0828	0.0006
P3	T12	26.8285	-0.0007	0.0008	26.8278	0.0003
P3	T8	29.1096	-0.0007	0.0008	29.1089	0.0003
P3	T9	33.0144	0.0001	0.0008	33.0145	0.0004
P3	A	60.1456	-0.0000	0.0006	60.1456	0.0006
P3	1A	62.8236	-0.0001	0.0006	62.8235	0.0006
P3	2A	69.2968	-0.0002	0.0006	69.2966	0.0006
P3	T10	39.6737	0.0003	0.0007	39.6740	0.0005
P3	B	61.1092	-0.0001	0.0006	61.1091	0.0006
P3	1B	63.6896	0.0000	0.0006	63.6896	0.0006
P3	2B	72.2780	-0.0000	0.0006	72.2780	0.0006
P3	C	61.4322	0.0000	0.0006	61.4322	0.0006
P3	D	60.9794	-0.0001	0.0006	60.9793	0.0006
P3	2C	71.8722	0.0011	0.0006	71.8733	0.0006
P3	T11	40.3663	0.0000	0.0007	40.3663	0.0006
P3	PT2	13.8775	-0.0001	0.0009	13.8774	0.0001
P3	T13	18.3384	-0.0004	0.0008	18.3380	0.0004
P3	T14	18.1577	-0.0005	0.0009	18.1572	0.0002
P3	XI	43.1723	0.0001	0.0008	43.1724	0.0003
PT2	X	45.0703	0.0005	0.0008	45.0708	0.0003
PT2	T14	7.7240	-0.0010	0.0009	7.7230	0.0001

PT2	T1	55.9224	-0.0002	0.0007	55.9222	0.0006
PT2	T2	59.5438	-0.0001	0.0007	59.5437	0.0006
PT2	T3	56.3188	0.0001	0.0007	56.3189	0.0006
PT2	T4	48.6854	0.0001	0.0007	48.6855	0.0006
PT2	P3	13.8778	-0.0004	0.0009	13.8774	0.0001
PT2	T12	28.3456	-0.0003	0.0008	28.3453	0.0003
PT2	T8	28.4664	-0.0003	0.0008	28.4661	0.0003
PT2	T9	25.0016	0.0001	0.0008	25.0017	0.0004
PT2	T10	28.1142	0.0002	0.0007	28.1144	0.0005
PT2	A	48.7124	0.0000	0.0006	48.7124	0.0006
PT2	1A	51.3188	0.0001	0.0006	51.3189	0.0006
PT2	2A	57.5035	-0.0001	0.0006	57.5034	0.0006
PT2	B	49.1383	0.0001	0.0006	49.1384	0.0006
PT2	1B	51.4441	-0.0002	0.0006	51.4439	0.0006
PT2	C	49.0001	0.0000	0.0006	49.0001	0.0006
PT2	2B	59.7986	-0.0001	0.0006	59.7985	0.0006
PT2	D	48.0594	0.0001	0.0006	48.0595	0.0006
PT2	T11	27.1668	0.0000	0.0007	27.1668	0.0006
PT2	2C	58.7168	-0.0013	0.0006	58.7155	0.0006
PT2	T13	4.5737	-0.0006	0.0008	4.5731	0.0004
PT2	XI	32.1324	0.0000	0.0008	32.1324	0.0003
XI	X	18.5967	0.0007	0.0009	18.5974	0.0002
XI	P3	43.1728	-0.0004	0.0008	43.1724	0.0003
XI	PT2	32.1324	0.0000	0.0008	32.1324	0.0003
X	P3	52.5649	-0.0001	0.0008	52.5648	0.0003
X	PT2	45.0703	0.0005	0.0008	45.0708	0.0003
X	XI	18.5967	0.0007	0.0009	18.5974	0.0002

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestričnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0006	0.0006
Avr sdX, sdY:	0.0003	0.0003

KOVARIANCNA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00051918
Sled kovariančne matrike:	0.00000620
Srednja varianca:	0.00036711
Srednja standardna deviacija:	0.01916019
Generalizirana varianca:	0.00000000
Generalizirana standardna deviacija:	0.00000000
Najmanjša lastna vrednost kov. matrike:	0.00000000
Največja lastna vrednost kov. matrike:	0.00000039
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00046906

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000024
Največja lastna vrednost:	0.003426
Norma kovariančne matrike:	0.000566
Norma matrike kriterija:	0.003426
Razlika norm kovariančne in matrike kriterija:	0.002860

Sled matrike kriterija:

0.014375

Karakteristicna razdalja $d=2/3(s_{\min})$:

1.7669

Velikost Urp (reducirana in psevdoinverzna): 100 x 1176

Velikost vektorja q: 1176 x 1

Velikost optimiziranega vektorja utezi p: 100 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
P3	X	T1	33 52 35.7	8315802	0.59	0.715275
P3	T1	T2	16 10 3.4	8010838	0.40	0.728763
P3	T2	T3	11 26 0.5	2303749	0.39	1.358963
P3	T3	T4	14 39 45.8	4922487	0.34	0.929679
P3	T12	T8	8 6 11.2	2676052	0.10	1.260892
P3	T8	T9	29 20 18.0	943093	0.12	2.123968
P3	T9	A	13 34 21.4	4844078	0.31	0.937173
P3	A	1A	0 17 51.6	8025008	0.57	0.728119
P3	1A	2A	1 38 20.6	5253315	0.58	0.899929
P3	2A	T10	1 4 53.1	3868289	0.49	1.048735
P3	T10	B	0 38 37.5	3962769	0.53	1.036157
P3	B	1B	1 56 54.3	381945	0.58	3.337526
P3	1B	2B	1 33 3.9	13814903	0.59	0.554947
P3	2B	C	0 4 30.1	5376372	0.58	0.889571
P3	C	D	4 27 21.6	9502143	0.59	0.669136
P3	D	2C	2 12 3.4	16936959	0.60	0.501196
P3	2C	T11	2 2 45.3	2785726	0.57	1.235822
P3	T13	T14	19 44 41.4	1464683	0.05	1.704329
P3	T14	XI	7 55 33.3	767585	0.57	2.354300
PT2	X	T14	4 20 41.2	347614	0.49	3.498456
PT2	T1	T2	15 6 8.4	5325701	0.42	0.893793
PT2	T2	T3	11 23 12.7	10070574	0.46	0.649977
PT2	T3	T4	14 39 36.9	8636219	0.47	0.701881
PT2	T4	P3	39 58 58.9	132693	0.52	5.662407
PT2	T12	T8	9 12 18.7	3121906	0.11	1.167388
PT2	T8	T9	34 27 34.7	995134	0.11	2.067685
PT2	T9	T10	26 8 2.0	1479389	0.14	1.695836
PT2	T10	A	1 51 2.0	2898098	0.30	1.211626
PT2	A	1A	0 47 37.4	16733016	0.38	0.504241
PT2	1A	2A	2 49 58.1	9541982	0.39	0.667738
PT2	2A	B	1 1 23.8	12289864	0.38	0.588371
PT2	B	1B	2 45 17.5	13613040	0.38	0.559046
PT2	1B	C	1 43 18.8	14624409	0.37	0.539369
PT2	C	2B	1 4 32.5	6722246	0.40	0.795551
PT2	2B	D	4 27 36.5	6966447	0.37	0.781483
PT2	D	T11	2 11 31.9	2181965	0.28	1.396372
PT2	T11	2C	1 28 49.1	3475912	0.38	1.106345
PT2	T13	XI	29 35 1.5	290870	0.46	3.824511
XI	X	P3	110 9 24.1	995402	0.40	2.067407
X	PT2	XI	36 39 45.5	584169	0.43	2.698708

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

P3	T4	T12	151	34	37.2	-430512	0.05
P3	T11	PT2	14	38	19.8	-1353949	0.56
P3	PT2	T13	3	37	18.5	-312816	0.39
PT2	T14	T1	30	3	7.6	-249277	0.05
PT2	P3	T12	69	26	14.6	-83757	0.13
PT2	2C	T13	35	14	51.0	-214717	0.03
XI	P3	PT2	12	57	45.1	-1779126	0.86
X	P3	PT2	13	46	54.8	-7794214	0.88

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi (opt)	ri	std_d
P3	X	52.5645	564	0.87	0.000421
P3	T1	55.5029	2538	0.58	0.000199
P3	T2	55.3769	2040	0.56	0.000221
P3	T3	49.5965	1457	0.57	0.000262
P3	T4	39.0825	1013	0.60	0.000314
P3	T12	26.8285	1690	0.86	0.000243
P3	T8	29.1096	1314	0.84	0.000276
P3	T9	33.0144	552	0.80	0.000426
P3	A	60.1456	1625	0.53	0.000248
P3	1A	62.8236	1505	0.52	0.000258
P3	2A	69.2968	1034	0.51	0.000311
P3	T10	39.6737	911	0.64	0.000331
P3	B	61.1092	1600	0.52	0.000250
P3	1B	63.6896	1723	0.52	0.000241
P3	2B	72.2780	1279	0.51	0.000280
P3	C	61.4322	1809	0.52	0.000235
P3	D	60.9794	1404	0.51	0.000267
P3	2C	71.8722	1580	0.50	0.000252
P3	T11	40.3663	1459	0.56	0.000262
P3	T13	18.3384	1359	0.81	0.000271
P3	T14	18.1577	2799	0.97	0.000189
P3	XI	43.1723	432	0.91	0.000481
PT2	X	45.0703	312	0.87	0.000566
PT2	T14	7.7240	1236	0.98	0.000284
PT2	T1	55.9224	1640	0.58	0.000247
PT2	T2	59.5438	1324	0.56	0.000275
PT2	T3	56.3188	1020	0.57	0.000313
PT2	T4	48.6854	1302	0.59	0.000277
PT2	T12	28.3456	2837	0.86	0.000188
PT2	T8	28.4664	2724	0.85	0.000192
PT2	T9	25.0016	1554	0.81	0.000254
PT2	T10	28.1142	909	0.65	0.000332
PT2	A	48.7124	1911	0.53	0.000229
PT2	1A	51.3188	1796	0.53	0.000236
PT2	2A	57.5035	1299	0.51	0.000277
PT2	B	49.1383	1888	0.52	0.000230
PT2	1B	51.4441	1891	0.52	0.000230
PT2	C	49.0001	1956	0.52	0.000226
PT2	2B	59.7986	1490	0.51	0.000259
PT2	D	48.0594	1477	0.51	0.000260
PT2	T11	27.1668	1650	0.56	0.000246
PT2	2C	58.7168	1862	0.50	0.000232

PT2	T13	4.5737	4058	0.82	0.000157
PT2	XI	32.1324	592	0.92	0.000411
XI	X	18.5967	2569	0.94	0.000197
XI	P3	43.1728	432	0.91	0.000481
XI	PT2	32.1324	592	0.92	0.000411
X	P3	52.5649	564	0.87	0.000421
X	PT2	45.0703	312	0.87	0.000566
X	XI	18.5967	2569	0.94	0.000197

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

P3	PT2	13.8775	-2041	0.99
PT2	P3	13.8778	-2041	0.99

OPAZOVANJA IN KOORDINATE MOSTE (KASTE): STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA
*H

PRIBLIZNE KOORDINATE TOCK:

X P3	33175.0298	41030.3075
X X	33213.7019	41065.9033
X XI	33195.2762	41068.4340
X PT2	33174.2267	41044.1623
X T1	33229.8776	41038.7461
X T2	33229.9348	41023.1540
X T3	33221.9563	41014.2821
X T4	33207.6049	41008.7314
X T8	33146.6767	41036.9589
X T9	33150.6886	41052.6379
X T10	33154.6569	41064.3652
X T11	33162.5754	41068.7114
X T12	33148.3016	41032.7032
X T13	33175.1244	41048.6453
X T14	33181.2516	41047.3658
X A	33141.4703	41080.2471
X B	33144.2458	41083.1230
X C	33147.4553	41085.2296
X D	33151.9813	41086.7848
X 1A	33140.2799	41082.6151
X 1B	33144.8606	41086.3695
X 2A	33138.3632	41089.0790
X 2B	33142.5276	41094.8358
X 2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

A	P3	X	T1	33	52	35.7	1.4142
A	P3	T1	T2	16	10	3.4	1.4142
A	P3	T2	T3	11	26	0.5	1.4142
A	P3	T3	T4	14	39	45.8	1.4142
A	P3	T12	T8	8	6	11.2	1.4142
A	P3	T8	T9	29	20	18.0	1.4142
A	P3	T9	A	13	34	21.4	1.4142
A	P3	A	1A	0	17	51.6	1.4142
A	P3	1A	2A	1	38	20.6	1.4142
A	P3	2A	T10	1	4	53.1	1.4142
A	P3	T10	B	0	38	37.5	1.4142
A	P3	B	1B	1	56	54.3	1.4142
A	P3	1B	2B	1	33	3.9	1.4142
A	P3	2B	C	0	4	30.1	1.4142
A	P3	C	D	4	27	21.6	1.4142
A	P3	D	2C	2	12	3.4	1.4142
A	P3	2C	T11	2	2	45.3	1.4142
A	P3	T13	T14	19	44	41.4	1.4142
A	P3	T14	XI	7	55	33.3	1.4142
A	PT2	X	T14	4	20	41.2	1.4142
A	PT2	T1	T2	15	6	8.4	1.4142

A	PT2	T2	T3	11	23	12.7	1.4142
A	PT2	T3	T4	14	39	36.9	1.4142
A	PT2	T4	P3	39	58	58.9	1.4142
A	PT2	T12	T8	9	12	18.7	1.4142
A	PT2	T8	T9	34	27	34.7	1.4142
A	PT2	T9	T10	26	8	2.0	1.4142
A	PT2	T10	A	1	51	2.0	1.4142
A	PT2	A	1A	0	47	37.4	1.4142
A	PT2	1A	2A	2	49	58.1	1.4142
A	PT2	2A	B	1	1	23.8	1.4142
A	PT2	B	1B	2	45	17.5	1.4142
A	PT2	1B	C	1	43	18.8	1.4142
A	PT2	C	2B	1	4	32.5	1.4142
A	PT2	2B	D	4	27	36.5	1.4142
A	PT2	D	T11	2	11	31.9	1.4142
A	PT2	T11	2C	1	28	49.1	1.4142
A	PT2	T13	XI	29	35	1.5	1.4142
A	XI	X	P3	110	9	24.1	1.4142
A	X	PT2	XI	36	39	45.5	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

#	-----						
D	P3	X	52.5645	0.0010			
D	P3	T1	55.5029	0.0010			
D	P3	T2	55.3769	0.0010			
D	P3	T3	49.5965	0.0010			
D	P3	T4	39.0825	0.0010			
D	P3	T12	26.8285	0.0010			
D	P3	T8	29.1096	0.0010			
D	P3	T9	33.0144	0.0010			
D	P3	A	60.1456	0.0010			
D	P3	1A	62.8236	0.0010			
D	P3	2A	69.2968	0.0010			
D	P3	T10	39.6737	0.0010			
D	P3	B	61.1092	0.0010			
D	P3	1B	63.6896	0.0010			
D	P3	2B	72.2780	0.0010			
D	P3	C	61.4322	0.0010			
D	P3	D	60.9794	0.0010			
D	P3	2C	71.8722	0.0010			
D	P3	T11	40.3663	0.0010			
D	P3	T13	18.3384	0.0010			
D	P3	T14	18.1577	0.0010			
D	P3	XI	43.1723	0.0010			
D	PT2	X	45.0703	0.0010			
D	PT2	T14	7.7240	0.0010			
D	PT2	T1	55.9224	0.0010			
D	PT2	T2	59.5438	0.0010			
D	PT2	T3	56.3188	0.0010			
D	PT2	T4	48.6854	0.0010			
D	PT2	T12	28.3456	0.0010			
D	PT2	T8	28.4664	0.0010			
D	PT2	T9	25.0016	0.0010			
D	PT2	T10	28.1142	0.0010			

