

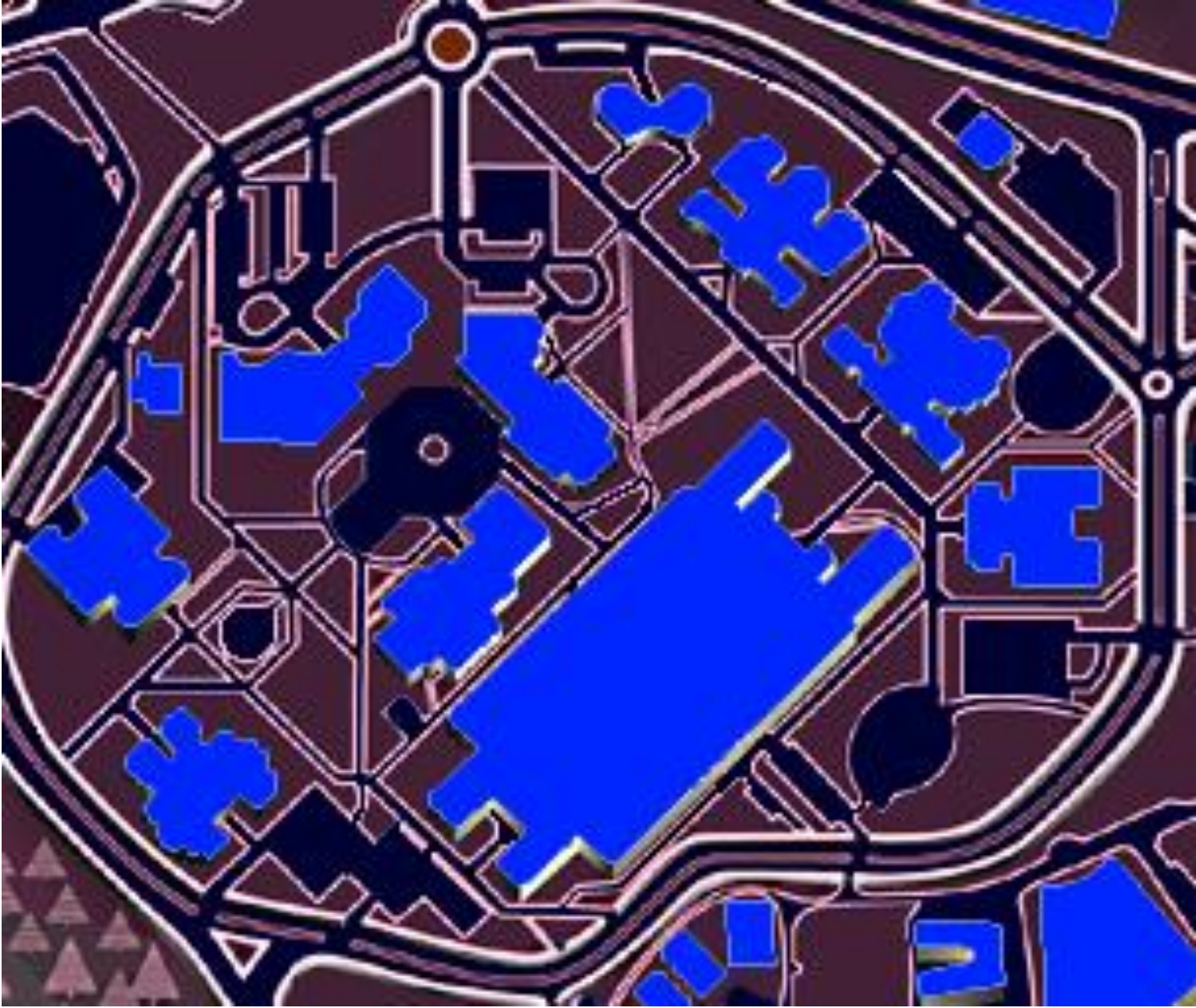
**TASARIM PROJESİ DERSİ**  
**YIL İÇİ ÖDEVİ**

- 1) Şekil 1’de krokisi verilen bölgenin hâlihazır haritası üretilecektir. Bu amaçla bölgede statik GNSS tekniğiyle C4 derece poligon noktaları ağı oluşturulacak ve bu noktalardan kroki üzerindeki mavi renkli bina detayları yersel teknik ile kutupsal alım şeklinde ölçülecektir.
  - a) Tüm detay noktalarını görecektir şekilde bir poligon ağı tasarlayınız. [5 puan]
  - b) Tasarladığınız ağa ait durum (görüş) krokisi oluşturarak tüm detay noktalarına poligon noktalarından görüş sağlandığını kanıtlayınız. [5 puan]
  - c) Tasarladığınız ağa uygun şekilde bir GNSS ölçü planı oluşturunuz (4 adet GNSS alıcınız bulunmaktadır). [10 puan]
- 2) Birinci soruda tasarladığınız ağdaki nokta sayısı kadar IZDOGAP ağındaki (Şekil 2-3) noktalardan bir ağ seçimi yapınız. Ağdaki noktalara ait yaklaşık koordinatlar EK1’de ve noktalar arası baz vektörlerine ait ölçüler EK2’de yer almaktadır. Buna göre ağınıza serbest ağ dengelemesi yöntemine göre dengeleyerek,
  - a) Model hipotezi testi ve uyumsuz ölçüler testini gerçekleştiriniz. [20 puan]
  - b) Ağınızdaki noktalara ait dengeli koordinatları ve dengeli koordinatların standart sapmaları bulunuz. [20 puan]
- 3) İkinci soruda seçtiğiniz ağ noktalarının elipsoid ve ortometrik yükseklikleri EK1’de yer almaktadır. Buna göre ağ noktalarından yararlanarak bölgede,
  - a) 3. derece bir yüzey polinomu yardımıyla E.K.K yöntemiyle bir jeoit yüzeyi oluşturunuz (Dengeli jeoit yüzeyinin duyarlılığı  $m_0 \leq \pm 1dm$  olmalıdır.  $m_0 \geq \pm 1dm$  ise yüzey polinomunun derecesi aşamalı olarak artırılmalıdır). [20 puan]
  - b) Belirlediğiniz dengeli yüzeyde parametre anlamlılık testi uygulayarak anlamlı olmayan parametreleri matematik modelden çıkarınız ve dengeli yüzey için en uygun polinom derecesini ve anlamlı katsayıları belirleyiniz. [10 puan]
  - c) Oluşturduğunuz en uygun bölgesel jeoit yüzeyi yardımıyla IZDOGAP ağında seçeceğiniz 5 yeni noktanın ortometrik yüksekliklerini kestirerek gerçek değeriyle karşılaştırınız ve farkları yorumlayınız. [10 puan]