D	PT2	A	48.7124	0.0010
D	PT2	1A	51.3188	0.0010
D	PT2	2A	57.5035	0.0010
D	PT2	B	49.1383	0.0010
D	PT2	1B	51.4441	0.0010
D	PT2	C	49.0001	0.0010
D	PT2	2B	59.7986	0.0010
D	PT2	D	48.0594	0.0010
D	PT2	T11	27.1668	0.0010
D	PT2	2C	58.7168	0.0010
D	PT2	T13	4.5737	0.0010
D	PT2	XI	32.1324	0.0010
D	XI	X	18.5967	0.0010
D	XI	P3	43.1728	0.0010
D	XI	PT2	32.1324	0.0010
D	X	P3	52.5649	0.0010
D	X	PT2	45.0703	0.0010
D	X	XI	18.5967	0.0010

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:19:08.1

Ime vhodne datoteke: kaste2.txt

Ime izhodne datoteke: kaste2.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
P3	33175.0298	41030.3075
X	33213.7019	41065.9033
XI	33195.2762	41068.4340
PT2	33174.2267	41044.1623
T1	33229.8776	41038.7461
T2	33229.9348	41023.1540
T3	33221.9563	41014.2821
T4	33207.6049	41008.7314
T8	33146.6767	41036.9589
T9	33150.6886	41052.6379
T10	33154.6569	41064.3652
T11	33162.5754	41068.7114
T12	33148.3016	41032.7032
T13	33175.1244	41048.6453
T14	33181.2516	41047.3658
A	33141.4703	41080.2471
B	33144.2458	41083.1230
C	33147.4553	41085.2296
D	33151.9813	41086.7848
1A	33140.2799	41082.6151
1B	33144.8606	41086.3695
2A	33138.3632	41089.0790
2B	33142.5276	41094.8358
2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
P3	X	T1	33 52 35.7	1.4142
P3	T1	T2	16 10 3.4	1.4142
P3	T2	T3	11 26 0.5	1.4142
P3	T3	T4	14 39 45.8	1.4142
P3	T12	T8	8 6 11.2	1.4142
P3	T8	T9	29 20 18.0	1.4142

P3	T9	A	13	34	21.4	1.4142
P3	A	1A	0	17	51.6	1.4142
P3	1A	2A	1	38	20.6	1.4142
P3	2A	T10	1	4	53.1	1.4142
P3	T10	B	0	38	37.5	1.4142
P3	B	1B	1	56	54.3	1.4142
P3	1B	2B	1	33	3.9	1.4142
P3	2B	C	0	4	30.1	1.4142
P3	C	D	4	27	21.6	1.4142
P3	D	2C	2	12	3.4	1.4142
P3	2C	T11	2	2	45.3	1.4142
P3	T13	T14	19	44	41.4	1.4142
P3	T14	XI	7	55	33.3	1.4142
PT2	X	T14	4	20	41.2	1.4142
PT2	T1	T2	15	6	8.4	1.4142
PT2	T2	T3	11	23	12.7	1.4142
PT2	T3	T4	14	39	36.9	1.4142
PT2	T4	P3	39	58	58.9	1.4142
PT2	T12	T8	9	12	18.7	1.4142
PT2	T8	T9	34	27	34.7	1.4142
PT2	T9	T10	26	8	2.0	1.4142
PT2	T10	A	1	51	2.0	1.4142
PT2	A	1A	0	47	37.4	1.4142
PT2	1A	2A	2	49	58.1	1.4142
PT2	2A	B	1	1	23.8	1.4142
PT2	B	1B	2	45	17.5	1.4142
PT2	1B	C	1	43	18.8	1.4142
PT2	C	2B	1	4	32.5	1.4142
PT2	2B	D	4	27	36.5	1.4142
PT2	D	T11	2	11	31.9	1.4142
PT2	T11	2C	1	28	49.1	1.4142
PT2	T13	XI	29	35	1.5	1.4142
XI	X	P3	110	9	24.1	1.4142
X	PT2	XI	36	39	45.5	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
P3	X	52.5645	0.0010
P3	T1	55.5029	0.0010
P3	T2	55.3769	0.0010
P3	T3	49.5965	0.0010
P3	T4	39.0825	0.0010
P3	T12	26.8285	0.0010
P3	T8	29.1096	0.0010
P3	T9	33.0144	0.0010
P3	A	60.1456	0.0010
P3	1A	62.8236	0.0010
P3	2A	69.2968	0.0010
P3	T10	39.6737	0.0010

P3	B	61.1092	0.0010
P3	1B	63.6896	0.0010
P3	2B	72.2780	0.0010
P3	C	61.4322	0.0010
P3	D	60.9794	0.0010
P3	2C	71.8722	0.0010
P3	T11	40.3663	0.0010
P3	T13	18.3384	0.0010
P3	T14	18.1577	0.0010
P3	XI	43.1723	0.0010
PT2	X	45.0703	0.0010
PT2	T14	7.7240	0.0010
PT2	T1	55.9224	0.0010
PT2	T2	59.5438	0.0010
PT2	T3	56.3188	0.0010
PT2	T4	48.6854	0.0010
PT2	T12	28.3456	0.0010
PT2	T8	28.4664	0.0010
PT2	T9	25.0016	0.0010
PT2	T10	28.1142	0.0010
PT2	A	48.7124	0.0010
PT2	1A	51.3188	0.0010
PT2	2A	57.5035	0.0010
PT2	B	49.1383	0.0010
PT2	1B	51.4441	0.0010
PT2	C	49.0001	0.0010
PT2	2B	59.7986	0.0010
PT2	D	48.0594	0.0010
PT2	T11	27.1668	0.0010
PT2	2C	58.7168	0.0010
PT2	T13	4.5737	0.0010
PT2	XI	32.1324	0.0010
XI	X	18.5967	0.0010
XI	P3	43.1728	0.0010
XI	PT2	32.1324	0.0010
X	P3	52.5649	0.0010
X	PT2	45.0703	0.0010
X	XI	18.5967	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh točk:	24
Stevilo vseh koordinat:	48
Stevilo vseh opazovanj:	90
# sestavljenih kotov:	40
# horizontalnih dolzin:	50
Stevilo vseh neznank:	48
Stevilo nadstevilnih opazovanj:	42

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
P3	X	T1	-2092.49	-786.32	2657.71	-2887.39	-565.22	3673.71	17.414
P3	T1	T2	-1046.51	-20.34	565.22	-3673.71	481.29	3694.05	7.973
P3	T2	T3	-862.99	-242.36	-481.29	-3694.05	1344.29	3936.41	-5.806
P3	T3	T4	-1570.82	-464.75	-1344.29	-3936.41	2915.11	4401.16	2.592
P3	T12	T8	931.41	-760.23	686.19	7655.62	-1617.60	-6895.38	-81.286
P3	T8	T9	2603.65	-2294.02	1617.60	6895.38	-4221.25	-4601.36	-27.777
P3	T9	A	-1375.89	-2689.27	4221.25	4601.36	-2845.36	-1912.09	-24.391
P3	A	1A	-109.51	-94.56	2845.36	1912.09	-2735.85	-1817.53	21.333
P3	1A	2A	-209.56	-241.41	2735.85	1817.53	-2526.29	-1576.11	-3.086
P3	2A	T10	1934.01	1091.99	2526.29	1576.11	-4460.31	-2668.10	-33.784
P3	T10	B	-1545.24	-969.03	4460.31	2668.10	-2915.06	-1699.07	26.762
P3	B	1B	-62.05	-163.75	2915.06	1699.07	-2853.01	-1535.32	4.605
P3	1B	2B	-303.36	-251.09	2853.01	1535.32	-2549.65	-1284.23	5.358
P3	2B	C	449.86	221.72	2549.65	1284.23	-2999.50	-1505.95	-2.832
P3	C	D	131.25	-228.28	2999.50	1505.95	-3130.75	-1277.67	11.467
P3	D	2C	-433.02	-295.62	3130.75	1277.67	-2697.74	-982.04	-11.703
P3	2C	T11	2162.08	594.00	2697.74	982.04	-4859.82	-1576.04	-39.742
P3	T13	T14	-575.75	-3834.46	11247.77	-58.02	-10672.02	3892.49	-5.763
P3	T14	XI	-6452.03	1651.53	10672.02	-3892.49	-4219.99	2240.95	18.077
PT2	X	T14	8876.55	-20298.06	2208.02	-4009.11	-11084.57	24307.16	-53.763
PT2	T1	T2	-865.11	430.03	-357.34	-3671.63	1222.45	3241.60	3.759
PT2	T2	T3	-721.21	136.86	-1222.45	-3241.60	1943.66	3104.74	-4.264
PT2	T3	T4	-1140.66	199.11	-1943.66	-3104.74	3084.32	2905.63	2.325
PT2	T4	P3	-11753.43	2045.55	-3084.32	-2905.63	14837.75	860.08	-33.201
PT2	T12	T8	1109.61	352.01	-2941.93	6655.83	1832.31	-7007.84	-44.183
PT2	T8	T9	4625.54	749.40	-1832.31	7007.84	-2793.23	-7757.23	-13.734
PT2	T9	T10	2474.08	-2654.99	2793.23	7757.23	-5267.31	-5102.25	-89.533
PT2	T10	A	-2133.53	-2257.52	5267.31	5102.25	-3133.78	-2844.73	19.891
PT2	A	1A	-119.17	-183.37	3133.78	2844.73	-3014.61	-2661.35	-1.374
PT2	1A	2A	-210.26	-422.24	3014.61	2661.35	-2804.35	-2239.12	1.400
PT2	2A	B	520.81	319.65	2804.35	2239.12	-3325.16	-2558.77	11.798
PT2	B	1B	-32.25	-267.69	3325.16	2558.77	-3292.92	-2291.08	-16.761
PT2	1B	C	231.81	6.66	3292.92	2291.08	-3524.73	-2297.74	24.536
PT2	C	2B	-599.11	-467.60	3524.73	2297.74	-2925.62	-1830.14	-14.420
PT2	2B	D	877.71	154.88	2925.62	1830.14	-3803.33	-1985.02	26.363
PT2	D	T11	3054.12	1269.61	3803.33	1985.02	-6857.45	-3254.63	-75.465
PT2	T11	2C	-3644.10	-1830.95	6857.45	3254.63	-3213.35	-1423.68	48.312
PT2	T13	XI	-39386.40	4651.84	44236.63	-8858.18	-4850.24	4206.34	93.912
XI	X	P3	-2710.95	13228.10	-1509.04	-10987.15	4219.99	-2240.95	-26.569
X	PT2	XI	3717.06	6978.04	-2208.02	4009.11	-1509.04	-10987.15	5.766

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
P3	X	0.7357654	0.6772365	-0.7357654	-0.6772365	-0.0041319
P3	T1	0.9883704	0.1520656	-0.9883704	-0.1520656	-0.0097370

P3	T2	0.9916190	-0.1291967	-0.9916190	0.1291967	-0.0078510
P3	T3	0.9463393	-0.3231749	-0.9463393	0.3231749	-0.0091039
P3	T4	0.8337078	-0.5522059	-0.8337078	0.5522059	-0.0099363
P3	T12	-0.9960071	0.0892740	0.9960071	-0.0892740	0.0068508
P3	T8	-0.9735694	0.2283912	0.9735694	-0.2283912	0.0132330
P3	T9	-0.7368882	0.6760147	0.7368882	-0.6760147	0.0180202
P3	A	-0.5577621	0.8300009	0.5577621	-0.8300009	0.0225285
P3	1A	-0.5533563	0.8329446	0.5533563	-0.8329446	-0.0251879
P3	2A	-0.5293179	0.8484236	0.5293179	-0.8484236	-0.0253862
P3	T10	-0.5133518	0.8581783	0.5133518	-0.8581783	0.0123427
P3	B	-0.5035654	0.8639571	0.5035654	-0.8639571	0.0228840
P3	1B	-0.4738803	0.8805893	0.4738803	-0.8805893	-0.0254148
P3	2B	-0.4498474	0.8931054	0.4498474	-0.8931054	-0.0263944
P3	C	-0.4486898	0.8936876	0.4486898	-0.8936876	0.0233947
P3	D	-0.3778484	0.9258675	0.3778484	-0.9258675	0.0199342
P3	2C	-0.3420657	0.9396760	0.3420657	-0.9396760	-0.0260565
P3	T11	-0.3084841	0.9512295	0.3084841	-0.9512295	0.0066069
P3	T13	0.0051587	0.9999867	-0.0051587	-0.9999867	-0.0003560
P3	T14	0.3426565	0.9394608	-0.3426565	-0.9394608	-0.0001563
P3	XI	0.4690052	0.8831954	-0.4690052	-0.8831954	-0.0034835
PT2	X	0.8759380	0.4824236	-0.8759380	-0.4824236	-0.0040987
PT2	T14	0.9098601	0.4149151	-0.9098601	-0.4149151	-0.0031430
PT2	T1	0.9952973	-0.0968669	-0.9952973	0.0968669	-0.0085565
PT2	T2	0.9356773	-0.3528569	-0.9356773	0.3528569	-0.0060718
PT2	T3	0.8476054	-0.5306271	-0.8476054	0.5306271	-0.0076904
PT2	T4	0.6857075	-0.7278772	-0.6857075	0.7278772	-0.0083735
PT2	T12	-0.9146367	-0.4042767	0.9146367	0.4042767	-0.0009042
PT2	T8	-0.9674761	-0.2529625	0.9674761	0.2529625	0.0097562
PT2	T9	-0.9408634	0.3387861	0.9408634	-0.3387861	0.0159528
PT2	T10	-0.6957629	0.7182715	0.6957629	-0.7182715	0.0129086
PT2	A	-0.6721338	0.7404297	0.6721338	-0.7404297	0.0225416
PT2	1A	-0.6618174	0.7496651	0.6618174	-0.7496651	-0.0254958
PT2	2A	-0.6239537	0.7814613	0.6239537	-0.7814613	-0.0256732
PT2	B	-0.6098530	0.7925146	0.6098530	-0.7925146	0.0225636
PT2	1B	-0.5711244	0.8208635	0.5711244	-0.8208635	-0.0260530
PT2	C	-0.5461014	0.8377191	0.5461014	-0.8377191	0.0226599
PT2	2B	-0.5303377	0.8477865	0.5303377	-0.8477865	-0.0270638
PT2	D	-0.4626898	0.8865202	0.4626898	-0.8865202	0.0190289
PT2	T11	-0.4287709	0.9034133	0.4287709	-0.9034133	0.0069208
PT2	2C	-0.4050755	0.9142833	0.4050755	-0.9142833	-0.0289702
PT2	T13	0.1963475	0.9805344	-0.1963475	-0.9805344	-0.0017032
PT2	XI	0.6551798	0.7554730	-0.6551798	-0.7554730	-0.0045792
XI	X	0.9906994	-0.1360688	-0.9906994	0.1360688	0.0019791
XI	P3	-0.4690052	-0.8831954	0.4690052	0.8831954	-0.0039835
XI	PT2	-0.6551798	-0.7554730	0.6551798	0.7554730	-0.0045792
X	P3	-0.7357654	-0.6772365	0.7357654	0.6772365	-0.0045319
X	PT2	-0.8759380	-0.4824236	0.8759380	0.4824236	-0.0040987
X	XI	-0.9906994	0.1360688	0.9906994	-0.1360688	0.0019791

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreže:

Globalni test:

Ref. std. odklon a-priori: 0.75

Ref. std. odklon a-posteriori: 0.43

Globalni test: 0.34

Globalni test [SQRT]: 0.58

Matrika R [DIAG]: 45.00

Matrika R [POVPRECJE]: 0.50

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOČK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH
P3	33175.0298 -0.0064 33175.0234	41030.3075 -0.0010 41030.3065	0.0001 0.0002	0.0002	78.2
X	33213.7019 -0.0008 33213.7011	41065.9033 -0.0010 41065.9023	0.0004 0.0004	0.0002	162.8
XI	33195.2762 0.0010 33195.2772	41068.4340 -0.0010 41068.4330	0.0004 0.0004	0.0002	1.0
PT2	33174.2267 -0.0052 33174.2215	41044.1623 -0.0016 41044.1607	0.0002 0.0003	0.0002	51.0
T1	33229.8776 0.0033 33229.8809	41038.7461 0.0014 41038.7475	0.0004 0.0004	0.0003	154.4
T2	33229.9348 0.0021 33229.9369	41023.1540 0.0010 41023.1550	0.0004 0.0004	0.0003	146.4
T3	33221.9563 0.0031 33221.9594	41014.2821 -0.0027 41014.2794	0.0003 0.0004	0.0003	148.2
T4	33207.6049 0.0032 33207.6081	41008.7314 -0.0053 41008.7261	0.0003 0.0004	0.0003	143.3
T8	33146.6767 0.0062 33146.6829	41036.9589 -0.0061 41036.9528	0.0003 0.0003	0.0001	179.1

T9	33150.6886	41052.6379			
	0.0082	-0.0114	0.0002	0.0002	
	33150.6968	41052.6265	0.0003	0.0001	148.1
T10	33154.6569	41064.3652			
	0.0087	-0.0060	0.0002	0.0003	
	33154.6656	41064.3592	0.0004	0.0001	128.5
T11	33162.5754	41068.7114			
	0.0068	-0.0038	0.0002	0.0004	
	33162.5822	41068.7076	0.0004	0.0001	113.5
T12	33148.3016	41032.7032			
	-0.0004	-0.0141	0.0004	0.0001	
	33148.3012	41032.6891	0.0004	0.0001	5.3
T13	33175.1244	41048.6453			
	-0.0024	-0.0014	0.0002	0.0004	
	33175.1220	41048.6439	0.0004	0.0001	63.5
T14	33181.2516	41047.3658			
	-0.0023	-0.0028	0.0002	0.0002	
	33181.2493	41047.3630	0.0003	0.0001	35.0
A	33141.4703	41080.2471			
	0.0154	-0.0134	0.0003	0.0003	
	33141.4857	41080.2337	0.0004	0.0002	132.4
B	33144.2458	41083.1230			
	0.0121	-0.0167	0.0003	0.0003	
	33144.2579	41083.1063	0.0004	0.0002	129.1
C	33147.4553	41085.2296			
	0.0094	-0.0191	0.0003	0.0003	
	33147.4647	41085.2105	0.0004	0.0002	125.9
D	33151.9813	41086.7848			
	0.0034	-0.0185	0.0003	0.0004	
	33151.9847	41086.7663	0.0004	0.0002	121.7
1A	33140.2799	41082.6151			
	-0.0161	0.0228	0.0003	0.0003	
	33140.2638	41082.6379	0.0004	0.0002	132.3
1B	33144.8606	41086.3695			
	-0.0125	0.0247	0.0003	0.0003	
	33144.8481	41086.3942	0.0004	0.0002	127.7
2A	33138.3632	41089.0790			
	-0.0143	0.0238	0.0003	0.0003	
	33138.3489	41089.1028	0.0004	0.0002	131.8
2B	33142.5276	41094.8358			
	-0.0131	0.0252	0.0003	0.0003	
	33142.5145	41094.8610	0.0004	0.0002	128.7

2C	33150.4537		41097.8196								
	-0.0094		0.0268	0.0003	0.0004						
	33150.4443		41097.8464	0.0004	0.0002	123.3					

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:											

S	Z1	Z2	L			V	S_V	L_			S_L_

P3	X	T1	33	52	35.7	-0.50	0.39	33	52	35.2	0.73
P3	T1	T2	16	10	3.4	-0.29	0.52	16	10	3.1	0.64
P3	T2	T3	11	26	0.5	-0.33	0.51	11	26	0.2	0.65
P3	T3	T4	14	39	45.8	-0.13	0.49	14	39	45.7	0.66
P3	T12	T8	8	6	11.2	0.44	0.38	8	6	11.6	0.73
P3	T8	T9	29	20	18.0	0.23	0.32	29	20	18.2	0.76
P3	T9	A	13	34	21.4	0.12	0.49	13	34	21.5	0.66
P3	A	1A	0	17	51.6	-0.02	0.62	0	17	51.6	0.54
P3	1A	2A	1	38	20.6	-0.74	0.62	1	38	19.9	0.54
P3	2A	T10	1	4	53.1	0.90	0.53	1	4	54.0	0.63
P3	T10	B	0	38	37.5	0.08	0.55	0	38	37.6	0.61
P3	B	1B	1	56	54.3	-0.64	0.63	1	56	53.7	0.54
P3	1B	2B	1	33	3.9	0.01	0.63	1	33	3.9	0.54
P3	2B	C	0	4	30.1	0.58	0.63	0	4	30.7	0.54
P3	C	D	4	27	21.6	-0.15	0.63	4	27	21.5	0.53
P3	D	2C	2	12	3.4	-0.90	0.63	2	12	2.5	0.53
P3	2C	T11	2	2	45.3	0.86	0.57	2	2	46.2	0.60
P3	T13	T14	19	44	41.4	-0.08	0.39	19	44	41.3	0.73
P3	T14	XI	7	55	33.3	-1.06	0.25	7	55	32.2	0.78
PT2	X	T14	4	20	41.2	-0.30	0.33	4	20	40.9	0.76
PT2	T1	T2	15	6	8.4	0.35	0.54	15	6	8.7	0.62
PT2	T2	T3	11	23	12.7	0.38	0.56	11	23	13.1	0.60
PT2	T3	T4	14	39	36.9	0.07	0.57	14	39	37.0	0.60
PT2	T4	P3	39	58	58.9	-1.35	0.50	39	58	57.5	0.66
PT2	T12	T8	9	12	18.7	0.90	0.34	9	12	19.6	0.75
PT2	T8	T9	34	27	34.7	-0.20	0.27	34	27	34.5	0.78
PT2	T9	T10	26	8	2.0	-0.18	0.34	26	8	1.8	0.75
PT2	T10	A	1	51	2.0	0.08	0.43	1	51	2.1	0.71
PT2	A	1A	0	47	37.4	0.02	0.50	0	47	37.4	0.65
PT2	1A	2A	2	49	58.1	0.61	0.51	2	49	58.7	0.65
PT2	2A	B	1	1	23.8	-0.80	0.51	1	1	23.0	0.65
PT2	B	1B	2	45	17.5	0.51	0.50	2	45	18.0	0.65
PT2	1B	C	1	43	18.8	-0.47	0.51	1	43	18.3	0.65
PT2	C	2B	1	4	32.5	0.47	0.51	1	4	33.0	0.65
PT2	2B	D	4	27	36.5	-0.35	0.51	4	27	36.2	0.65
PT2	D	T11	2	11	31.9	0.57	0.44	2	11	32.5	0.70
PT2	T11	2C	1	28	49.1	-0.05	0.43	1	28	49.1	0.70
PT2	T13	XI	29	35	1.5	-0.11	0.35	29	35	1.4	0.74
XI	X	P3	110	9	24.1	1.53	0.36	110	9	25.6	0.74
X	PT2	XI	36	39	45.5	1.67	0.46	36	39	47.2	0.68

IZRAVNANE VREDNOSTI OPAZOVANJ - HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
P3	X	52.5645	-0.0000	0.0005	52.5645	0.0002
P3	T1	55.5029	0.0002	0.0004	55.5031	0.0004
P3	T2	55.3769	0.0003	0.0004	55.3772	0.0004
P3	T3	49.5965	0.0004	0.0004	49.5969	0.0004
P3	T4	39.0825	0.0004	0.0004	39.0829	0.0004
P3	T12	26.8285	-0.0002	0.0005	26.8283	0.0003
P3	T8	29.1096	-0.0002	0.0005	29.1094	0.0003
P3	T9	33.0144	0.0003	0.0005	33.0147	0.0003
P3	A	60.1456	0.0001	0.0004	60.1457	0.0004
P3	1A	62.8236	0.0001	0.0004	62.8237	0.0004
P3	2A	69.2968	-0.0001	0.0004	69.2967	0.0004
P3	T10	39.6737	0.0004	0.0005	39.6741	0.0004
P3	B	61.1092	0.0001	0.0004	61.1093	0.0004
P3	1B	63.6896	0.0002	0.0004	63.6898	0.0004
P3	2B	72.2780	0.0001	0.0004	72.2781	0.0004
P3	C	61.4322	0.0002	0.0004	61.4324	0.0004
P3	D	60.9794	0.0000	0.0004	60.9794	0.0004
P3	2C	71.8722	0.0012	0.0004	71.8734	0.0004
P3	T11	40.3663	-0.0001	0.0004	40.3662	0.0004
P3	T13	18.3384	-0.0007	0.0005	18.3377	0.0003
P3	T14	18.1577	-0.0004	0.0006	18.1573	0.0002
P3	XI	43.1723	0.0001	0.0005	43.1724	0.0002
PT2	X	45.0703	0.0000	0.0005	45.0703	0.0002
PT2	T14	7.7240	-0.0010	0.0006	7.7230	0.0001
PT2	T1	55.9224	-0.0004	0.0004	55.9220	0.0004
PT2	T2	59.5438	-0.0002	0.0004	59.5436	0.0004
PT2	T3	56.3188	-0.0000	0.0004	56.3188	0.0004
PT2	T4	48.6854	0.0001	0.0004	48.6855	0.0004
PT2	T12	28.3456	-0.0002	0.0005	28.3454	0.0002
PT2	T8	28.4664	-0.0002	0.0005	28.4662	0.0003
PT2	T9	25.0016	0.0000	0.0005	25.0016	0.0003
PT2	T10	28.1142	0.0001	0.0005	28.1143	0.0004
PT2	A	48.7124	-0.0000	0.0004	48.7124	0.0004
PT2	1A	51.3188	0.0000	0.0004	51.3188	0.0004
PT2	2A	57.5035	-0.0001	0.0004	57.5034	0.0004
PT2	B	49.1383	0.0001	0.0004	49.1384	0.0004
PT2	1B	51.4441	-0.0003	0.0004	51.4438	0.0004
PT2	C	49.0001	0.0000	0.0004	49.0001	0.0004
PT2	2B	59.7986	-0.0001	0.0004	59.7985	0.0004
PT2	D	48.0594	0.0000	0.0004	48.0594	0.0004
PT2	T11	27.1668	-0.0002	0.0004	27.1666	0.0004
PT2	2C	58.7168	-0.0013	0.0004	58.7155	0.0004
PT2	T13	4.5737	-0.0009	0.0005	4.5728	0.0003
PT2	XI	32.1324	-0.0000	0.0006	32.1324	0.0002
XI	X	18.5967	0.0001	0.0005	18.5968	0.0002
XI	P3	43.1728	-0.0004	0.0005	43.1724	0.0002
XI	PT2	32.1324	-0.0000	0.0006	32.1324	0.0002
X	P3	52.5649	-0.0004	0.0005	52.5645	0.0002
X	PT2	45.0703	0.0000	0.0005	45.0703	0.0002
X	XI	18.5967	0.0001	0.0005	18.5968	0.0002

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0004	0.0004
Avr sdX, sdY:	0.0003	0.0003

KOVARIANCNA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00042452
Sled kovariančne matrike:	0.00000405
Srednja varianca:	0.00030018
Srednja standardna deviacija:	0.01732572
Generalizirana varianca:	0.00000000
Generalizirana standardna deviacija:	0.00000000
Najmanjša lastna vrednost kov. matrike:	0.00000000
Največja lastna vrednost kov. matrike:	0.00000127
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00006869

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000027
Največja lastna vrednost:	-0.004242
Norma kovariančne matrike:	0.000930
Norma matrike kriterija:	0.004242
Razlika norm kovariančne in matrike kriterija:	0.003312
Sled matrike kriterija:	0.011017

Karakteristična razdalja $d=2/3(s_{\min})$:	1.7669
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Velikost Urp (reducirana in psevdoinverzna):	90	x	1176
Velikost vektorja q:	1176	x	1
Velikost optimiziranega vektorja uteži p:	90	x	1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ - HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
P3	X	T1	33 52 35.7	8470379	0.11	0.708718
P3	T1	T2	16 10 3.4	8321130	0.40	0.715046
P3	T2	T3	11 26 0.5	3651798	0.38	1.079373
P3	T3	T4	14 39 45.8	8718046	0.30	0.698579
P3	T12	T8	8 6 11.2	2484867	0.09	1.308499
P3	T8	T9	29 20 18.0	976482	0.10	2.087339
P3	T9	A	13 34 21.4	4718438	0.17	0.949568
P3	A	1A	0 17 51.6	7337310	0.56	0.761477
P3	1A	2A	1 38 20.6	4840943	0.56	0.937476
P3	2A	T10	1 4 53.1	4122939	0.48	1.015831
P3	T10	B	0 38 37.5	4104700	0.44	1.018086
P3	1B	2B	1 33 3.9	14100695	0.58	0.549294
P3	2B	C	0 4 30.1	5091364	0.57	0.914130
P3	C	D	4 27 21.6	9738323	0.58	0.660972
P3	D	2C	2 12 3.4	16696406	0.63	0.504793
P3	2C	T11	2 2 45.3	7612378	0.33	0.747593

P3	T13	T14	19	44	41.4	1497272	0.10	1.685679
P3	T14	XI	7	55	33.3	832032	0.16	2.261284
PT2	X	T14	4	20	41.2	69528	0.01	7.822477
PT2	T1	T2	15	6	8.4	4922034	0.42	0.929721
PT2	T2	T3	11	23	12.7	8448233	0.45	0.709647
PT2	T3	T4	14	39	36.9	3488093	0.45	1.104412
PT2	T12	T8	9	12	18.7	3099216	0.10	1.171653
PT2	T8	T9	34	27	34.7	1042748	0.09	2.019925
PT2	T9	T10	26	8	2.0	1474626	0.10	1.698573
PT2	T10	A	1	51	2.0	2871134	0.18	1.217302
PT2	A	1A	0	47	37.4	17622582	0.36	0.491349
PT2	1A	2A	2	49	58.1	10080001	0.37	0.649673
PT2	2A	B	1	1	23.8	12576781	0.39	0.581621
PT2	B	1B	2	45	17.5	15037921	0.37	0.531902
PT2	1B	C	1	43	18.8	14852557	0.37	0.535210
PT2	C	2B	1	4	32.5	7073913	0.39	0.775524
PT2	2B	D	4	27	36.5	7311181	0.36	0.762836
PT2	D	T11	2	11	31.9	2105764	0.25	1.421413
PT2	T11	2C	1	28	49.1	740039	0.34	2.397716
PT2	T13	XI	29	35	1.5	50336	0.02	9.193626
XI	X	P3	110	9	24.1	985874	0.19	2.077373
X	PT2	XI	36	39	45.5	699428	0.31	2.466345

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

P3	B	1B	1	56	54.3	-1476674	0.57
PT2	T4	P3	39	58	58.9	-1366231	0.18

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi (opt)	ri	std_d
P3	X	52.5645	473	0.83	0.000460
P3	T1	55.5029	2961	0.57	0.000184
P3	T2	55.3769	2477	0.56	0.000201
P3	T3	49.5965	1894	0.56	0.000230
P3	T4	39.0825	1521	0.58	0.000256
P3	T12	26.8285	2022	0.70	0.000222
P3	T8	29.1096	1572	0.72	0.000252
P3	T9	33.0144	187	0.76	0.000731
P3	A	60.1456	1136	0.52	0.000297
P3	1A	62.8236	1005	0.51	0.000315
P3	2A	69.2968	540	0.50	0.000430
P3	T10	39.6737	360	0.62	0.000527
P3	B	61.1092	1072	0.51	0.000305
P3	1B	63.6896	1192	0.51	0.000290
P3	2B	72.2780	759	0.50	0.000363
P3	C	61.4322	1277	0.51	0.000280
P3	D	60.9794	868	0.51	0.000339
P3	2C	71.8722	1054	0.50	0.000308
P3	T11	40.3663	1031	0.54	0.000311
P3	T13	18.3384	882	0.68	0.000337
P3	T14	18.1577	2322	0.90	0.000208
P3	XI	43.1723	187	0.88	0.000732
PT2	X	45.0703	116	0.84	0.000930