**Dersin Sorumlu Öğretim Elemanları**

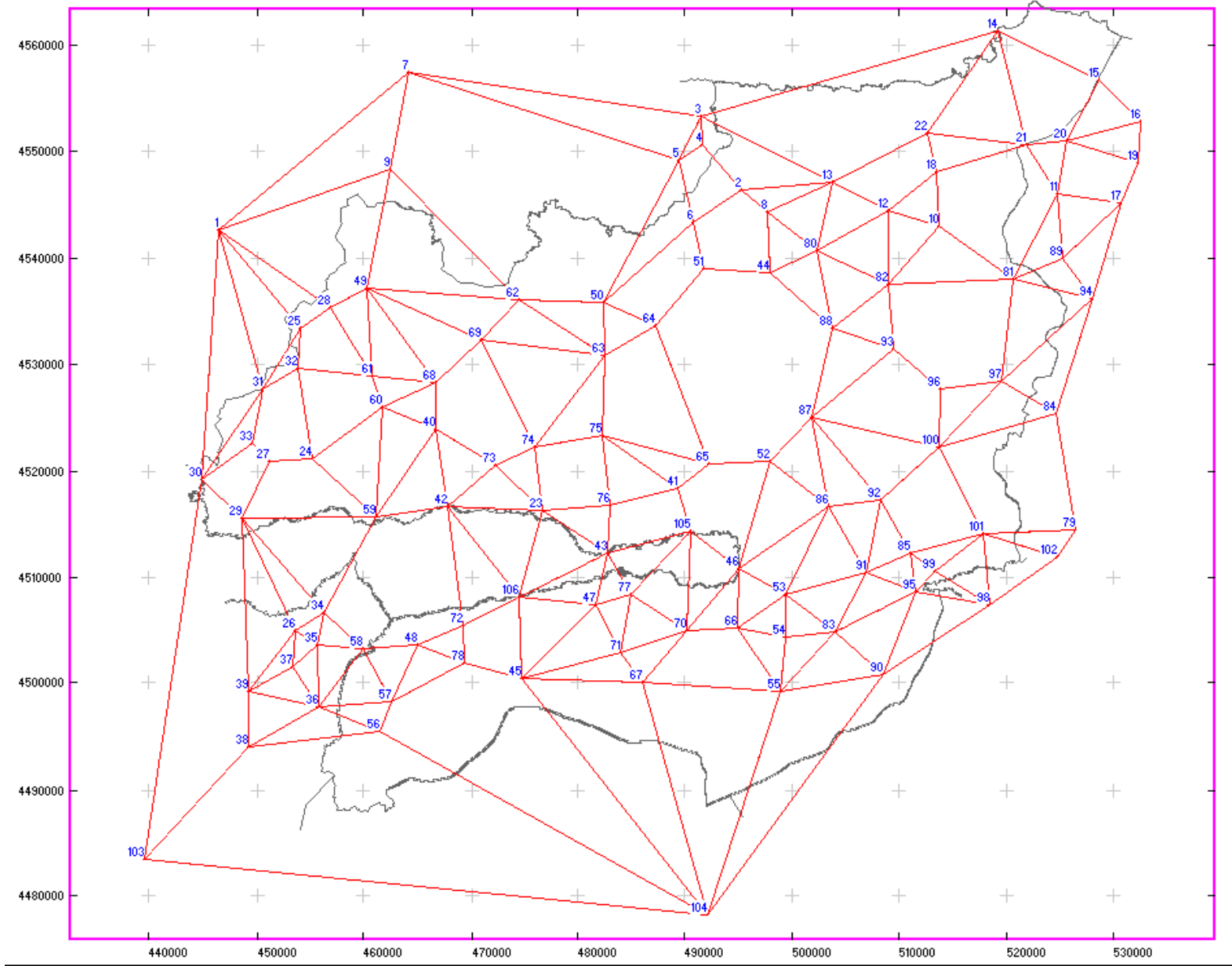
Dr. Erman ŞENTÜRK (erman.senturk@kocaeli.edu.tr)

Dr. Özer AKYÜREK (ozet.akyurek@kocaeli.edu.tr)



**Şekil 1.**





Şekil 3.

**EK 1.** Noktaların yaklaşık enlem, boylam, elipsoidal ve ortometrik yükseklikleri.

Nokta No	Nokta Adı	$\Phi^0$	$\lambda^0$	h [m]	H [m]
1	F22-G002	41.017094	29.362458	155.9092	119.5752
2	F232H010	41.051684	29.944387	213.8734	178.4003
3	F232H026	41.114672	29.899746	189.2755	153.9951
4	F232H045	41.090666	29.901161	79.2462	43.861
5	F232H051	41.077536	29.874848	136.2698	100.7859
6	F232H073	41.025014	29.890106	237.5865	201.9398
7	F23-G001	41.150245	29.574166	124.9769	89.2938
8	F23-G002	41.033544	29.973102	280.8921	245.2747
9	F23S0005	41.069059	29.554277	275.6155	239.699
10	F2431068	41.021164	30.162374	212.3203	177.0179
11	F24-G001	41.048252	30.29355	169.5333	134.3191
12	F24S0008	41.034476	30.106573	210.9282	175.485
13	F24S0010	41.05886	30.044652	191.7962	156.3538
14	F24S0012	41.186037	30.227859	51.9721	17.4355
15	F24S0013	41.144004	30.341073	134.5563	99.8225
16	F24S0014	41.109316	30.387405	115.8867	81.0638
17	F24S0017	41.040413	30.364151	159.7706	124.5615
18	F24S0020	41.067909	30.160503	91.5732	56.3077
19	F24S0025	41.074762	30.383075	102.4614	67.5028
20	F24S0026	41.093434	30.304312	157.2237	122.1898
21	F24S0027	41.090202	30.260283	169.2756	134.2346
22	F24S0028	41.100594	30.150782	148.3934	113.2441
23	G10011	40.779166	29.722435	129.1261	92.8149
24	G2231070	40.82352	29.469654	248.3896	211.7268
25	G22A0001	40.933664	29.454125	223.8804	187.3224
26	G22A0002	40.676691	29.450001	195.7319	158.9582
27	G22-G001	40.821297	29.422682	343.4907	306.7772
28	G22S0002	40.951771	29.486893	212.4295	175.985
29	G22S0006	40.773085	29.390442	169.0993	132.2628
30	G22S0007	40.805796	29.345456	38.1709	1.3168
31	G22S0008	40.882289	29.412862	296.0913	259.4208
32	G22S0009	40.899808	29.453164	252.2402	215.5232
33	G22S0010	40.836965	29.403479	218.0385	181.2715
34	G22S0011	40.692212	29.484017	94.2848	57.5876
35	G22S0012	40.665054	29.474401	359.9559	323.2463
36	G22S0013	40.612554	29.478599	240.4008	203.7227
37	G22S0025	40.647902	29.447253	376.4381	339.7197
38	G22S0026	40.579921	29.399559	728.8794	692.0908
39	G22S0034	40.626979	29.401125	238.2994	201.5278
40	G2331062	40.849358	29.603663	313.3124	276.8518
41	G2331081	40.798224	29.873423	405.4971	369.456
42	G2331091	40.784121	29.617229	41.2961	4.8075
43	G2331097	40.743739	29.794323	36.8425	0.6469
44	G2331253	40.982187	29.975213	286.6603	251.0183
45	G2331450	40.637489	29.70211	508.9796	472.6063
46	G23A0003	40.732093	29.941499	39.5141	3.5407
47	G23A0007	40.70172	29.783394	361.0465	324.8952
48	G23-G001	40.667127	29.585237	391.0221	354.5805
49	G23S0001	40.968815	29.52669	259.5956	223.2713
50	G23S0003	40.956706	29.791381	301.537	265.5187
51	G23S0004	40.985149	29.90182	401.452	365.5921
52	G23S0007	40.82352	29.975195	301.7789	265.8313
53	G23S0012	40.70874	29.992855	147.5931	111.6381
54	G23S0013	40.674581	29.992453	679.9194	643.9878
55	G23S0014	40.628311	29.987746	680.2236	644.3072
56	G23S0019	40.593694	29.543816	264.4598	227.8959