PT2	T14	7.7240	1055	0.95	0.000308
PT2	T1	55.9224	1332	0.56	0.000274
PT2	T2	59.5438	895	0.55	0.000334
PT2	T3	56.3188	453	0.56	0.000470
PT2	T4	48.6854	410	0.58	0.000494
PT2	T12	28.3456	2447	0.82	0.000202
PT2	T8	28.4664	2504	0.81	0.000200
PT2	T9	25.0016	1481	0.73	0.000260
PT2	T10	28.1142	480	0.60	0.000456
PT2	A	48.7124	1447	0.52	0.000263
PT2	1A	51.3188	1307	0.51	0.000277
PT2	2A	57.5035	778	0.50	0.000359
PT2	B	49.1383	1363	0.51	0.000271
PT2	1B	51.4441	1339	0.50	0.000273
PT2	C	49.0001	1392	0.51	0.000268
PT2	2B	59.7986	914	0.50	0.000331
PT2	D	48.0594	884	0.50	0.000336
PT2	T11	27.1668	982	0.53	0.000319
PT2	2C	58.7168	1247	0.49	0.000283
PT2	T13	4.5737	3391	0.66	0.000172
PT2	XI	32.1324	304	0.89	0.000573
XI	X	18.5967	2687	0.83	0.000193
XI	P3	43.1728	187	0.88	0.000732
XI	PT2	32.1324	304	0.89	0.000573
X	P3	52.5649	473	0.83	0.000460
X	PT2	45.0703	116	0.84	0.000930
X	XI	18.5967	2687	0.83	0.000193

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

OPAZOVANJA IN KOORDINATE MOSTE (KASTE): STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA

*H

PRIBLIZNE KOORDINATE TOCK:

X P3	33175.0298	41030.3075
X X	33213.7019	41065.9033
X XI	33195.2762	41068.4340
X PT2	33174.2267	41044.1623
X T1	33229.8776	41038.7461
X T2	33229.9348	41023.1540
X T3	33221.9563	41014.2821
X T4	33207.6049	41008.7314
X T8	33146.6767	41036.9589
X T9	33150.6886	41052.6379
X T10	33154.6569	41064.3652
X T11	33162.5754	41068.7114
X T12	33148.3016	41032.7032
X T13	33175.1244	41048.6453
X T14	33181.2516	41047.3658
X A	33141.4703	41080.2471
X B	33144.2458	41083.1230
X C	33147.4553	41085.2296
X D	33151.9813	41086.7848
X 1A	33140.2799	41082.6151
X 1B	33144.8606	41086.3695
X 2A	33138.3632	41089.0790
X 2B	33142.5276	41094.8358
X 2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

A	P3	X	T1	33	52	35.7	1.4142
A	P3	T1	T2	16	10	3.4	1.4142
A	P3	T2	T3	11	26	0.5	1.4142
A	P3	T3	T4	14	39	45.8	1.4142
A	P3	T12	T8	8	6	11.2	1.4142
A	P3	T8	T9	29	20	18.0	1.4142
A	P3	T9	A	13	34	21.4	1.4142
A	P3	A	1A	0	17	51.6	1.4142
A	P3	1A	2A	1	38	20.6	1.4142
A	P3	2A	T10	1	4	53.1	1.4142
A	P3	T10	B	0	38	37.5	1.4142
A	P3	1B	2B	1	33	3.9	1.4142
A	P3	2B	C	0	4	30.1	1.4142
A	P3	C	D	4	27	21.6	1.4142
A	P3	D	2C	2	12	3.4	1.4142
A	P3	2C	T11	2	2	45.3	1.4142
A	P3	T13	T14	19	44	41.4	1.4142
A	P3	T14	XI	7	55	33.3	1.4142
A	PT2	X	T14	4	20	41.2	1.4142
A	PT2	T1	T2	15	6	8.4	1.4142
A	PT2	T2	T3	11	23	12.7	1.4142

A	PT2	T3	T4	14	39	36.9	1.4142
A	PT2	T12	T8	9	12	18.7	1.4142
A	PT2	T8	T9	34	27	34.7	1.4142
A	PT2	T9	T10	26	8	2.0	1.4142
A	PT2	T10	A	1	51	2.0	1.4142
A	PT2	A	1A	0	47	37.4	1.4142
A	PT2	1A	2A	2	49	58.1	1.4142
A	PT2	2A	B	1	1	23.8	1.4142
A	PT2	B	1B	2	45	17.5	1.4142
A	PT2	1B	C	1	43	18.8	1.4142
A	PT2	C	2B	1	4	32.5	1.4142
A	PT2	2B	D	4	27	36.5	1.4142
A	PT2	D	T11	2	11	31.9	1.4142
A	PT2	T11	2C	1	28	49.1	1.4142
A	PT2	T13	XI	29	35	1.5	1.4142
A	XI	X	P3	110	9	24.1	1.4142
A	X	PT2	XI	36	39	45.5	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

#	-----						
D	P3	X	52.5645	0.0010			
D	P3	T1	55.5029	0.0010			
D	P3	T2	55.3769	0.0010			
D	P3	T3	49.5965	0.0010			
D	P3	T4	39.0825	0.0010			
D	P3	T12	26.8285	0.0010			
D	P3	T8	29.1096	0.0010			
D	P3	T9	33.0144	0.0010			
D	P3	A	60.1456	0.0010			
D	P3	1A	62.8236	0.0010			
D	P3	2A	69.2968	0.0010			
D	P3	T10	39.6737	0.0010			
D	P3	B	61.1092	0.0010			
D	P3	1B	63.6896	0.0010			
D	P3	2B	72.2780	0.0010			
D	P3	C	61.4322	0.0010			
D	P3	D	60.9794	0.0010			
D	P3	2C	71.8722	0.0010			
D	P3	T11	40.3663	0.0010			
D	P3	T13	18.3384	0.0010			
D	P3	T14	18.1577	0.0010			
D	P3	XI	43.1723	0.0010			
D	PT2	X	45.0703	0.0010			
D	PT2	T14	7.7240	0.0010			
D	PT2	T1	55.9224	0.0010			
D	PT2	T2	59.5438	0.0010			
D	PT2	T3	56.3188	0.0010			
D	PT2	T4	48.6854	0.0010			
D	PT2	T12	28.3456	0.0010			
D	PT2	T8	28.4664	0.0010			
D	PT2	T9	25.0016	0.0010			
D	PT2	T10	28.1142	0.0010			
D	PT2	A	48.7124	0.0010			
D	PT2	1A	51.3188	0.0010			

D	PT2	2A	57.5035	0.0010
D	PT2	B	49.1383	0.0010
D	PT2	1B	51.4441	0.0010
D	PT2	C	49.0001	0.0010
D	PT2	2B	59.7986	0.0010
D	PT2	D	48.0594	0.0010
D	PT2	T11	27.1668	0.0010
D	PT2	2C	58.7168	0.0010
D	PT2	T13	4.5737	0.0010
D	PT2	XI	32.1324	0.0010
D	XI	X	18.5967	0.0010
D	XI	P3	43.1728	0.0010
D	XI	PT2	32.1324	0.0010
D	X	P3	52.5649	0.0010
D	X	PT2	45.0703	0.0010
D	X	XI	18.5967	0.0010

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GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:21:36.3

Ime vhodne datoteke: kaste3.txt

Ime izhodne datoteke: kaste3.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
P3	33175.0298	41030.3075
X	33213.7019	41065.9033
XI	33195.2762	41068.4340
PT2	33174.2267	41044.1623
T1	33229.8776	41038.7461
T2	33229.9348	41023.1540
T3	33221.9563	41014.2821
T4	33207.6049	41008.7314
T8	33146.6767	41036.9589
T9	33150.6886	41052.6379
T10	33154.6569	41064.3652
T11	33162.5754	41068.7114
T12	33148.3016	41032.7032
T13	33175.1244	41048.6453
T14	33181.2516	41047.3658
A	33141.4703	41080.2471
B	33144.2458	41083.1230
C	33147.4553	41085.2296
D	33151.9813	41086.7848
1A	33140.2799	41082.6151
1B	33144.8606	41086.3695
2A	33138.3632	41089.0790
2B	33142.5276	41094.8358
2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
P3	X	T1	33 52 35.7	1.4142
P3	T1	T2	16 10 3.4	1.4142
P3	T2	T3	11 26 0.5	1.4142
P3	T3	T4	14 39 45.8	1.4142
P3	T12	T8	8 6 11.2	1.4142
P3	T8	T9	29 20 18.0	1.4142

P3	T9	A	13	34	21.4	1.4142
P3	A	1A	0	17	51.6	1.4142
P3	1A	2A	1	38	20.6	1.4142
P3	2A	T10	1	4	53.1	1.4142
P3	T10	B	0	38	37.5	1.4142
P3	1B	2B	1	33	3.9	1.4142
P3	2B	C	0	4	30.1	1.4142
P3	C	D	4	27	21.6	1.4142
P3	D	2C	2	12	3.4	1.4142
P3	2C	T11	2	2	45.3	1.4142
P3	T13	T14	19	44	41.4	1.4142
P3	T14	XI	7	55	33.3	1.4142
PT2	X	T14	4	20	41.2	1.4142
PT2	T1	T2	15	6	8.4	1.4142
PT2	T2	T3	11	23	12.7	1.4142
PT2	T3	T4	14	39	36.9	1.4142
PT2	T12	T8	9	12	18.7	1.4142
PT2	T8	T9	34	27	34.7	1.4142
PT2	T9	T10	26	8	2.0	1.4142
PT2	T10	A	1	51	2.0	1.4142
PT2	A	1A	0	47	37.4	1.4142
PT2	1A	2A	2	49	58.1	1.4142
PT2	2A	B	1	1	23.8	1.4142
PT2	B	1B	2	45	17.5	1.4142
PT2	1B	C	1	43	18.8	1.4142
PT2	C	2B	1	4	32.5	1.4142
PT2	2B	D	4	27	36.5	1.4142
PT2	D	T11	2	11	31.9	1.4142
PT2	T11	2C	1	28	49.1	1.4142
PT2	T13	XI	29	35	1.5	1.4142
XI	X	P3	110	9	24.1	1.4142
X	PT2	XI	36	39	45.5	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
P3	X	52.5645	0.0010
P3	T1	55.5029	0.0010
P3	T2	55.3769	0.0010
P3	T3	49.5965	0.0010
P3	T4	39.0825	0.0010
P3	T12	26.8285	0.0010
P3	T8	29.1096	0.0010
P3	T9	33.0144	0.0010
P3	A	60.1456	0.0010
P3	1A	62.8236	0.0010
P3	2A	69.2968	0.0010
P3	T10	39.6737	0.0010
P3	B	61.1092	0.0010
P3	1B	63.6896	0.0010

P3	2B	72.2780	0.0010
P3	C	61.4322	0.0010
P3	D	60.9794	0.0010
P3	2C	71.8722	0.0010
P3	T11	40.3663	0.0010
P3	T13	18.3384	0.0010
P3	T14	18.1577	0.0010
P3	XI	43.1723	0.0010

PT2	X	45.0703	0.0010
PT2	T14	7.7240	0.0010
PT2	T1	55.9224	0.0010
PT2	T2	59.5438	0.0010
PT2	T3	56.3188	0.0010
PT2	T4	48.6854	0.0010
PT2	T12	28.3456	0.0010
PT2	T8	28.4664	0.0010
PT2	T9	25.0016	0.0010
PT2	T10	28.1142	0.0010
PT2	A	48.7124	0.0010
PT2	1A	51.3188	0.0010
PT2	2A	57.5035	0.0010
PT2	B	49.1383	0.0010
PT2	1B	51.4441	0.0010
PT2	C	49.0001	0.0010
PT2	2B	59.7986	0.0010
PT2	D	48.0594	0.0010
PT2	T11	27.1668	0.0010
PT2	2C	58.7168	0.0010
PT2	T13	4.5737	0.0010
PT2	XI	32.1324	0.0010

XI	X	18.5967	0.0010
XI	P3	43.1728	0.0010
XI	PT2	32.1324	0.0010

X	P3	52.5649	0.0010
X	PT2	45.0703	0.0010
X	XI	18.5967	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	24
Stevilo vseh koordinat:	48
Stevilo vseh opazovanj:	88
# sestavljenih kotov:	38
# horizontalnih dolzin:	50
Stevilo vseh neznank:	48
Stevilo nadstevilnih opazovanj:	40

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV - KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
P3	X	T1	-2092.49	-786.32	2657.71	-2887.39	-565.22	3673.71	17.414
P3	T1	T2	-1046.51	-20.34	565.22	-3673.71	481.29	3694.05	7.973
P3	T2	T3	-862.99	-242.36	-481.29	-3694.05	1344.29	3936.41	-5.806
P3	T3	T4	-1570.82	-464.75	-1344.29	-3936.41	2915.11	4401.16	2.592
P3	T12	T8	931.41	-760.23	686.19	7655.62	-1617.60	-6895.38	-81.286
P3	T8	T9	2603.65	-2294.02	1617.60	6895.38	-4221.25	-4601.36	-27.777
P3	T9	A	-1375.89	-2689.27	4221.25	4601.36	-2845.36	-1912.09	-24.391
P3	A	1A	-109.51	-94.56	2845.36	1912.09	-2735.85	-1817.53	21.333
P3	1A	2A	-209.56	-241.41	2735.85	1817.53	-2526.29	-1576.11	-3.086
P3	2A	T10	1934.01	1091.99	2526.29	1576.11	-4460.31	-2668.10	-33.784
P3	T10	B	-1545.24	-969.03	4460.31	2668.10	-2915.06	-1699.07	26.762
P3	1B	2B	-303.36	-251.09	2853.01	1535.32	-2549.65	-1284.23	5.358
P3	2B	C	449.86	221.72	2549.65	1284.23	-2999.50	-1505.95	-2.832
P3	C	D	131.25	-228.28	2999.50	1505.95	-3130.75	-1277.67	11.467
P3	D	2C	-433.02	-295.62	3130.75	1277.67	-2697.74	-982.04	-11.703
P3	2C	T11	2162.08	594.00	2697.74	982.04	-4859.82	-1576.04	-39.742
P3	T13	T14	-575.75	-3834.46	11247.77	-58.02	-10672.02	3892.49	-5.763
P3	T14	XI	-6452.03	1651.53	10672.02	-3892.49	-4219.99	2240.95	18.077
PT2	X	T14	8876.55	-20298.06	2208.02	-4009.11	-11084.57	24307.16	-53.763
PT2	T1	T2	-865.11	430.03	-357.34	-3671.63	1222.45	3241.60	3.759
PT2	T2	T3	-721.21	136.86	-1222.45	-3241.60	1943.66	3104.74	-4.264
PT2	T3	T4	-1140.66	199.11	-1943.66	-3104.74	3084.32	2905.63	2.325
PT2	T12	T8	1109.61	352.01	-2941.93	6655.83	1832.31	-7007.84	-44.183
PT2	T8	T9	4625.54	749.40	-1832.31	7007.84	-2793.23	-7757.23	-13.734
PT2	T9	T10	2474.08	-2654.99	2793.23	7757.23	-5267.31	-5102.25	-89.533
PT2	T10	A	-2133.53	-2257.52	5267.31	5102.25	-3133.78	-2844.73	19.891
PT2	A	1A	-119.17	-183.37	3133.78	2844.73	-3014.61	-2661.35	-1.374
PT2	1A	2A	-210.26	-422.24	3014.61	2661.35	-2804.35	-2239.12	1.400
PT2	2A	B	520.81	319.65	2804.35	2239.12	-3325.16	-2558.77	11.798
PT2	B	1B	-32.25	-267.69	3325.16	2558.77	-3292.92	-2291.08	-16.761
PT2	1B	C	231.81	6.66	3292.92	2291.08	-3524.73	-2297.74	24.536
PT2	C	2B	-599.11	-467.60	3524.73	2297.74	-2925.62	-1830.14	-14.420
PT2	2B	D	877.71	154.88	2925.62	1830.14	-3803.33	-1985.02	26.363
PT2	D	T11	3054.12	1269.61	3803.33	1985.02	-6857.45	-3254.63	-75.465
PT2	T11	2C	-3644.10	-1830.95	6857.45	3254.63	-3213.35	-1423.68	48.312
PT2	T13	XI	-39386.40	4651.84	44236.63	-8858.18	-4850.24	4206.34	93.912
XI	X	P3	-2710.95	13228.10	-1509.04	-10987.15	4219.99	-2240.95	-26.569
X	PT2	XI	3717.06	6978.04	-2208.02	4009.11	-1509.04	-10987.15	5.766