57	G23S0020	40.619157	29.556965	300.1478	263.5707
58	G23S0021	40.662007	29.524567	405.7448	369.1663
59	G23S0024	40.773119	29.538404	133.3445	96.6754
60	G23S0026	40.868535	29.54519	306.3454	269.841
61	G23S0027	40.894332	29.535468	331.502	295.0043
62	G23S0029	40.958638	29.697417	356.5977	320.5013
63	G23S0030	40.911933	29.792909	307.4099	271.3494
64	G23S0031	40.937457	29.849182	351.7663	315.7638
65	G23S0032	40.821244	29.907949	528.9837	492.9266
66	G23S0034	40.680133	29.939367	474.5114	438.5563
67	G23S0036	40.636366	29.836181	350.3172	314.2297
68	G23S0042	40.889379	29.603772	344.6026	308.1744
69	G23S0043	40.925347	29.655879	421.0565	384.7826
70	G23S0047	40.679751	29.883423	386.0377	349.9836
71	G23S0048	40.659459	29.810431	577.5462	541.4129
72	G23S0049	40.681966	29.637327	295.2891	258.9114
73	G23S0051	40.819711	29.670228	681.9816	645.5732
74	G23S0052	40.834562	29.715658	512.1247	475.8102
75	G23S0053	40.844296	29.789868	427.6489	391.4413
76	G23S0054	40.783893	29.7966	229.5995	193.3845
77	G23S0055	40.710171	29.820231	167.172	131.0116
78	G23S0060	40.650305	29.638654	547.5127	511.104
79	G2430050	40.762965	30.312468	371.4539	335.8166
80	G2431076	41.000553	30.027122	282.5797	247.0593
81	G2431083	40.976368	30.245103	174.7314	139.3744
82	G2431150	40.972983	30.106178	249.454	213.9602
83	G24A0006	40.677281	30.046904	522.6829	486.8182
84	G24A0008	40.863502	30.291868	240.2575	204.7054
85	G24-G001	40.745333	30.130264	160.5685	124.7871
86	G24S0020	40.782799	30.040476	141.4262	105.5062
87	G24S0021	40.86023	30.022062	474.9719	439.1387
88	G24S0022	40.935391	30.045051	303.5153	267.7433
89	G24S0025	40.994091	30.299657	226.7162	191.3482
90	G24S0037	40.641341	30.100787	1636.0066	1600.183
91	G24S0038	40.727039	30.082196	109.8304	74.0079
92	G24S0039	40.788228	30.097271	148.2174	112.3935
93	G24S0041	40.918217	30.112997	172.3808	136.6741
94	G24S0044	40.960584	30.333338	225.0228	189.5814
95	G24S0051	40.710902	30.13681	85.6628	49.8904
96	G24S0053	40.884187	30.164225	363.7888	328.0992
97	G24S0054	40.890519	30.231745	258.5193	222.8855
98	G24S0061	40.70164	30.218213	82.1183	46.411
99	G24S0062	40.729773	30.158685	135.5425	99.7611
100	G24S0063	40.835388	30.162008	398.2648	362.5549
101	G24S0069	40.759758	30.21072	443.3629	407.5995
102	G24S0072	40.740176	30.292709	140.1898	104.4462
103	H22-G001	40.484727	29.287935	499.8647	462.977
104	H23-G001	40.438001	29.907983	377.3629	341.1406
105	IZGZ	40.76203	29.887933	49.1155	13.0769
106	P102155	40.707764	29.69686	37.0759	0.6919

**EK 2.** Noktalar arası baz vektörleri, standart sapma ve korelasyon değerleri.

Baz (DN-BN)	dX [m]	dY [m]	dZ [m]	sigmaX [m]	sigmaY [m]	sigmaZ [m]	corrXY	corrXZ	corrYZ
G2331081-G23S0054	4012.3689	-5173.7761	-1319.9004	0.004	0.003	0.003	0.75	0.83	0.55
G23A0003-G23S0007	-6993.6805	-747.797	7859.7283	0.009	0.007	0.008	0.87	0.83	0.76
G23A0003-G23S0012	-630.7349	4644.9928	-1895.0643	0.005	0.003	0.003	0.86	0.77	0.78
G23A0003-G24S0020	-7294.9811	5439.885	4331.8835	0.009	0.004	0.008	0.59	0.73	0.29
G23S0007-G24S0020	-301.3012	6187.6865	-3527.8693	0.004	0.002	0.004	0.60	0.61	0.30
G23S0012-G24S0020	-6664.2198	794.9044	6226.9394	0.005	0.003	0.005	0.56	0.62	0.27
G23S0032-G2331081	2819.422	-1739.8003	-2015.6997	0.003	0.002	0.003	0.59	0.72	0.23
G23S0032-G23S0007	-3123.7484	4747.8031	42.6965	0.006	0.004	0.005	0.85	0.84	0.73
G23S0047-G23A0003	-5961.1677	2232.8174	4180.4395	0.005	0.004	0.008	0.68	0.61	0.40
G23S0054-G2331097	2495.5009	1207.4084	-3503.2524	0.002	0.002	0.002	0.72	0.82	0.49
IZGZ-G2331081	-1432.1702	-2235.6151	3276.4847	0.002	0.002	0.002	0.66	0.78	0.37
IZGZ-G2331097	5075.703	-6201.9855	-1546.6628	0.004	0.003	0.004	0.76	0.79	0.48
IZGZ-G23A0003	-381.6609	4999.7902	-2524.8337	0.003	0.002	0.003	0.66	0.73	0.41
IZGZ-G23S0047	5579.5	2766.9584	-6705.2813	0.004	0.003	0.005	0.58	0.68	0.20
IZGZ-G23S0047	5579.4922	2766.9541	-6705.2847	0.006	0.006	0.006	0.73	0.71	0.39
G2331097-G23S0055	1108.1745	3157.2901	-2740.0039	0.002	0.002	0.002	0.77	0.74	0.59
G23A0003-G23S0034	3636.7521	1886.7282	-4090.6418	0.004	0.004	0.005	0.70	0.52	0.44
G23S0012-G23S0034	4267.4762	-2758.2544	-2195.5787	0.004	0.003	0.004	0.61	0.53	0.38
G23S0047-G23S0034	-2324.4154	4119.5616	89.807	0.007	0.005	0.010	0.71	0.68	0.79
G23S0047-G23S0055	604.3588	-5811.6541	2418.5733	0.005	0.005	0.006	0.72	0.73	0.64
IZGZ-G23A0003	-381.6664	4999.7892	-2524.8281	0.004	0.004	0.004	0.86	0.75	0.71
IZGZ-G23S0047	5579.4896	2766.9564	-6705.2469	0.005	0.004	0.008	0.83	0.26	0.55
IZGZ-G23S0055	6183.884	-3044.6858	-4286.6565	0.004	0.003	0.004	0.77	0.69	0.47
G10011-G2331097	-843.6208	6509.8893	-3040.1137	0.004	0.002	0.004	0.43	0.68	0.04
G10011-G23S0051	-9.5042	-5077.623	3769.9174	0.003	0.002	0.003	0.41	0.69	0.01
G10011-G23S0052	-2956.2967	-2346.0798	4906.8486	0.003	0.002	0.003	0.76	0.74	0.63
G10011-G23S0054	-3339.1227	5302.4786	463.1384	0.003	0.003	0.003	0.83	0.73	0.69
G23S0052-G23S0051	2946.8037	-2731.537	-1136.9277	0.002	0.002	0.002	0.48	0.69	0.06
G23S0053-G2331081	-619.7746	7770.7473	-3886.4651	0.006	0.004	0.006	0.77	0.90	0.75
G23S0053-G23S0032	-3439.1815	9510.5594	-1870.7795	0.006	0.004	0.006	0.75	0.87	0.75
G23S0053-G23S0052	3775.454	-5051.5693	-762.636	0.003	0.003	0.003	0.78	0.79	0.69
G23S0053-G23S0054	3392.6228	2596.9818	-5206.3477	0.004	0.003	0.004	0.78	0.84	0.71
G23S0029-G23S0003	-3838.9126	6917.9908	-198.1506	0.004	0.003	0.004	0.51	0.51	0.46
G23S0029-G23S0043	3879.2681	-1815.5764	-2750.6378	0.003	0.002	0.002	0.57	0.58	0.29
G23S0030-G23S0003	-2767.1488	-1732.6094	3752.5575	0.003	0.002	0.002	0.78	0.65	0.75
G23S0030-G23S0029	1071.7844	-8650.5837	3950.7247	0.005	0.003	0.005	0.54	0.59	0.23
G23S0030-G23S0031	-3939.1327	3205.7534	2170.7706	0.003	0.002	0.003	0.50	0.65	0.06
G23S0030-G23S0043	4951.0436	-10466.1774	1200.0828	0.007	0.004	0.006	0.52	0.67	0.31
G23S0030-G23S0052	8248.1124	-2786.414	-6363.5626	0.006	0.004	0.005	0.77	0.65	0.72
G23S0030-G23S0053	4472.6332	2265.152	-5600.9311	0.004	0.002	0.004	0.40	0.65	-0.04
G23S0031-G23S0003	1171.9586	-4938.3706	1581.794	0.004	0.003	0.003	0.76	0.64	0.71
G23S0031-G23S0032	4972.5996	8569.9617	-9642.4821	0.007	0.005	0.007	0.52	0.67	0.11
G2331062-G2331091	3372.51	3233.1734	-5660.6288	0.004	0.003	0.003	0.62	0.51	0.30
G2331062-G23S0024	7411.727	-2125.5457	-6525.753	0.005	0.004	0.005	0.73	0.63	0.69
G2331062-G23S0026	1217.0378	-4978.32	1606.2718	0.003	0.002	0.002	0.56	0.63	0.45
G2331062-G23S0042	-2512.6354	-1417.0564	3381.5593	0.003	0.002	0.003	0.60	0.74	0.39
G2331062-G23S0051	-662.8849	6082.8359	-2250.0282	0.004	0.002	0.003	0.43	0.66	0.35
G2331062-G23S0051	-662.8954	6082.8376	-2250.0346	0.003	0.003	0.003	0.73	0.67	0.73
G2331091-G10011	-4025.8962	7927.2854	-359.2938	0.004	0.003	0.004	0.59	0.51	0.30
G2331091-G23S0024	4039.2246	-5358.7173	-865.1091	0.004	0.002	0.003	0.77	0.71	0.81
G2331091-G23S0051	-4035.3912	2849.6683	3410.6137	0.004	0.002	0.003	0.78	0.76	0.78
G23S0042-G23S0026	3729.6556	-3561.2676	-1775.2923	0.003	0.002	0.003	0.56	0.63	0.44
G23S0042-G23S0043	-4394.087	2551.6846	3068.9958	0.003	0.002	0.003	0.47	0.70	0.26
G23S0052-G23S0043	-3297.0464	-7679.7607	7563.6599	0.007	0.005	0.007	0.59	0.74	0.40
G2231070-G23S0024	249.7062	6807.8801	-4312.3618	0.006	0.005	0.006	0.62	0.49	0.41