ENACBE POPRAVKOV - HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
P3	X	0.7357654	0.6772365	-0.7357654	-0.6772365	-0.0041319
P3	T1	0.9883704	0.1520656	-0.9883704	-0.1520656	-0.0097370
P3	T2	0.9916190	-0.1291967	-0.9916190	0.1291967	-0.0078510
P3	T3	0.9463393	-0.3231749	-0.9463393	0.3231749	-0.0091039
P3	T4	0.8337078	-0.5522059	-0.8337078	0.5522059	-0.0099363
P3	T12	-0.9960071	0.0892740	0.9960071	-0.0892740	0.0068508

P3	T8	-0.9735694	0.2283912	0.9735694	-0.2283912	0.0132330
P3	T9	-0.7368882	0.6760147	0.7368882	-0.6760147	0.0180202
P3	A	-0.5577621	0.8300009	0.5577621	-0.8300009	0.0225285
P3	1A	-0.5533563	0.8329446	0.5533563	-0.8329446	-0.0251879
P3	2A	-0.5293179	0.8484236	0.5293179	-0.8484236	-0.0253862
P3	T10	-0.5133518	0.8581783	0.5133518	-0.8581783	0.0123427
P3	B	-0.5035654	0.8639571	0.5035654	-0.8639571	0.0228840
P3	1B	-0.4738803	0.8805893	0.4738803	-0.8805893	-0.0254148
P3	2B	-0.4498474	0.8931054	0.4498474	-0.8931054	-0.0263944
P3	C	-0.4486898	0.8936876	0.4486898	-0.8936876	0.0233947
P3	D	-0.3778484	0.9258675	0.3778484	-0.9258675	0.0199342
P3	2C	-0.3420657	0.9396760	0.3420657	-0.9396760	-0.0260565
P3	T11	-0.3084841	0.9512295	0.3084841	-0.9512295	0.0066069
P3	T13	0.0051587	0.9999867	-0.0051587	-0.9999867	-0.0003560
P3	T14	0.3426565	0.9394608	-0.3426565	-0.9394608	-0.0001563
P3	XI	0.4690052	0.8831954	-0.4690052	-0.8831954	-0.0034835
PT2	X	0.8759380	0.4824236	-0.8759380	-0.4824236	-0.0040987
PT2	T14	0.9098601	0.4149151	-0.9098601	-0.4149151	-0.0031430
PT2	T1	0.9952973	-0.0968669	-0.9952973	0.0968669	-0.0085565
PT2	T2	0.9356773	-0.3528569	-0.9356773	0.3528569	-0.0060718
PT2	T3	0.8476054	-0.5306271	-0.8476054	0.5306271	-0.0076904
PT2	T4	0.6857075	-0.7278772	-0.6857075	0.7278772	-0.0083735
PT2	T12	-0.9146367	-0.4042767	0.9146367	0.4042767	-0.0009042
PT2	T8	-0.9674761	-0.2529625	0.9674761	0.2529625	0.0097562
PT2	T9	-0.9408634	0.3387861	0.9408634	-0.3387861	0.0159528
PT2	T10	-0.6957629	0.7182715	0.6957629	-0.7182715	0.0129086
PT2	A	-0.6721338	0.7404297	0.6721338	-0.7404297	0.0225416
PT2	1A	-0.6618174	0.7496651	0.6618174	-0.7496651	-0.0254958
PT2	2A	-0.6239537	0.7814613	0.6239537	-0.7814613	-0.0256732
PT2	B	-0.6098530	0.7925146	0.6098530	-0.7925146	0.0225636
PT2	1B	-0.5711244	0.8208635	0.5711244	-0.8208635	-0.0260530
PT2	C	-0.5461014	0.8377191	0.5461014	-0.8377191	0.0226599
PT2	2B	-0.5303377	0.8477865	0.5303377	-0.8477865	-0.0270638
PT2	D	-0.4626898	0.8865202	0.4626898	-0.8865202	0.0190289
PT2	T11	-0.4287709	0.9034133	0.4287709	-0.9034133	0.0069208
PT2	2C	-0.4050755	0.9142833	0.4050755	-0.9142833	-0.0289702
PT2	T13	0.1963475	0.9805344	-0.1963475	-0.9805344	-0.0017032
PT2	XI	0.6551798	0.7554730	-0.6551798	-0.7554730	-0.0045792
XI	X	0.9906994	-0.1360688	-0.9906994	0.1360688	0.0019791
XI	P3	-0.4690052	-0.8831954	0.4690052	0.8831954	-0.0039835
XI	PT2	-0.6551798	-0.7554730	0.6551798	0.7554730	-0.0045792
X	P3	-0.7357654	-0.6772365	0.7357654	0.6772365	-0.0045319
X	PT2	-0.8759380	-0.4824236	0.8759380	0.4824236	-0.0040987
X	XI	-0.9906994	0.1360688	0.9906994	-0.1360688	0.0019791

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori:	0.75
Ref. std. odklon a-posteriori:	0.32
Globalni test:	0.19
Globalni test [SQRT]:	0.43
Matrika R [DIAG]:	43.00
Matrika R [POVPREČJE]:	0.49

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK - IZRAVNANE KOORDINATE TOČK:

TC	X0	Y0			
	dX	dY	sdX	sdY	
	X	Y	A	B	TH

P3	33175.0298	41030.3075			
	-0.0060	-0.0008	0.0001	0.0001	
	33175.0238	41030.3067	0.0001	0.0001	66.5
X	33213.7019	41065.9033			
	-0.0001	-0.0012	0.0003	0.0002	
	33213.7018	41065.9021	0.0003	0.0002	162.2
XI	33195.2762	41068.4340			
	0.0016	-0.0010	0.0003	0.0001	
	33195.2778	41068.4330	0.0003	0.0001	0.7
PT2	33174.2267	41044.1623			
	-0.0051	-0.0013	0.0001	0.0002	
	33174.2216	41044.1610	0.0002	0.0001	51.9
T1	33229.8776	41038.7461			
	0.0036	0.0008	0.0003	0.0002	
	33229.8812	41038.7469	0.0003	0.0002	149.1
T2	33229.9348	41023.1540			
	0.0021	0.0005	0.0003	0.0003	
	33229.9369	41023.1545	0.0003	0.0002	140.2
T3	33221.9563	41014.2821			
	0.0029	-0.0031	0.0003	0.0002	
	33221.9592	41014.2790	0.0003	0.0002	147.0
T4	33207.6049	41008.7314			
	0.0028	-0.0054	0.0002	0.0002	
	33207.6077	41008.7260	0.0003	0.0001	146.1
T8	33146.6767	41036.9589			
	0.0065	-0.0061	0.0002	0.0001	
	33146.6832	41036.9528	0.0002	0.0001	178.9
T9	33150.6886	41052.6379			
	0.0084	-0.0114	0.0002	0.0001	
	33150.6970	41052.6265	0.0002	0.0001	148.7

T10	33154.6569	41064.3652			
	0.0087	-0.0060	0.0002	0.0002	
	33154.6656	41064.3592	0.0003	0.0001	128.9
T11	33162.5754	41068.7114			
	0.0066	-0.0035	0.0001	0.0003	
	33162.5820	41068.7079	0.0003	0.0001	114.0
T12	33148.3016	41032.7032			
	-0.0003	-0.0140	0.0003	0.0001	
	33148.3013	41032.6892	0.0003	0.0001	5.6
T13	33175.1244	41048.6453			
	-0.0020	-0.0002	0.0002	0.0003	
	33175.1224	41048.6451	0.0004	0.0001	66.4
T14	33181.2516	41047.3658			
	-0.0019	-0.0025	0.0002	0.0001	
	33181.2497	41047.3633	0.0002	0.0001	34.5
A	33141.4703	41080.2471			
	0.0152	-0.0135	0.0002	0.0002	
	33141.4855	41080.2336	0.0003	0.0001	133.4
B	33144.2458	41083.1230			
	0.0118	-0.0167	0.0002	0.0002	
	33144.2576	41083.1063	0.0003	0.0001	130.2
C	33147.4553	41085.2296			
	0.0091	-0.0192	0.0002	0.0003	
	33147.4644	41085.2104	0.0003	0.0001	126.6
D	33151.9813	41086.7848			
	0.0031	-0.0185	0.0002	0.0003	
	33151.9844	41086.7663	0.0003	0.0001	122.5
1A	33140.2799	41082.6151			
	-0.0163	0.0227	0.0002	0.0002	
	33140.2636	41082.6378	0.0003	0.0001	133.4
1B	33144.8606	41086.3695			
	-0.0128	0.0247	0.0002	0.0002	
	33144.8478	41086.3942	0.0003	0.0001	127.6
2A	33138.3632	41089.0790			
	-0.0146	0.0237	0.0002	0.0002	
	33138.3486	41089.1027	0.0003	0.0002	133.5
2B	33142.5276	41094.8358			
	-0.0135	0.0252	0.0002	0.0003	
	33142.5141	41094.8610	0.0003	0.0002	130.2
2C	33150.4537	41097.8196			
	-0.0098	0.0269	0.0002	0.0003	
	33150.4439	41097.8465	0.0003	0.0002	124.8

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V	S_V	L_			S_L_
P3	X	T1	33	52	35.7	0.15	0.27	33	52	35.9	0.55
P3	T1	T2	16	10	3.4	-0.10	0.38	16	10	3.3	0.47
P3	T2	T3	11	26	0.5	-0.18	0.37	11	26	0.3	0.48
P3	T3	T4	14	39	45.8	0.12	0.35	14	39	45.9	0.50
P3	T12	T8	8	6	11.2	-0.06	0.26	8	6	11.1	0.55
P3	T8	T9	29	20	18.0	0.14	0.24	29	20	18.1	0.56
P3	T9	A	13	34	21.4	0.01	0.35	13	34	21.4	0.50
P3	A	1A	0	17	51.6	-0.02	0.46	0	17	51.6	0.40
P3	1A	2A	1	38	20.6	-0.73	0.46	1	38	19.9	0.40
P3	2A	T10	1	4	53.1	0.85	0.39	1	4	53.9	0.47
P3	T10	B	0	38	37.5	-0.04	0.43	0	38	37.5	0.43
P3	1B	2B	1	33	3.9	-0.17	0.48	1	33	3.7	0.37
P3	2B	C	0	4	30.1	0.55	0.46	0	4	30.7	0.40
P3	C	D	4	27	21.6	-0.16	0.47	4	27	21.4	0.39
P3	D	2C	2	12	3.4	-0.77	0.47	2	12	2.6	0.39
P3	2C	T11	2	2	45.3	0.25	0.41	2	2	45.6	0.45
P3	T13	T14	19	44	41.4	0.29	0.26	19	44	41.7	0.55
P3	T14	XI	7	55	33.3	-0.12	0.12	7	55	33.2	0.60
PT2	X	T14	4	20	41.2	-0.23	0.24	4	20	41.0	0.56
PT2	T1	T2	15	6	8.4	0.14	0.40	15	6	8.5	0.46
PT2	T2	T3	11	23	12.7	0.21	0.41	11	23	12.9	0.45
PT2	T3	T4	14	39	36.9	-0.15	0.42	14	39	36.8	0.45
PT2	T12	T8	9	12	18.7	0.06	0.29	9	12	18.8	0.53
PT2	T8	T9	34	27	34.7	-0.13	0.20	34	27	34.6	0.58
PT2	T9	T10	26	8	2.0	-0.08	0.25	26	8	1.9	0.56
PT2	T10	A	1	51	2.0	0.07	0.31	1	51	2.1	0.52
PT2	A	1A	0	47	37.4	0.01	0.37	0	47	37.4	0.48
PT2	1A	2A	2	49	58.1	0.60	0.38	2	49	58.7	0.48
PT2	2A	B	1	1	23.8	-0.94	0.41	1	1	22.9	0.45
PT2	B	1B	2	45	17.5	0.66	0.46	2	45	18.2	0.40
PT2	1B	C	1	43	18.8	-0.68	0.40	1	43	18.1	0.46
PT2	C	2B	1	4	32.5	0.44	0.38	1	4	32.9	0.48
PT2	2B	D	4	27	36.5	-0.31	0.37	4	27	36.2	0.48
PT2	D	T11	2	11	31.9	0.30	0.32	2	11	32.2	0.52
PT2	T11	2C	1	28	49.1	0.33	0.31	1	28	49.4	0.52
PT2	T13	XI	29	35	1.5	-0.38	0.25	29	35	1.1	0.56
XI	X	P3	110	9	24.1	0.45	0.21	110	9	24.5	0.57
X	PT2	XI	36	39	45.5	0.60	0.30	36	39	46.1	0.53

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
P3	X	52.5645	-0.0001	0.0004	52.5644	0.0002
P3	T1	55.5029	-0.0000	0.0003	55.5029	0.0003
P3	T2	55.3769	-0.0000	0.0003	55.3769	0.0003

P3	T3	49.5965	0.0001	0.0003	49.5966	0.0003
P3	T4	39.0825	-0.0000	0.0003	39.0825	0.0003
P3	T12	26.8285	0.0000	0.0004	26.8285	0.0002
P3	T8	29.1096	-0.0001	0.0004	29.1095	0.0002
P3	T9	33.0144	0.0002	0.0004	33.0146	0.0002
P3	A	60.1456	0.0001	0.0003	60.1457	0.0003
P3	1A	62.8236	0.0001	0.0003	62.8237	0.0003
P3	2A	69.2968	-0.0001	0.0003	69.2967	0.0003
P3	T10	39.6737	0.0003	0.0003	39.6740	0.0003
P3	B	61.1092	0.0001	0.0003	61.1093	0.0003
P3	1B	63.6896	0.0002	0.0003	63.6898	0.0003
P3	2B	72.2780	0.0001	0.0003	72.2781	0.0003
P3	C	61.4322	0.0002	0.0003	61.4324	0.0003
P3	D	60.9794	0.0001	0.0003	60.9795	0.0003
P3	2C	71.8722	0.0012	0.0003	71.8734	0.0003
P3	T11	40.3663	0.0001	0.0003	40.3664	0.0003
P3	T13	18.3384	0.0002	0.0003	18.3386	0.0003
P3	T14	18.1577	-0.0004	0.0004	18.1573	0.0001
P3	XI	43.1723	-0.0001	0.0004	43.1722	0.0002
PT2	X	45.0703	0.0003	0.0004	45.0706	0.0002
PT2	T14	7.7240	-0.0007	0.0004	7.7233	0.0001
PT2	T1	55.9224	-0.0001	0.0003	55.9223	0.0003
PT2	T2	59.5438	-0.0000	0.0003	59.5438	0.0003
PT2	T3	56.3188	0.0000	0.0003	56.3188	0.0003
PT2	T4	48.6854	0.0000	0.0003	48.6854	0.0003
PT2	T12	28.3456	-0.0001	0.0004	28.3455	0.0002
PT2	T8	28.4664	-0.0002	0.0004	28.4662	0.0002
PT2	T9	25.0016	-0.0001	0.0004	25.0015	0.0002
PT2	T10	28.1142	-0.0001	0.0003	28.1141	0.0003
PT2	A	48.7124	-0.0001	0.0003	48.7123	0.0003
PT2	1A	51.3188	-0.0000	0.0003	51.3188	0.0003
PT2	2A	57.5035	-0.0002	0.0003	57.5033	0.0003
PT2	B	49.1383	0.0001	0.0003	49.1384	0.0003
PT2	1B	51.4441	-0.0003	0.0003	51.4438	0.0003
PT2	C	49.0001	-0.0000	0.0003	49.0001	0.0003
PT2	2B	59.7986	-0.0001	0.0003	59.7985	0.0003
PT2	D	48.0594	0.0000	0.0003	48.0594	0.0003
PT2	T11	27.1668	-0.0001	0.0003	27.1667	0.0003
PT2	2C	58.7168	-0.0013	0.0003	58.7155	0.0003
PT2	T13	4.5737	0.0000	0.0003	4.5737	0.0003
PT2	XI	32.1324	0.0001	0.0004	32.1325	0.0001
XI	X	18.5967	0.0003	0.0004	18.5970	0.0002
XI	P3	43.1728	-0.0006	0.0004	43.1722	0.0002
XI	PT2	32.1324	0.0001	0.0004	32.1325	0.0001
X	P3	52.5649	-0.0005	0.0004	52.5644	0.0002
X	PT2	45.0703	0.0003	0.0004	45.0706	0.0002
X	XI	18.5967	0.0003	0.0004	18.5970	0.0002