G2231070-G23S0026	-5944.9374	3955.1315	3819.6794	0.004	0.003	0.004	0.50	0.59	0.43
G22S0006-G22-G001	-4268.6219	717.4886	4167.2701	0.003	0.002	0.004	0.57	0.57	0.65
G22S0006-G22S0007	-292.4486	-4521.4951	2664.8107	0.003	0.003	0.003	0.63	0.47	0.60
G22S0006-G23S0024	-6170.2032	10861.528	-20.5039	0.006	0.005	0.006	0.62	0.57	0.34
G22S0007-G22S0008	-7459.9746	2323.7711	6594.9835	0.005	0.004	0.005	0.71	0.41	0.22
G22S0007-G22S0010	-4254.2963	3222.5438	2737.0091	0.004	0.004	0.004	0.70	0.59	0.55
G22S0008-G22A0001	-5009.9431	1165.0906	4264.7054	0.005	0.003	0.004	0.57	0.55	0.05
G22S0010-G22S0008	-3205.6601	-898.7609	3857.9644	0.003	0.002	0.003	0.56	0.43	0.00
G23S0026-G23S0024	6194.6834	2852.7664	-8132.0312	0.005	0.004	0.006	0.63	0.63	0.47
G2231070-G22-G001	2151.2834	-3336.1533	-124.5907	0.002	0.002	0.002	0.69	0.67	0.43
G22A0001-G22S0002	-2512.3892	1749.839	1511.4885	0.003	0.002	0.003	0.59	0.61	0.56
G22A0001-G22S0009	2202.7399	1150.9499	-2822.5903	0.003	0.002	0.002	0.60	0.70	0.42
G22-G001-G22S0010	-278.1055	-2016.426	1234.5647	0.002	0.001	0.002	0.58	0.59	0.37
G22S0002-G23S0001	-2699.0718	2322.2903	1460.3213	0.002	0.002	0.002	0.48	0.63	0.24
G22S0009-G2231070	4139.7315	3935.3449	-6410.028	0.005	0.003	0.004	0.75	0.73	0.49
G22S0009-G22S0008	2807.2294	-2316.0134	-1442.0989	0.003	0.002	0.002	0.64	0.70	0.44
G23S0027-G22S0002	-1699.1301	-5663.5887	4741.9344	0.004	0.002	0.004	0.56	0.49	0.60
G23S0027-G22S0009	3015.9913	-6262.4789	407.8399	0.004	0.002	0.003	0.56	0.71	0.48
G23S0027-G23S0001	-4398.1869	-3341.2847	6202.2609	0.004	0.003	0.004	0.47	0.64	0.27
G23S0027-G23S0026	1210.7767	1627.9817	-2182.5132	0.002	0.001	0.002	0.52	0.49	0.55
G23S0027-G23S0042	-2518.8902	5189.2513	-407.2133	0.003	0.002	0.003	0.40	0.56	0.09
F23-G001-F23S0005	6079.5329	1527.944	-6694.49	0.004	0.002	0.006	0.53	0.46	0.55
G23S0001-F23S0005	-7490.4096	-1577.7057	8410.2544	0.008	0.004	0.009	0.57	0.55	0.56
G23S0001-G23S0029	-6394.0631	12897.7916	-789.829	0.007	0.007	0.007	0.82	0.71	0.63
G23S0001-G23S0042	1879.295	8530.5231	-6609.4699	0.006	0.005	0.006	0.80	0.71	0.64
G23S0001-G23S0043	-2514.7839	11082.2234	-3540.4749	0.006	0.005	0.006	0.83	0.73	0.65
G23S0029-F23S0005	-1096.3254	-14475.4968	9200.1016	0.010	0.004	0.008	0.52	0.55	0.51
F22-G002-F23-G001	-17232.4464	10696.3631	11125.8174	0.011	0.007	0.011	0.47	0.46	0.54
F22-G002-F23S0005	-11152.9337	12224.2894	4431.2831	0.007	0.006	0.008	0.65	0.57	0.64
F22-G002-G22A0001	1548.9227	9729.828	-6950.7531	0.007	0.005	0.007	0.54	0.67	0.19
F22-G002-G22S0002	-963.4386	11479.6893	-5439.2614	0.006	0.004	0.006	0.62	0.55	0.64
F22-G002-G22S0007	14018.8772	6240.9996	-17810.4476	0.013	0.011	0.008	0.71	0.65	0.25
F22-G002-G22S0008	6558.9041	8564.7659	-11215.474	0.008	0.005	0.008	0.53	0.72	0.21
F232H051-F232H073	2748.5415	3058.8746	-4332.2369	0.003	0.003	0.003	0.63	0.52	0.46
F232H051-F23-G001	7903.6065	-24568.765	6076.2445	0.011	0.010	0.010	0.88	0.82	0.80
F232H073-F232H010	-3977.5812	2977.3927	2218.5151	0.003	0.002	0.003	0.48	0.55	0.55
F232H073-G23S0004	2134.3548	2363.9043	-3233.5818	0.004	0.003	0.005	0.46	0.49	0.65
F23-G001-F232H026	-11261.8437	25051.4476	-2933.338	0.011	0.012	0.011	0.81	0.86	0.84
G23S0003-F232H051	-11240.5591	1647.3272	10016.5069	0.007	0.006	0.007	0.79	0.79	0.78
G23S0003-F232H073	-8492.0621	4706.1722	5684.2146	0.006	0.004	0.006	0.69	0.62	0.52
G23S0031-G23S0004	-5185.7415	2131.7103	4032.4205	0.004	0.003	0.004	0.52	0.49	0.64
F232H026-F232H045	1388.3018	935.3596	-2081.2952	0.002	0.001	0.002	0.56	0.71	0.48
F232H026-F24S0010	-2552.4065	12583.7746	-4670.2058	0.008	0.004	0.006	0.56	0.63	0.46
F232H026-F24S0012	-18401.5169	21173.4468	5877.6167	0.013	0.011	0.010	0.62	0.48	0.38
F232H045-F232H010	740.8536	4618.2124	-3175.3713	0.003	0.002	0.003	0.53	0.56	0.14
F232H051-F232H026	-3358.196	482.6911	3142.9567	0.002	0.002	0.002	0.52	0.60	0.50
F232H051-F232H045	-1969.8956	1418.0536	1061.6559	0.002	0.001	0.002	0.47	0.63	0.42
F23-G002-F232H010	15.8323	-2777.6827	1475.4796	0.002	0.002	0.002	0.63	0.66	0.40
F23-G002-G2331253	3157.0217	2025.8171	-4300.3373	0.004	0.002	0.004	0.77	0.70	0.46
G2331253-F23-G002	-3157.0226	-2025.8217	4300.3354	0.003	0.002	0.003	0.61	0.71	0.38
F24S0008-F24S0020	-4462.9001	2652.0195	2721.6215	0.003	0.002	0.003	0.53	0.63	0.33
F24S0010-F232H010	4681.5667	-7030.1932	-586.4484	0.005	0.003	0.004	0.63	0.59	0.30
F24S0010-F23-G002	4665.7296	-4252.509	-2061.9158	0.004	0.002	0.003	0.51	0.56	0.13
F24S0010-F24S0008	-1057.6659	5403.6421	-2029.7617	0.003	0.003	0.002	0.65	0.49	0.49
F24S0010-F24S0028	-7135.8266	6172.4516	3465.2923	0.005	0.003	0.005	0.59	0.62	0.49
F24S0020-F24S0028	-1615.2539	-1883.2061	2773.4173	0.002	0.001	0.002	0.57	0.61	0.47
G2331253-G23S0004	2970.7275	-5416.9977	323.6836	0.004	0.003	0.003	0.65	0.75	0.42
G2331253-G24S0022	20.2528	6801.8252	-3913.6905	0.004	0.002	0.004	0.72	0.71	0.46