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrez...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0003	0.0003
Avr sdX, sdY:	0.0002	0.0002

KOVARIANCNA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D:	0.00032337
Sled kovariancne matrike:	0.00000235
Srednja varianca:	0.00022866
Srednja standardna deviacija:	0.01512143
Generalizirana varianca:	0.00000000
Generalizirana standardna deviacija:	0.00000000
Najmanjša lastna vrednost kov. matrike:	0.00000000
Največja lastna vrednost kov. matrike:	0.00000081
Razmerje najmanjše in največje lastne vrednosti kov. matrike:	0.00006373

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija:	0.000518
Največja lastna vrednost:	0.022637
Norma kovariancne matrike:	0.002145
Norma matrike kriterija:	0.022637
Razlika norm kovariancne in matrike kriterija:	0.020492
Sled matrike kriterija:	0.039874

Karakteristicna razdalja $d=2/3(s_{\min})$:	1.7669
--	--------

Velikost Urp (reducirana in psevdoinverzna):	88	x	1176
Velikost vektorja q:	1176	x	1
Velikost optimiziranega vektorja uteži p:	88	x	1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k

P3	X	T1	33 52 35.7	7957197	0.05	0.731215
P3	T1	T2	16 10 3.4	7161891	0.38	0.770746
P3	T2	T3	11 26 0.5	1715929	0.36	1.574619
P3	T3	T4	14 39 45.8	4610913	0.29	0.960576
P3	T12	T8	8 6 11.2	2363119	0.07	1.341783
P3	T8	T9	29 20 18.0	1079760	0.10	1.985004
P3	T9	A	13 34 21.4	4865888	0.18	0.935070
P3	A	1A	0 17 51.6	7328797	0.56	0.761919
P3	1A	2A	1 38 20.6	4771045	0.57	0.944318
P3	2A	T10	1 4 53.1	3784606	0.40	1.060266
P3	T10	B	0 38 37.5	4080690	0.40	1.021077
P3	1B	2B	1 33 3.9	14110229	0.47	0.549108
P3	2B	C	0 4 30.1	4617932	0.56	0.959846
P3	C	D	4 27 21.6	9782330	0.59	0.659484
P3	D	2C	2 12 3.4	16749168	0.63	0.503998
P3	2C	T11	2 2 45.3	7211636	0.36	0.768083
P3	T13	T14	19 44 41.4	1660964	0.04	1.600461
P3	T14	XI	7 55 33.3	666205	0.05	2.527092
PT2	X	T14	4 20 41.2	76859	0.01	7.440080
PT2	T1	T2	15 6 8.4	6277517	0.42	0.823249
PT2	T2	T3	11 23 12.7	11086978	0.45	0.619468
PT2	T3	T4	14 39 36.9	9179452	0.45	0.680796

PT2	T12	T8	9	12	18.7	3298981	0.07	1.135626
PT2	T8	T9	34	27	34.7	904167	0.09	2.169207
PT2	T9	T10	26	8	2.0	1504509	0.10	1.681619
PT2	T10	A	1	51	2.0	2960803	0.19	1.198727
PT2	A	1A	0	47	37.4	17637179	0.36	0.491146
PT2	1A	2A	2	49	58.1	10268547	0.37	0.643681
PT2	2A	B	1	1	23.8	12634457	0.48	0.580292
PT2	B	1B	2	45	17.5	14107467	0.02	0.549162
PT2	1B	C	1	43	18.8	14839424	0.48	0.535447
PT2	C	2B	1	4	32.5	7376689	0.39	0.759442
PT2	2B	D	4	27	36.5	7206363	0.36	0.768364
PT2	D	T11	2	11	31.9	2098708	0.25	1.423801
PT2	T11	2C	1	28	49.1	758847	0.34	2.367817
PT2	T13	XI	29	35	1.5	32764	0.01	11.395363
XI	X	P3	110	9	24.1	958840	0.11	2.106454
X	PT2	XI	36	39	45.5	850923	0.24	2.236042

IZLOCENA OPAZOVANJA – HORIZONTALNI KOTI:

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	pi (opt)	ri	std_d
P3	X	52.5645	174	0.83	0.000759
P3	T1	55.5029	2167	0.56	0.000215
P3	T2	55.3769	1695	0.55	0.000243
P3	T3	49.5965	1081	0.55	0.000304
P3	T4	39.0825	593	0.57	0.000411
P3	T12	26.8285	1180	0.71	0.000291
P3	T8	29.1096	884	0.72	0.000336
P3	T9	33.0144	93	0.76	0.001035
P3	A	60.1456	1165	0.52	0.000293
P3	1A	62.8236	1034	0.51	0.000311
P3	2A	69.2968	580	0.50	0.000415
P3	T10	39.6737	462	0.62	0.000465
P3	B	61.1092	1142	0.52	0.000296
P3	1B	63.6896	1271	0.50	0.000281
P3	2B	72.2780	832	0.50	0.000347
P3	C	61.4322	1357	0.51	0.000271
P3	D	60.9794	964	0.50	0.000322
P3	2C	71.8722	1144	0.49	0.000296
P3	T11	40.3663	1154	0.53	0.000294
P3	T13	18.3384	909	0.57	0.000332
P3	T14	18.1577	2312	0.89	0.000208
P3	XI	43.1723	22	0.87	0.002145
PT2	T14	7.7240	571	0.94	0.000419
PT2	T1	55.9224	1061	0.55	0.000307
PT2	T2	59.5438	641	0.55	0.000395
PT2	T3	56.3188	285	0.56	0.000593
PT2	T4	48.6854	548	0.58	0.000427
PT2	T12	28.3456	2320	0.84	0.000208
PT2	T8	28.4664	2219	0.81	0.000212
PT2	T9	25.0016	868	0.73	0.000339
PT2	T10	28.1142	186	0.58	0.000734

PT2	A	48.7124	1192	0.51	0.000290
PT2	1A	51.3188	1071	0.51	0.000306
PT2	2A	57.5035	600	0.50	0.000408
PT2	B	49.1383	1188	0.51	0.000290
PT2	1B	51.4441	1214	0.51	0.000287
PT2	C	49.0001	1295	0.51	0.000278
PT2	2B	59.7986	845	0.50	0.000344
PT2	D	48.0594	877	0.50	0.000338
PT2	T11	27.1668	1009	0.52	0.000315
PT2	2C	58.7168	1300	0.49	0.000277
PT2	T13	4.5737	3665	0.53	0.000165
PT2	XI	32.1324	247	0.89	0.000637
XI	X	18.5967	2811	0.83	0.000189
XI	P3	43.1728	22	0.87	0.002145
XI	PT2	32.1324	247	0.89	0.000637
X	P3	52.5649	174	0.83	0.000759
X	XI	18.5967	2811	0.83	0.000189

IZLOCENA OPAZOVANJA – HORIZONTALNE DOLZINE:

PT2	X	45.0703	-34	0.82
X	PT2	45.0703	-34	0.82

OPAZOVANJA IN KOORDINATE MOSTE (KASTE): STOPINJE (dms)

#GEODETSKI DATUM: PROSTA MREZA
*H

PRIBLIZNE KOORDINATE TOCK:

X P3	33175.0298	41030.3075
X X	33213.7019	41065.9033
X XI	33195.2762	41068.4340
X PT2	33174.2267	41044.1623
X T1	33229.8776	41038.7461
X T2	33229.9348	41023.1540
X T3	33221.9563	41014.2821
X T4	33207.6049	41008.7314
X T8	33146.6767	41036.9589
X T9	33150.6886	41052.6379
X T10	33154.6569	41064.3652
X T11	33162.5754	41068.7114
X T12	33148.3016	41032.7032
X T13	33175.1244	41048.6453
X T14	33181.2516	41047.3658
X A	33141.4703	41080.2471
X B	33144.2458	41083.1230
X C	33147.4553	41085.2296
X D	33151.9813	41086.7848
X 1A	33140.2799	41082.6151
X 1B	33144.8606	41086.3695
X 2A	33138.3632	41089.0790
X 2B	33142.5276	41094.8358
X 2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

A	P3	X	T1	33	52	35.7	1.4142
A	P3	T1	T2	16	10	3.4	1.4142
A	P3	T2	T3	11	26	0.5	1.4142
A	P3	T3	T4	14	39	45.8	1.4142
A	P3	T12	T8	8	6	11.2	1.4142
A	P3	T8	T9	29	20	18.0	1.4142
A	P3	T9	A	13	34	21.4	1.4142
A	P3	A	1A	0	17	51.6	1.4142
A	P3	1A	2A	1	38	20.6	1.4142
A	P3	2A	T10	1	4	53.1	1.4142
A	P3	T10	B	0	38	37.5	1.4142
A	P3	1B	2B	1	33	3.9	1.4142
A	P3	2B	C	0	4	30.1	1.4142
A	P3	C	D	4	27	21.6	1.4142
A	P3	D	2C	2	12	3.4	1.4142
A	P3	2C	T11	2	2	45.3	1.4142
A	P3	T13	T14	19	44	41.4	1.4142
A	P3	T14	XI	7	55	33.3	1.4142
A	PT2	X	T14	4	20	41.2	1.4142
A	PT2	T1	T2	15	6	8.4	1.4142
A	PT2	T2	T3	11	23	12.7	1.4142

A	PT2	T3	T4	14	39	36.9	1.4142
A	PT2	T12	T8	9	12	18.7	1.4142
A	PT2	T8	T9	34	27	34.7	1.4142
A	PT2	T9	T10	26	8	2.0	1.4142
A	PT2	T10	A	1	51	2.0	1.4142
A	PT2	A	1A	0	47	37.4	1.4142
A	PT2	1A	2A	2	49	58.1	1.4142
A	PT2	2A	B	1	1	23.8	1.4142
A	PT2	B	1B	2	45	17.5	1.4142
A	PT2	1B	C	1	43	18.8	1.4142
A	PT2	C	2B	1	4	32.5	1.4142
A	PT2	2B	D	4	27	36.5	1.4142
A	PT2	D	T11	2	11	31.9	1.4142
A	PT2	T11	2C	1	28	49.1	1.4142
A	PT2	T13	XI	29	35	1.5	1.4142
A	XI	X	P3	110	9	24.1	1.4142
A	X	PT2	XI	36	39	45.5	1.4142

OPAZOVANE HORIZONTALNE DOLZINE:

#	-----						
D	P3	X	52.5645	0.0010			
D	P3	T1	55.5029	0.0010			
D	P3	T2	55.3769	0.0010			
D	P3	T3	49.5965	0.0010			
D	P3	T4	39.0825	0.0010			
D	P3	T12	26.8285	0.0010			
D	P3	T8	29.1096	0.0010			
D	P3	T9	33.0144	0.0010			
D	P3	A	60.1456	0.0010			
D	P3	1A	62.8236	0.0010			
D	P3	2A	69.2968	0.0010			
D	P3	T10	39.6737	0.0010			
D	P3	B	61.1092	0.0010			
D	P3	1B	63.6896	0.0010			
D	P3	2B	72.2780	0.0010			
D	P3	C	61.4322	0.0010			
D	P3	D	60.9794	0.0010			
D	P3	2C	71.8722	0.0010			
D	P3	T11	40.3663	0.0010			
D	P3	T13	18.3384	0.0010			
D	P3	T14	18.1577	0.0010			
D	P3	XI	43.1723	0.0010			
D	PT2	T14	7.7240	0.0010			
D	PT2	T1	55.9224	0.0010			
D	PT2	T2	59.5438	0.0010			
D	PT2	T3	56.3188	0.0010			
D	PT2	T4	48.6854	0.0010			
D	PT2	T12	28.3456	0.0010			
D	PT2	T8	28.4664	0.0010			
D	PT2	T9	25.0016	0.0010			
D	PT2	T10	28.1142	0.0010			
D	PT2	A	48.7124	0.0010			
D	PT2	1A	51.3188	0.0010			
D	PT2	2A	57.5035	0.0010			

D	PT2	B	49.1383	0.0010
D	PT2	1B	51.4441	0.0010
D	PT2	C	49.0001	0.0010
D	PT2	2B	59.7986	0.0010
D	PT2	D	48.0594	0.0010
D	PT2	T11	27.1668	0.0010
D	PT2	2C	58.7168	0.0010
D	PT2	T13	4.5737	0.0010
D	PT2	XI	32.1324	0.0010
D	XI	X	18.5967	0.0010
D	XI	P3	43.1728	0.0010
D	XI	PT2	32.1324	0.0010
D	X	P3	52.5649	0.0010
D	X	XI	18.5967	0.0010

*K

GM2R - GEODETSKA 2D MREZA

Opazovanja: Hz smeri, Hz dolzine

Avtor: Oskar Sterle (c) Copyright

Datum in cas: 16-MAJ-2016 13:24:00.7

Ime vhodne datoteke: kaste4.txt

Ime izhodne datoteke: kaste4.GM3

BRANJE DATOTEKE S PODATKI:

DANE IN A-PRIORI KOORDINATE TOCK

TC	X	Y
P3	33175.0298	41030.3075
X	33213.7019	41065.9033
XI	33195.2762	41068.4340
PT2	33174.2267	41044.1623
T1	33229.8776	41038.7461
T2	33229.9348	41023.1540
T3	33221.9563	41014.2821
T4	33207.6049	41008.7314
T8	33146.6767	41036.9589
T9	33150.6886	41052.6379
T10	33154.6569	41064.3652
T11	33162.5754	41068.7114
T12	33148.3016	41032.7032
T13	33175.1244	41048.6453
T14	33181.2516	41047.3658
A	33141.4703	41080.2471
B	33144.2458	41083.1230
C	33147.4553	41085.2296
D	33151.9813	41086.7848
1A	33140.2799	41082.6151
1B	33144.8606	41086.3695
2A	33138.3632	41089.0790
2B	33142.5276	41094.8358
2C	33150.4537	41097.8196

SESTAVLJENI KOTI:

S	Z1	Z2	KOT[DMS]	KK['']
P3	X	T1	33 52 35.7	1.4142
P3	T1	T2	16 10 3.4	1.4142
P3	T2	T3	11 26 0.5	1.4142
P3	T3	T4	14 39 45.8	1.4142
P3	T12	T8	8 6 11.2	1.4142
P3	T8	T9	29 20 18.0	1.4142

P3	T9	A	13	34	21.4	1.4142
P3	A	1A	0	17	51.6	1.4142
P3	1A	2A	1	38	20.6	1.4142
P3	2A	T10	1	4	53.1	1.4142
P3	T10	B	0	38	37.5	1.4142
P3	1B	2B	1	33	3.9	1.4142
P3	2B	C	0	4	30.1	1.4142
P3	C	D	4	27	21.6	1.4142
P3	D	2C	2	12	3.4	1.4142
P3	2C	T11	2	2	45.3	1.4142
P3	T13	T14	19	44	41.4	1.4142
P3	T14	XI	7	55	33.3	1.4142
PT2	X	T14	4	20	41.2	1.4142
PT2	T1	T2	15	6	8.4	1.4142
PT2	T2	T3	11	23	12.7	1.4142
PT2	T3	T4	14	39	36.9	1.4142
PT2	T12	T8	9	12	18.7	1.4142
PT2	T8	T9	34	27	34.7	1.4142
PT2	T9	T10	26	8	2.0	1.4142
PT2	T10	A	1	51	2.0	1.4142
PT2	A	1A	0	47	37.4	1.4142
PT2	1A	2A	2	49	58.1	1.4142
PT2	2A	B	1	1	23.8	1.4142
PT2	B	1B	2	45	17.5	1.4142
PT2	1B	C	1	43	18.8	1.4142
PT2	C	2B	1	4	32.5	1.4142
PT2	2B	D	4	27	36.5	1.4142
PT2	D	T11	2	11	31.9	1.4142
PT2	T11	2C	1	28	49.1	1.4142
PT2	T13	XI	29	35	1.5	1.4142
XI	X	P3	110	9	24.1	1.4142
X	PT2	XI	36	39	45.5	1.4142