G24S0020-G24S0039	-2738.3426	3954.1355	460.8897	0.003	0.002	0.003	0.43	0.75	0.15
G24S0021-G23S0007	4171.9319	-2155.7224	-3197.6071	0.003	0.003	0.002	0.77	0.68	0.56
G24S0021-G24S0020	3870.6402	4031.9636	-6725.4678	0.004	0.003	0.004	0.56	0.59	0.46
G24S0021-G24S0039	1132.3057	7986.1178	-6264.5775	0.006	0.005	0.005	0.62	0.66	0.47
G24S0021-G24S0063	-4406.431	11087.2342	-2137.2113	0.008	0.004	0.008	0.52	0.75	0.20
G24S0039-G24S0063	-5538.7288	3101.1077	4127.3689	0.005	0.003	0.004	0.57	0.70	0.20
G23S0014-G23S0036	5672.7576	-11530.7279	464.0743	0.008	0.004	0.008	0.33	0.69	0.04
G23S0014-G24A0006	-5674.4788	2500.3686	4023.4061	0.006	0.005	0.007	0.54	0.46	0.63
G23S0036-G2331450	5665.6826	-9826.2712	197.9426	0.008	0.007	0.007	0.63	0.62	0.17
G24S0037-G23S0014	4976.7418	-8170.8776	-1720.6823	0.004	0.004	0.004	0.45	0.62	0.02
G24S0037-G24A0006	-697.7455	-5670.5118	2302.7295	0.008	0.005	0.006	0.77	0.77	0.74
G24S0037-G24S0051	-6901.0889	-481.9798	4848.6841	0.007	0.005	0.006	0.69	0.72	0.54
G24S0037-G24S0061	-9781.6444	5800.7604	4066.6818	0.008	0.004	0.008	0.45	0.49	-0.16
G24S0051-G24A0006	6203.3526	-5188.5142	-2545.9292	0.006	0.004	0.006	0.54	0.40	-0.11
G24S0051-G24S0061	-2880.5342	6282.7498	-781.9801	0.006	0.003	0.006	0.43	0.50	-0.19
H23-G001-G2331450	-3737.3625	-22242.7135	16921.8393	0.013	0.012	0.011	0.87	0.83	0.66
H23-G001-G23S0014	-15075.7773	-885.7043	16259.8478	0.010	0.009	0.008	0.73	0.68	0.31
H23-G001-G23S0014	-15075.7705	-885.6949	16259.8431	0.010	0.008	0.009	0.65	0.59	0.56
H23-G001-G23S0019	5475.0584	-32414.5687	13070.8638	0.014	0.011	0.016	0.54	0.55	0.50
H23-G001-G23S0036	-9403.0367	-12416.438	16723.9045	0.011	0.008	0.010	0.62	0.60	0.16
H23-G001-G24S0037	-20052.5282	7285.1751	17980.5157	0.013	0.007	0.013	0.37	0.72	0.12
H23-G001-G24S0037	-20052.5281	7285.195	17980.5238	0.017	0.007	0.008	-0.06	0.66	0.36
H23-G001-G24S0037	-20052.5092	7285.1908	17980.5245	0.012	0.010	0.014	0.57	0.59	0.48
H23-G001-G24S0037	-20052.4955	7285.1832	17980.5123	0.013	0.008	0.013	0.45	0.54	-0.10
H23-G001-H22-G001	23129.6567	-47347.9723	4027.5854	0.022	0.020	0.017	0.66	0.64	0.21
G2430050-G24S0069	4577.7933	-7276.58	-222.7305	0.006	0.003	0.005	0.40	0.57	-0.22
G24A0008-G2430050	5509.2773	5232.9131	-8364.6344	0.006	0.004	0.008	0.49	0.60	0.44
G24A0008-G24S0054	870.0152	-5360.0026	2280.5386	0.005	0.004	0.007	0.53	0.60	0.58
G24-G001-G24S0039	-1301.1414	-3974.9799	3599.6887	0.004	0.002	0.003	0.75	0.75	0.65
G24-G001-G24S0051	1830.9741	1702.2695	-2946.4777	0.004	0.003	0.003	0.77	0.68	0.66
G24-G001-G24S0069	-4133.7432	5456.374	1398.1639	0.005	0.003	0.005	0.50	0.50	-0.16
G24S0054-G24S0053	3328.9545	-4646.8903	-462.6872	0.003	0.002	0.004	0.61	0.73	0.36
G24S0063-G24A0008	-7380.9046	8373.9356	2258.478	0.007	0.007	0.007	0.80	0.61	0.17
G24S0063-G24S0039	5538.7227	-3101.1291	-4127.377	0.004	0.003	0.004	0.56	0.70	0.55
G24S0063-G24S0053	-3181.9433	-1632.987	4076.3306	0.004	0.002	0.004	0.63	0.74	0.43
G24S0063-G24S0054	-6510.8899	3013.9012	4539.0203	0.005	0.003	0.004	0.55	0.56	0.64
G24S0063-G24S0069	2706.1131	6330.2268	-6328.9138	0.005	0.003	0.005	0.49	0.47	-0.20
G24S0038-G23S0012	4951.0702	-5857.1337	-1515.5502	0.004	0.004	0.004	0.20	0.68	0.36
G24S0038-G24-G001	-3150.4182	2866.9029	1572.5461	0.004	0.002	0.003	0.56	0.76	0.35
G24S0038-G24S0020	-1713.1908	-5062.2175	4711.3483	0.005	0.003	0.004	0.44	0.65	0.23
G24S0038-G24S0039	-4451.5722	-1108.0823	5172.2364	0.005	0.002	0.003	0.36	0.68	0.35
G24S0038-G24S0051	-1319.4744	4569.1593	-1373.9577	0.003	0.002	0.003	0.50	0.55	0.54
G24S0051-G24-G001	-1830.9704	-1702.2644	2946.4766	0.004	0.002	0.003	0.42	0.61	0.00
F24S0008-F2431068	-1515.7938	4546.4746	-1114.3999	0.003	0.002	0.003	0.73	0.73	0.74
F24S0008-G2431076	5534.9009	-4517.9367	-2795.5647	0.005	0.003	0.004	0.51	0.65	0.58
F24S0020-F2431068	2947.1101	1894.4572	-3836.0313	0.003	0.002	0.003	0.71	0.52	0.71
G2431076-F24S0010	-4477.2339	-885.6994	4825.3173	0.003	0.002	0.003	0.56	0.60	0.48
G2431076-G2331253	3345.5263	-3112.3767	-1536.9276	0.003	0.002	0.002	0.57	0.64	0.21
G2431076-G24S0022	3365.7813	3689.4431	-5450.6227	0.004	0.003	0.004	0.62	0.65	0.27
G23S0012-G24A0006	-67.1866	5237.7261	-2404.3661	0.003	0.002	0.003	0.47	0.68	0.48
G2431083-F2431068	705.6593	-7643.4256	3779.3132	0.005	0.003	0.004	0.67	0.53	0.54
G2431083-G2431150	6139.5005	-9956.465	-234.8233	0.006	0.005	0.006	0.60	0.59	0.16
G2431083-G24S0025	-3395.451	3334.1005	1519.9199	0.003	0.002	0.003	0.71	0.59	0.60
G2431083-G24S0054	6017.9204	2205.6876	-7147.8514	0.006	0.005	0.004	0.65	0.36	0.46
G24A0006-G24S0038	-4883.8515	619.3946	3919.9364	0.004	0.003	0.005	0.35	0.53	0.51
G24S0022-G24S0021	5813.0467	1122.9059	-6197.2178	0.005	0.003	0.005	0.66	0.55	0.40
G24S0022-G24S0041	-1872.9727	5528.9706	-1526.9045	0.003	0.002	0.003	0.55	0.64	0.15
G24S0041-G2431150	-3109.6774	-2467.0452	4644.5534	0.004	0.003	0.004	0.56	0.63	0.15