HORIZONTALNE DOLZINE:

TCDZ	TCDS	DOL [m]	SD [m]
P3	X	52.5645	0.0010
P3	T1	55.5029	0.0010
P3	T2	55.3769	0.0010
P3	T3	49.5965	0.0010
P3	T4	39.0825	0.0010
P3	T12	26.8285	0.0010
P3	T8	29.1096	0.0010
P3	T9	33.0144	0.0010
P3	A	60.1456	0.0010
P3	1A	62.8236	0.0010
P3	2A	69.2968	0.0010
P3	T10	39.6737	0.0010
P3	B	61.1092	0.0010
P3	1B	63.6896	0.0010

P3	2B	72.2780	0.0010
P3	C	61.4322	0.0010
P3	D	60.9794	0.0010
P3	2C	71.8722	0.0010
P3	T11	40.3663	0.0010
P3	T13	18.3384	0.0010
P3	T14	18.1577	0.0010
P3	XI	43.1723	0.0010

PT2	T14	7.7240	0.0010
PT2	T1	55.9224	0.0010
PT2	T2	59.5438	0.0010
PT2	T3	56.3188	0.0010
PT2	T4	48.6854	0.0010
PT2	T12	28.3456	0.0010
PT2	T8	28.4664	0.0010
PT2	T9	25.0016	0.0010
PT2	T10	28.1142	0.0010
PT2	A	48.7124	0.0010
PT2	1A	51.3188	0.0010
PT2	2A	57.5035	0.0010
PT2	B	49.1383	0.0010
PT2	1B	51.4441	0.0010
PT2	C	49.0001	0.0010
PT2	2B	59.7986	0.0010
PT2	D	48.0594	0.0010
PT2	T11	27.1668	0.0010
PT2	2C	58.7168	0.0010
PT2	T13	4.5737	0.0010
PT2	XI	32.1324	0.0010

XI	X	18.5967	0.0010
XI	P3	43.1728	0.0010
XI	PT2	32.1324	0.0010

X	P3	52.5649	0.0010
X	XI	18.5967	0.0010

POVZETEK BRANJA PODATKOV IN OPAZOVANJ:

Stevilo vseh tock:	24
Stevilo vseh koordinat:	48
Stevilo vseh opazovanj:	86
# sestavljenih kotov:	38
# horizontalnih dolzin:	48
Stevilo vseh neznank:	48
Stevilo nadstevilnih opazovanj:	38

SESTAVLJAM GMM MODEL – ENACBE POPRAVKOV:

ENACBE POPRAVKOV – KOTI:

Z	S1	S2	CZX	CZY	CS1X	CS1Y	CS2X	CS2Y	f
P3	X	T1	-2092.49	-786.32	2657.71	-2887.39	-565.22	3673.71	17.414
P3	T1	T2	-1046.51	-20.34	565.22	-3673.71	481.29	3694.05	7.973
P3	T2	T3	-862.99	-242.36	-481.29	-3694.05	1344.29	3936.41	-5.806
P3	T3	T4	-1570.82	-464.75	-1344.29	-3936.41	2915.11	4401.16	2.592
P3	T12	T8	931.41	-760.23	686.19	7655.62	-1617.60	-6895.38	-81.286
P3	T8	T9	2603.65	-2294.02	1617.60	6895.38	-4221.25	-4601.36	-27.777
P3	T9	A	-1375.89	-2689.27	4221.25	4601.36	-2845.36	-1912.09	-24.391
P3	A	1A	-109.51	-94.56	2845.36	1912.09	-2735.85	-1817.53	21.333
P3	1A	2A	-209.56	-241.41	2735.85	1817.53	-2526.29	-1576.11	-3.086
P3	2A	T10	1934.01	1091.99	2526.29	1576.11	-4460.31	-2668.10	-33.784
P3	T10	B	-1545.24	-969.03	4460.31	2668.10	-2915.06	-1699.07	26.762
P3	1B	2B	-303.36	-251.09	2853.01	1535.32	-2549.65	-1284.23	5.358
P3	2B	C	449.86	221.72	2549.65	1284.23	-2999.50	-1505.95	-2.832
P3	C	D	131.25	-228.28	2999.50	1505.95	-3130.75	-1277.67	11.467
P3	D	2C	-433.02	-295.62	3130.75	1277.67	-2697.74	-982.04	-11.703
P3	2C	T11	2162.08	594.00	2697.74	982.04	-4859.82	-1576.04	-39.742
P3	T13	T14	-575.75	-3834.46	11247.77	-58.02	-10672.02	3892.49	-5.763
P3	T14	XI	-6452.03	1651.53	10672.02	-3892.49	-4219.99	2240.95	18.077
PT2	X	T14	8876.55	-20298.06	2208.02	-4009.11	-11084.57	24307.16	-53.763
PT2	T1	T2	-865.11	430.03	-357.34	-3671.63	1222.45	3241.60	3.759
PT2	T2	T3	-721.21	136.86	-1222.45	-3241.60	1943.66	3104.74	-4.264
PT2	T3	T4	-1140.66	199.11	-1943.66	-3104.74	3084.32	2905.63	2.325
PT2	T12	T8	1109.61	352.01	-2941.93	6655.83	1832.31	-7007.84	-44.183
PT2	T8	T9	4625.54	749.40	-1832.31	7007.84	-2793.23	-7757.23	-13.734
PT2	T9	T10	2474.08	-2654.99	2793.23	7757.23	-5267.31	-5102.25	-89.533
PT2	T10	A	-2133.53	-2257.52	5267.31	5102.25	-3133.78	-2844.73	19.891
PT2	A	1A	-119.17	-183.37	3133.78	2844.73	-3014.61	-2661.35	-1.374
PT2	1A	2A	-210.26	-422.24	3014.61	2661.35	-2804.35	-2239.12	1.400
PT2	2A	B	520.81	319.65	2804.35	2239.12	-3325.16	-2558.77	11.798
PT2	B	1B	-32.25	-267.69	3325.16	2558.77	-3292.92	-2291.08	-16.761
PT2	1B	C	231.81	6.66	3292.92	2291.08	-3524.73	-2297.74	24.536
PT2	C	2B	-599.11	-467.60	3524.73	2297.74	-2925.62	-1830.14	-14.420
PT2	2B	D	877.71	154.88	2925.62	1830.14	-3803.33	-1985.02	26.363
PT2	D	T11	3054.12	1269.61	3803.33	1985.02	-6857.45	-3254.63	-75.465
PT2	T11	2C	-3644.10	-1830.95	6857.45	3254.63	-3213.35	-1423.68	48.312
PT2	T13	XI	-39386.40	4651.84	44236.63	-8858.18	-4850.24	4206.34	93.912
XI	X	P3	-2710.95	13228.10	-1509.04	-10987.15	4219.99	-2240.95	-26.569
X	PT2	XI	3717.06	6978.04	-2208.02	4009.11	-1509.04	-10987.15	5.766

ENACBE POPRAVKOV – HORIZONTALNE DOLZINE:

Z	S	CZX	CZY	CSX	CSY	f
P3	X	0.7357654	0.6772365	-0.7357654	-0.6772365	-0.0041319
P3	T1	0.9883704	0.1520656	-0.9883704	-0.1520656	-0.0097370
P3	T2	0.9916190	-0.1291967	-0.9916190	0.1291967	-0.0078510
P3	T3	0.9463393	-0.3231749	-0.9463393	0.3231749	-0.0091039
P3	T4	0.8337078	-0.5522059	-0.8337078	0.5522059	-0.0099363
P3	T12	-0.9960071	0.0892740	0.9960071	-0.0892740	0.0068508
P3	T8	-0.9735694	0.2283912	0.9735694	-0.2283912	0.0132330
P3	T9	-0.7368882	0.6760147	0.7368882	-0.6760147	0.0180202

P3	A	-0.5577621	0.8300009	0.5577621	-0.8300009	0.0225285
P3	1A	-0.5533563	0.8329446	0.5533563	-0.8329446	-0.0251879
P3	2A	-0.5293179	0.8484236	0.5293179	-0.8484236	-0.0253862
P3	T10	-0.5133518	0.8581783	0.5133518	-0.8581783	0.0123427
P3	B	-0.5035654	0.8639571	0.5035654	-0.8639571	0.0228840
P3	1B	-0.4738803	0.8805893	0.4738803	-0.8805893	-0.0254148
P3	2B	-0.4498474	0.8931054	0.4498474	-0.8931054	-0.0263944
P3	C	-0.4486898	0.8936876	0.4486898	-0.8936876	0.0233947
P3	D	-0.3778484	0.9258675	0.3778484	-0.9258675	0.0199342
P3	2C	-0.3420657	0.9396760	0.3420657	-0.9396760	-0.0260565
P3	T11	-0.3084841	0.9512295	0.3084841	-0.9512295	0.0066069
P3	T13	0.0051587	0.9999867	-0.0051587	-0.9999867	-0.0003560
P3	T14	0.3426565	0.9394608	-0.3426565	-0.9394608	-0.0001563
P3	XI	0.4690052	0.8831954	-0.4690052	-0.8831954	-0.0034835
PT2	T14	0.9098601	0.4149151	-0.9098601	-0.4149151	-0.0031430
PT2	T1	0.9952973	-0.0968669	-0.9952973	0.0968669	-0.0085565
PT2	T2	0.9356773	-0.3528569	-0.9356773	0.3528569	-0.0060718
PT2	T3	0.8476054	-0.5306271	-0.8476054	0.5306271	-0.0076904
PT2	T4	0.6857075	-0.7278772	-0.6857075	0.7278772	-0.0083735
PT2	T12	-0.9146367	-0.4042767	0.9146367	0.4042767	-0.0009042
PT2	T8	-0.9674761	-0.2529625	0.9674761	0.2529625	0.0097562
PT2	T9	-0.9408634	0.3387861	0.9408634	-0.3387861	0.0159528
PT2	T10	-0.6957629	0.7182715	0.6957629	-0.7182715	0.0129086
PT2	A	-0.6721338	0.7404297	0.6721338	-0.7404297	0.0225416
PT2	1A	-0.6618174	0.7496651	0.6618174	-0.7496651	-0.0254958
PT2	2A	-0.6239537	0.7814613	0.6239537	-0.7814613	-0.0256732
PT2	B	-0.6098530	0.7925146	0.6098530	-0.7925146	0.0225636
PT2	1B	-0.5711244	0.8208635	0.5711244	-0.8208635	-0.0260530
PT2	C	-0.5461014	0.8377191	0.5461014	-0.8377191	0.0226599
PT2	2B	-0.5303377	0.8477865	0.5303377	-0.8477865	-0.0270638
PT2	D	-0.4626898	0.8865202	0.4626898	-0.8865202	0.0190289
PT2	T11	-0.4287709	0.9034133	0.4287709	-0.9034133	0.0069208
PT2	2C	-0.4050755	0.9142833	0.4050755	-0.9142833	-0.0289702
PT2	T13	0.1963475	0.9805344	-0.1963475	-0.9805344	-0.0017032
PT2	XI	0.6551798	0.7554730	-0.6551798	-0.7554730	-0.0045792
XI	X	0.9906994	-0.1360688	-0.9906994	0.1360688	0.0019791
XI	P3	-0.4690052	-0.8831954	0.4690052	0.8831954	-0.0039835
XI	PT2	-0.6551798	-0.7554730	0.6551798	0.7554730	-0.0045792
X	P3	-0.7357654	-0.6772365	0.7357654	0.6772365	-0.0045319
X	XI	-0.9906994	0.1360688	0.9906994	-0.1360688	0.0019791

GEODETSKI DATUM MREZE:

Zagotovitev geodetskega datuma: notranje vezi (prosta mreza)

RESITEV MATEMATICNEGA MODELA IZRAVNAVE

Rezultati obdelave geodetske mreze:

Globalni test:

Ref. std. odklon a-priori: 0.75

Ref. std. odklon a-posteriori: 0.32

Globalni test: 0.19

Globalni test [SQRT]: 0.43

Matrika R [DIAG]: 41.00
Matrika R [POVPRECJE]: 0.48

IZPIS REZULTATOV OBDELAVE GEODETSKE MREZE:

IZRAVNANE VREDNOSTI NEZNANK – IZRAVNANE KOORDINATE TOCK:

TC	X0 dX X	Y0 dY Y	sdX A	sdY B	TH
P3	33175.0298 -0.0060 33175.0238	41030.3075 -0.0007 41030.3068	0.0001 0.0001 0.0001	0.0001 0.0001 0.0001	66.5
X	33213.7019 0.0000 33213.7019	41065.9033 -0.0011 41065.9022	0.0003 0.0003 0.0003	0.0002 0.0002 0.0002	167.2
XI	33195.2762 0.0016 33195.2778	41068.4340 -0.0009 41068.4331	0.0003 0.0003 0.0003	0.0001 0.0001 0.0001	1.6
PT2	33174.2267 -0.0051 33174.2216	41044.1623 -0.0013 41044.1610	0.0001 0.0001 0.0002	0.0002 0.0001 0.0001	51.9
T1	33229.8776 0.0036 33229.8812	41038.7461 0.0008 41038.7469	0.0003 0.0003 0.0003	0.0002 0.0002 0.0002	148.7
T2	33229.9348 0.0021 33229.9369	41023.1540 0.0004 41023.1544	0.0003 0.0003 0.0003	0.0003 0.0002 0.0002	139.8
T3	33221.9563 0.0029 33221.9592	41014.2821 -0.0031 41014.2790	0.0003 0.0003 0.0003	0.0002 0.0002 0.0002	147.0
T4	33207.6049 0.0028 33207.6077	41008.7314 -0.0054 41008.7260	0.0002 0.0003 0.0003	0.0002 0.0001 0.0001	146.3
T8	33146.6767 0.0065 33146.6832	41036.9589 -0.0061 41036.9528	0.0002 0.0002 0.0002	0.0001 0.0001 0.0001	178.9
T9	33150.6886 0.0084 33150.6970	41052.6379 -0.0114 41052.6265	0.0002 0.0002 0.0002	0.0001 0.0001 0.0001	148.5
T10	33154.6569 0.0087 33154.6656	41064.3652 -0.0060 41064.3592	0.0002 0.0003 0.0003	0.0002 0.0001 0.0001	128.9