G24S0041-G24S0021	7686.0556	-4406.0373	-4670.2912	0.006	0.004	0.007	0.70	0.66	0.54
G24S0041-G24S0053	97.7008	5048.2062	-2731.1672	0.003	0.002	0.003	0.76	0.74	0.63
G24S0051-G24A0006	6203.33	-5188.5446	-2545.9745	0.004	0.002	0.006	0.18	0.64	0.43
G24S0061-G24S0062	802.7284	-5352.1711	2402.8511	0.003	0.002	0.003	0.56	0.60	0.42
G24S0061-G24S0072	-5544.8806	4052.3569	3281.2417	0.006	0.005	0.006	0.76	0.56	0.66
G24S0062-G24-G001	246.8442	-2632.8367	1325.625	0.003	0.002	0.002	0.50	0.68	0.20
G24S0062-G24S0051	2077.79	-930.5849	-1620.8797	0.002	0.001	0.002	0.53	0.60	0.21
G24S0069-G2430050	-4577.7525	7276.5903	222.764	0.006	0.004	0.004	0.75	0.74	0.72
G24S0069-G24S0061	3084.1688	2528.6201	-5126.6394	0.004	0.002	0.003	0.61	0.61	0.48
G24S0069-G24S0062	3886.909	-2823.5378	-2723.7835	0.004	0.002	0.004	0.40	0.60	0.05
G24S0069-G24S0072	-2460.7045	6580.9954	-1845.3882	0.007	0.003	0.004	0.67	0.65	0.50
G24S0072-G2430050	-2117.0806	695.5893	2068.1523	0.006	0.004	0.004	0.76	0.69	0.70
G23S0013-G23S0012	-2508.6711	-1408.7633	2529.2868	0.006	0.004	0.008	0.57	0.73	0.42
G23S0013-G23S0034	1758.9013	-4166.9842	333.784	0.011	0.006	0.010	0.63	0.59	0.64
G23S0013-G24A0006	-2575.8594	3828.9684	124.9153	0.006	0.005	0.005	0.66	0.56	0.16
G23S0014-G23S0013	-3098.6551	-1328.6131	3898.4594	0.008	0.006	0.006	0.67	0.65	0.31
G23S0014-G23S0034	-1339.7472	-5495.5967	4232.2621	0.008	0.002	0.010	0.27	0.65	0.16
G23S0036-G23S0047	-4688.1622	1915.5322	3678.3185	0.004	0.003	0.004	0.55	0.46	0.41
G23S0048-G23A0007	-1661.4551	-3585.5442	3418.1598	0.003	0.002	0.004	0.49	0.45	-0.05
G23S0048-G23S0036	216.5137	2634.7537	-2093.8302	0.003	0.002	0.003	0.44	0.52	-0.07
G23S0048-G23S0047	-4471.6419	4550.2797	1584.492	0.005	0.003	0.005	0.55	0.56	0.38
G23S0055-G23A0007	2205.8178	-2324.173	-584.9353	0.002	0.002	0.002	0.61	0.48	-0.02
G23S0055-G23S0048	3867.2786	1261.3765	-4003.1038	0.003	0.002	0.004	0.53	0.47	0.36
G2331097-G23S0055	1108.1745	3157.2901	-2740.0039	0.002	0.002	0.002	0.77	0.74	0.59
G23A0003-G23S0034	3636.7521	1886.7282	-4090.6418	0.004	0.004	0.005	0.70	0.52	0.44
G23S0012-G23S0034	4267.4762	-2758.2544	-2195.5787	0.004	0.003	0.004	0.61	0.53	0.38
G23S0047-G23S0034	-2324.4154	4119.5616	89.807	0.007	0.005	0.010	0.71	0.68	0.79
G23S0047-G23S0055	604.3588	-5811.6541	2418.5733	0.005	0.005	0.006	0.72	0.73	0.64
IZGZ-G23A0003	-381.6664	4999.7892	-2524.8281	0.004	0.004	0.004	0.86	0.75	0.71
IZGZ-G23S0047	5579.4896	2766.9564	-6705.2469	0.005	0.004	0.008	0.83	0.26	0.55
IZGZ-G23S0055	6183.884	-3044.6858	-4286.6565	0.004	0.003	0.004	0.77	0.69	0.47
G23-G001-G23S0020	4138.2433	-401.6736	-4101.4335	0.006	0.005	0.007	0.49	0.45	0.63
G23-G001-G23S0021	2862.7783	-4274.7474	-421.754	0.008	0.005	0.007	0.61	0.33	-0.13
G23-G001-G23S0049	-3173.0948	3262.5167	1187.3878	0.003	0.002	0.003	0.48	0.66	0.23
G23-G001-G23S0060	-1070.8435	4587.745	-1315.2465	0.003	0.003	0.003	0.64	0.64	0.23
G23S0019-G22S0013	1517.0289	-5484.2771	1574.4624	0.006	0.003	0.006	0.51	0.65	0.71
G23S0020-G22S0013	3643.3672	-5558.1162	-595.4742	0.006	0.003	0.007	0.54	0.56	0.08
G23S0020-G23S0019	2126.2868	-73.842	-2169.9748	0.004	0.002	0.004	0.37	0.61	-0.19
G23S0020-G23S0021	-1275.4616	-3873.0529	3679.6598	0.009	0.006	0.009	0.57	0.35	-0.24
G23S0020-G23S0060	-5209.0561	4989.4427	2786.2032	0.005	0.005	0.005	0.63	0.66	0.51
G23S0021-G22S0013	4918.7822	-1685.0626	-4275.1703	0.006	0.003	0.006	0.55	0.75	0.71
P102155-G23S0049	4283.8822	-3350.9295	-2003.7381	0.003	0.002	0.004	0.58	0.67	0.37
G22A0002-G22S0011	-2459.8863	1913.09	1240.9515	0.002	0.001	0.002	0.32	0.45	-0.07
G22A0002-G22S0012	-173.0447	2271.913	-873.1395	0.002	0.001	0.002	0.48	0.59	0.45
G22A0002-G22S0025	2047.6381	889.2114	-2307.4066	0.003	0.002	0.003	0.34	0.65	-0.04
G22A0002-G22S0025	2047.6303	889.1857	-2307.3893	0.007	0.005	0.005	0.76	0.11	-0.35
G22S0006-G22A0002	3629.258	7823.5254	-8095.174	0.006	0.004	0.005	0.58	0.58	0.35
G22S0006-G22S0011	1169.3544	9736.6057	-6854.2461	0.007	0.004	0.006	0.50	0.49	0.04
G22S0006-G22S0034	8820.7913	6005.7301	-12255.7842	0.009	0.004	0.005	0.33	0.68	0.39
G22S0006-G22S0034	8820.7723	6005.726	-12255.7997	0.007	0.005	0.008	0.55	0.56	0.38
G22S0006-G22S0034	8820.75	6005.7127	-12255.8256	0.009	0.005	0.009	0.51	0.50	0.12
G22S0011-G23S0021	419.9903	4176.8614	-2340.9265	0.009	0.008	0.008	0.85	0.80	0.81
G22S0011-G23S0024	-7339.5447	1124.9052	6833.7464	0.005	0.004	0.005	0.86	0.83	0.81
G22S0012-G22S0011	-2286.8359	-358.8171	2114.1003	0.002	0.002	0.003	0.30	0.43	-0.03
G22S0012-G22S0025	2220.7001	-1382.7038	-1434.2453	0.005	0.003	0.004	0.58	0.36	-0.03
G22S0012-G23S0021	-1866.8561	3818.0389	-226.8469	0.007	0.006	0.006	0.86	0.80	0.79
G22S0013-G22S0012	-3051.9163	-2132.9776	4502.0406	0.003	0.002	0.004	0.50	0.43	0.06
G22S0013-G22S0025	-831.2373	-3515.6886	3067.7805	0.003	0.002	0.004	0.38	0.37	-0.27

G22S0013-G22S0026	5665.3749	-4485.6359	-2433.9251	0.002	0.002	0.005	0.45	0.49	0.29
G22S0026-G23S0019	-7182.3935	9969.9197	859.489	0.005	0.004	0.005	0.40	0.65	0.36
G22S0034-G22A0002	-5191.5289	1817.7931	4160.6056	0.004	0.002	0.003	0.52	0.72	0.46
G22S0034-G22S0013	-2312.6503	6222.6917	-1214.5571	0.002	0.002	0.004	0.53	0.31	-0.06
G22S0034-G22S0025	-3143.8878	2707.0025	1853.215	0.005	0.004	0.005	0.49	0.42	-0.44
G22S0034-G22S0026	3352.7252	1737.0532	-3648.4799	0.003	0.002	0.002	0.46	0.70	0.42
F24-G001-F24S0026	-3310.703	-886.9205	3774.8246	0.003	0.002	0.003	0.65	0.28	0.17
F24-G001-G2431083	6582.2536	-877.1799	-6020.4955	0.004	0.003	0.005	0.47	0.54	0.02
F24S0017-F24-G001	2510.4428	-5408.7318	663.0674	0.003	0.002	0.002	0.61	0.45	0.26
F24S0017-F24S0025	-3003.3573	83.7093	2838.8708	0.002	0.002	0.002	0.61	0.64	0.37
F24S0017-G24S0025	5697.2181	-2951.8273	-3837.5307	0.004	0.003	0.003	0.59	0.54	0.50
F24S0017-G24S0044	6371.7489	726.4738	-6648.0955	0.004	0.003	0.005	0.40	0.64	0.33
F24S0025-F24S0026	2203.0883	-6379.3668	1599.0131	0.003	0.002	0.003	0.61	0.35	0.25
G24S0025-F24-G001	-3186.7876	-2456.917	4500.5837	0.003	0.002	0.003	0.60	0.52	0.26
G24S0044-G2431083	2720.9277	-7012.3953	1290.6679	0.005	0.004	0.005	0.49	0.49	0.64
G24S0044-G24A0008	7868.8082	553.2838	-8137.7425	0.007	0.004	0.008	0.41	0.60	0.19
G24S0044-G24S0025	-674.5286	-3678.2946	2810.578	0.003	0.002	0.003	0.52	0.50	0.65
G24S0044-G24S0054	8738.8621	-4806.7206	-5857.1996	0.006	0.004	0.005	0.48	0.72	0.43
F24S0013-F24S0012	2084.527	-9785.9452	3459.9284	0.005	0.004	0.005	0.60	0.61	0.40
F24S0013-F24S0014	207.3381	4630.7303	-2914.0787	0.004	0.003	0.004	0.69	0.50	0.60
F24S0013-F24S0026	4761.5652	-791.7819	-4216.0303	0.003	0.002	0.004	0.52	0.52	0.45
F24S0020-F24S0028	-1615.2454	-1883.1983	2773.4145	0.002	0.002	0.002	0.82	0.80	0.75
F24S0025-F24S0014	-2351.1196	-956.8395	2900.9794	0.003	0.002	0.002	0.70	0.77	0.60
F24S0026-F24S0014	-4554.2102	5422.5214	1301.9662	0.006	0.004	0.004	0.70	0.64	0.60
F24S0026-F24S0027	2076.9905	-3071.0132	-262.5907	0.003	0.002	0.003	0.52	0.59	0.22
F24S0027-F24-G001	1233.7042	3957.9365	-3512.2474	0.003	0.002	0.003	0.79	0.71	0.66
F24S0027-F24S0012	-4754.0026	-5923.1242	7938.5857	0.005	0.003	0.007	0.36	0.47	-0.03
F24S0027-F24S0020	5574.5325	-6457.1188	-1917.3883	0.004	0.003	0.005	0.51	0.42	0.09
F24S0027-F24S0028	3959.2769	-8340.3319	856.0144	0.005	0.004	0.004	0.84	0.83	0.77
F24S0028-F24S0012	-8713.2881	2417.1991	7082.5573	0.006	0.004	0.005	0.54	0.34	-0.08
F23-G002-G2431076	-188.4944	5138.2018	-2763.4012	0.004	0.002	0.004	0.57	0.79	0.37
F24S0008-F2431068	-1515.8084	4546.4683	-1114.4055	0.004	0.002	0.003	0.68	0.69	0.59
F24S0008-G2431150	3918.0443	2233.4426	-5128.5271	0.004	0.003	0.005	0.50	0.68	0.13
G2431150-F2431068	-5433.863	2313.0174	4014.0943	0.004	0.003	0.005	0.59	0.63	0.53
G2431150-G2431076	1616.8664	-6751.376	2332.9741	0.004	0.003	0.004	0.58	0.69	0.18
G2431150-G24S0022	4982.6535	-3061.9216	-3117.6962	0.006	0.004	0.005	0.52	0.70	0.48