T11	33162.5754	41068.7114			
	0.0066	-0.0036	0.0001	0.0003	
	33162.5820	41068.7078	0.0003	0.0001	114.0
T12	33148.3016	41032.7032			
	-0.0003	-0.0140	0.0003	0.0001	
	33148.3013	41032.6892	0.0003	0.0001	5.6
T13	33175.1244	41048.6453			
	-0.0020	-0.0001	0.0002	0.0003	
	33175.1224	41048.6452	0.0004	0.0001	66.5
T14	33181.2516	41047.3658			
	-0.0019	-0.0025	0.0002	0.0001	
	33181.2497	41047.3633	0.0002	0.0001	34.6
A	33141.4703	41080.2471			
	0.0152	-0.0135	0.0002	0.0002	
	33141.4855	41080.2336	0.0003	0.0001	133.4
B	33144.2458	41083.1230			
	0.0118	-0.0167	0.0002	0.0002	
	33144.2576	41083.1063	0.0003	0.0001	130.2
C	33147.4553	41085.2296			
	0.0091	-0.0192	0.0002	0.0003	
	33147.4644	41085.2104	0.0003	0.0001	126.6
D	33151.9813	41086.7848			
	0.0031	-0.0185	0.0002	0.0003	
	33151.9844	41086.7663	0.0003	0.0001	122.5
1A	33140.2799	41082.6151			
	-0.0163	0.0227	0.0002	0.0002	
	33140.2636	41082.6378	0.0003	0.0001	133.4
1B	33144.8606	41086.3695			
	-0.0128	0.0247	0.0002	0.0002	
	33144.8478	41086.3942	0.0003	0.0001	127.6
2A	33138.3632	41089.0790			
	-0.0146	0.0237	0.0002	0.0002	
	33138.3486	41089.1027	0.0003	0.0002	133.5
2B	33142.5276	41094.8358			
	-0.0135	0.0251	0.0002	0.0003	
	33142.5141	41094.8609	0.0003	0.0002	130.2
2C	33150.4537	41097.8196			
	-0.0098	0.0269	0.0002	0.0003	
	33150.4439	41097.8465	0.0003	0.0002	124.8

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L			V		S_V		L_			S_L_
P3	X	T1	33	52	35.7	0.13	0.27	33	52	35.8	0.55		
P3	T1	T2	16	10	3.4	-0.09	0.39	16	10	3.3	0.47		
P3	T2	T3	11	26	0.5	-0.18	0.38	11	26	0.3	0.48		
P3	T3	T4	14	39	45.8	0.13	0.35	14	39	45.9	0.50		
P3	T12	T8	8	6	11.2	-0.08	0.26	8	6	11.1	0.55		
P3	T8	T9	29	20	18.0	0.13	0.24	29	20	18.1	0.56		
P3	T9	A	13	34	21.4	0.04	0.35	13	34	21.4	0.50		
P3	A	1A	0	17	51.6	-0.01	0.46	0	17	51.6	0.40		
P3	1A	2A	1	38	20.6	-0.72	0.46	1	38	19.9	0.40		
P3	2A	T10	1	4	53.1	0.81	0.39	1	4	53.9	0.47		
P3	T10	B	0	38	37.5	-0.02	0.44	0	38	37.5	0.43		
P3	1B	2B	1	33	3.9	-0.17	0.49	1	33	3.7	0.37		
P3	2B	C	0	4	30.1	0.54	0.46	0	4	30.6	0.40		
P3	C	D	4	27	21.6	-0.15	0.47	4	27	21.4	0.39		
P3	D	2C	2	12	3.4	-0.76	0.47	2	12	2.6	0.39		
P3	2C	T11	2	2	45.3	0.20	0.41	2	2	45.5	0.46		
P3	T13	T14	19	44	41.4	0.33	0.26	19	44	41.7	0.55		
P3	T14	XI	7	55	33.3	-0.09	0.11	7	55	33.2	0.60		
PT2	X	T14	4	20	41.2	-0.21	0.24	4	20	41.0	0.56		
PT2	T1	T2	15	6	8.4	0.14	0.40	15	6	8.5	0.46		
PT2	T2	T3	11	23	12.7	0.20	0.42	11	23	12.9	0.45		
PT2	T3	T4	14	39	36.9	-0.16	0.42	14	39	36.7	0.45		
PT2	T12	T8	9	12	18.7	0.08	0.29	9	12	18.8	0.54		
PT2	T8	T9	34	27	34.7	-0.13	0.20	34	27	34.6	0.58		
PT2	T9	T10	26	8	2.0	-0.08	0.25	26	8	1.9	0.56		
PT2	T10	A	1	51	2.0	0.05	0.31	1	51	2.0	0.53		
PT2	A	1A	0	47	37.4	0.01	0.37	0	47	37.4	0.48		
PT2	1A	2A	2	49	58.1	0.60	0.38	2	49	58.7	0.48		
PT2	2A	B	1	1	23.8	-0.94	0.41	1	1	22.9	0.46		
PT2	B	1B	2	45	17.5	0.68	0.46	2	45	18.2	0.40		
PT2	1B	C	1	43	18.8	-0.69	0.41	1	43	18.1	0.46		
PT2	C	2B	1	4	32.5	0.43	0.38	1	4	32.9	0.48		
PT2	2B	D	4	27	36.5	-0.31	0.38	4	27	36.2	0.48		
PT2	D	T11	2	11	31.9	0.31	0.33	2	11	32.2	0.52		
PT2	T11	2C	1	28	49.1	0.32	0.31	1	28	49.4	0.53		
PT2	T13	XI	29	35	1.5	-0.39	0.25	29	35	1.1	0.56		
XI	X	P3	110	9	24.1	0.44	0.21	110	9	24.5	0.58		
X	PT2	XI	36	39	45.5	0.55	0.29	36	39	46.0	0.54		

IZRAVNANE VREDNOSTI OPAZOVANJ – HORIZONTALNE DOLZINE:

S	Z	L	V	S_V	L_	S_L_
P3	X	52.5645	0.0000	0.0004	52.5645	0.0002
P3	T1	55.5029	-0.0000	0.0003	55.5029	0.0003
P3	T2	55.3769	-0.0000	0.0003	55.3769	0.0003
P3	T3	49.5965	0.0001	0.0003	49.5966	0.0003
P3	T4	39.0825	-0.0000	0.0003	39.0825	0.0003
P3	T12	26.8285	-0.0000	0.0004	26.8285	0.0002
P3	T8	29.1096	-0.0001	0.0004	29.1095	0.0002

P3	T9	33.0144	0.0002	0.0004	33.0146	0.0002
P3	A	60.1456	0.0001	0.0003	60.1457	0.0003
P3	1A	62.8236	0.0001	0.0003	62.8237	0.0003
P3	2A	69.2968	-0.0001	0.0003	69.2967	0.0003
P3	T10	39.6737	0.0003	0.0003	39.6740	0.0003
P3	B	61.1092	0.0001	0.0003	61.1093	0.0003
P3	1B	63.6896	0.0002	0.0003	63.6898	0.0003
P3	2B	72.2780	0.0001	0.0003	72.2781	0.0003
P3	C	61.4322	0.0002	0.0003	61.4324	0.0003
P3	D	60.9794	0.0001	0.0003	60.9795	0.0003
P3	2C	71.8722	0.0012	0.0003	71.8734	0.0003
P3	T11	40.3663	0.0001	0.0003	40.3664	0.0003
P3	T13	18.3384	0.0003	0.0003	18.3387	0.0003
P3	T14	18.1577	-0.0004	0.0004	18.1573	0.0001
P3	XI	43.1723	-0.0000	0.0004	43.1723	0.0002
PT2	T14	7.7240	-0.0007	0.0004	7.7233	0.0001
PT2	T1	55.9224	-0.0001	0.0003	55.9223	0.0003
PT2	T2	59.5438	0.0000	0.0003	59.5438	0.0003
PT2	T3	56.3188	0.0001	0.0003	56.3189	0.0003
PT2	T4	48.6854	0.0000	0.0003	48.6854	0.0003
PT2	T12	28.3456	-0.0002	0.0004	28.3454	0.0002
PT2	T8	28.4664	-0.0002	0.0004	28.4662	0.0002
PT2	T9	25.0016	-0.0001	0.0004	25.0015	0.0002
PT2	T10	28.1142	-0.0001	0.0003	28.1141	0.0003
PT2	A	48.7124	-0.0001	0.0003	48.7123	0.0003
PT2	1A	51.3188	-0.0000	0.0003	51.3188	0.0003
PT2	2A	57.5035	-0.0002	0.0003	57.5033	0.0003
PT2	B	49.1383	0.0001	0.0003	49.1384	0.0003
PT2	1B	51.4441	-0.0003	0.0003	51.4438	0.0003
PT2	C	49.0001	0.0000	0.0003	49.0001	0.0003
PT2	2B	59.7986	-0.0001	0.0003	59.7985	0.0003
PT2	D	48.0594	0.0000	0.0003	48.0594	0.0003
PT2	T11	27.1668	-0.0001	0.0003	27.1667	0.0003
PT2	2C	58.7168	-0.0013	0.0003	58.7155	0.0003
PT2	T13	4.5737	0.0001	0.0003	4.5738	0.0003
PT2	XI	32.1324	0.0002	0.0004	32.1326	0.0002
XI	X	18.5967	0.0004	0.0004	18.5971	0.0002
XI	P3	43.1728	-0.0005	0.0004	43.1723	0.0002
XI	PT2	32.1324	0.0002	0.0004	32.1326	0.0002
X	P3	52.5649	-0.0004	0.0004	52.5645	0.0002
X	XI	18.5967	0.0004	0.0004	18.5971	0.0002

OPTIM2D - OPTIMIZACIJA 2. REDA

Karmen Sepetavc, 2016

Mag. d. - Optimizacija terestricnih geodetskih mrež...

Min sdX, sdY:	0.0001	0.0001
Max sdX, sdY:	0.0003	0.0003
Avr sdX, sdY:	0.0002	0.0002

KOVARIANCNA MATRIKA OCENJENIH KOORD. TOCK

Srednji pogrešek položajev točk mreže v 2D: 0.00032668
 Sled kovariančne matrike: 0.00000240
 Srednja varianca: 0.00023100
 Srednja standardna deviacija: 0.01519854
 Generalizirana varianca: 0.00000000
 Generalizirana standardna deviacija: 0.00000000
 Najmanjša lastna vrednost kov. matrike: 0.00000000
 Največja lastna vrednost kov. matrike: 0.00000082
 Razmerje najmanjše in največje lastne vrednosti kov. matrike: 0.00006339

Produkt vektorja odstopanja med kontrolno m. in matriko kriterija: 0.000513
 Največja lastna vrednost: 0.022528
 Norma kovariančne matrike: 0.001980
 Norma matrike kriterija: 0.022528
 Razlika norm kovariančne in matrike kriterija: 0.020548
 Sled matrike kriterija: 0.039699

Karakteristična razdalja $d=2/3(s_{\min})$: 1.7669

Velikost Urp (reducirana in psevdoinverzna): 86 x 1176
 Velikost vektorja q: 1176 x 1
 Velikost optimiziranega vektorja uteži p: 86 x 1

OPTIMIZIRANE VREDNOSTI OPAZOVANJ – HORIZONTALNI KOTI:

S	Z1	Z2	L	pi(opt)	ri	std_k
P3	X	T1	33 52 35.7	7952007	0.05	0.731454
P3	T1	T2	16 10 3.4	7163878	0.38	0.770639
P3	T2	T3	11 26 0.5	1718153	0.36	1.573600
P3	T3	T4	14 39 45.8	4612440	0.29	0.960417
P3	T12	T8	8 6 11.2	2365345	0.07	1.341152
P3	T8	T9	29 20 18.0	1081703	0.10	1.983221
P3	T9	A	13 34 21.4	4867790	0.18	0.934887
P3	A	1A	0 17 51.6	7328537	0.56	0.761933
P3	1A	2A	1 38 20.6	4774026	0.57	0.944023
P3	2A	T10	1 4 53.1	3786275	0.40	1.060032
P3	T10	B	0 38 37.5	4081994	0.40	1.020914
P3	1B	2B	1 33 3.9	14110238	0.47	0.549108
P3	2B	C	0 4 30.1	4631238	0.56	0.958466
P3	C	D	4 27 21.6	9782520	0.59	0.659477
P3	D	2C	2 12 3.4	16748770	0.63	0.504004
P3	2C	T11	2 2 45.3	7221207	0.36	0.767574
P3	T13	T14	19 44 41.4	1661840	0.04	1.600039
P3	T14	XI	7 55 33.3	667527	0.05	2.524589
PT2	X	T14	4 20 41.2	76747	0.01	7.445506
PT2	T1	T2	15 6 8.4	6277369	0.42	0.823259
PT2	T2	T3	11 23 12.7	11083911	0.45	0.619553
PT2	T3	T4	14 39 36.9	9177237	0.44	0.680878
PT2	T12	T8	9 12 18.7	3297168	0.07	1.135938
PT2	T8	T9	34 27 34.7	902041	0.09	2.171761
PT2	T9	T10	26 8 2.0	1504804	0.10	1.681455
PT2	T10	A	1 51 2.0	2958389	0.19	1.199216
PT2	A	1A	0 47 37.4	17637851	0.36	0.491137
PT2	1A	2A	2 49 58.1	10266210	0.37	0.643754

PT2	2A	B	1	1	23.8	12633611	0.48	0.580312
PT2	B	1B	2	45	17.5	14107407	0.02	0.549163
PT2	1B	C	1	43	18.8	14839525	0.48	0.535445
PT2	C	2B	1	4	32.5	7367557	0.39	0.759912
PT2	2B	D	4	27	36.5	7205607	0.36	0.768404
PT2	D	T11	2	11	31.9	2099307	0.25	1.423597
PT2	T11	2C	1	28	49.1	752753	0.34	2.377382
PT2	T13	XI	29	35	1.5	32664	0.01	11.412817
XI	X	P3	110	9	24.1	960115	0.11	2.105056
X	PT2	XI	36	39	45.5	847406	0.23	2.240677

IZLOCENA OPAZOVANJA - HORIZONTALNI KOTI:

OPTIMIZIRANE VREDNOSTI OPAZOVANJ - HORIZONTALNE DOLZINE:

S	Z	L	pi(opt)	ri	std_d
P3	X	52.5645	162	0.76	0.000785
P3	T1	55.5029	2169	0.56	0.000215
P3	T2	55.3769	1696	0.54	0.000243
P3	T3	49.5965	1081	0.55	0.000304
P3	T4	39.0825	592	0.57	0.000411
P3	T12	26.8285	1184	0.71	0.000291
P3	T8	29.1096	887	0.72	0.000336
P3	T9	33.0144	94	0.76	0.001034
P3	A	60.1456	1164	0.52	0.000293
P3	1A	62.8236	1033	0.51	0.000311
P3	2A	69.2968	579	0.50	0.000416
P3	T10	39.6737	461	0.61	0.000466
P3	B	61.1092	1141	0.52	0.000296
P3	1B	63.6896	1270	0.50	0.000281
P3	2B	72.2780	831	0.50	0.000347
P3	C	61.4322	1356	0.51	0.000272
P3	D	60.9794	964	0.50	0.000322
P3	2C	71.8722	1144	0.49	0.000296
P3	T11	40.3663	1154	0.53	0.000294
P3	T13	18.3384	912	0.56	0.000331
P3	T14	18.1577	2316	0.89	0.000208
P3	XI	43.1723	26	0.85	0.001980
PT2	T14	7.7240	560	0.94	0.000422
PT2	T1	55.9224	1056	0.55	0.000308
PT2	T2	59.5438	639	0.55	0.000396
PT2	T3	56.3188	284	0.56	0.000593
PT2	T4	48.6854	549	0.58	0.000427
PT2	T12	28.3456	2311	0.84	0.000208
PT2	T8	28.4664	2211	0.81	0.000213
PT2	T9	25.0016	865	0.73	0.000340
PT2	T10	28.1142	186	0.58	0.000733
PT2	A	48.7124	1193	0.51	0.000290
PT2	1A	51.3188	1072	0.51	0.000305
PT2	2A	57.5035	600	0.50	0.000408
PT2	B	49.1383	1189	0.51	0.000290
PT2	1B	51.4441	1215	0.51	0.000287
PT2	C	49.0001	1296	0.50	0.000278

PT2	2B	59.7986	846	0.50	0.000344
PT2	D	48.0594	878	0.50	0.000337
PT2	T11	27.1668	1010	0.52	0.000315
PT2	2C	58.7168	1300	0.49	0.000277
PT2	T13	4.5737	3660	0.52	0.000165
PT2	XI	32.1324	244	0.86	0.000641
XI	X	18.5967	2806	0.78	0.000189
XI	P3	43.1728	26	0.85	0.001980
XI	PT2	32.1324	244	0.86	0.000641
X	P3	52.5649	162	0.76	0.000785
X	XI	18.5967	2806	0.78	0.000189

IZLOCENA OPAZOVANJA - HORIZONTALNE DOLZINE: