APPENDIX 4

Appendix 4

RESULTS OF ITRF-0

TRANSFORMATION PARAMETERS BETWEEN THE INDIVIDUAL TERRESTRIAL SYSTEMS

SSC	T1	T2	T3	D	R1	R2	R3
	cm	cm	cm	10^{-8}	0.001"	0.001"	0.001"
RN SSC(NGS) 88 R 01	-13.7	17.0	-2.7	1.5	-3.6	9.8	.1
	6.9	6.8	6.5	.9	2.8	2.7	2.2
RG SSC(GSFC) 88 R 01	159.5	-96.4	38.2	-1.2	-5.8	5.2	-1.5
	6.7	6.8	6.3	.9	2.7	2.6	2.2
LC SSC(CSR) 88 L 01	-.3	-.0	1.6	-.2	-4.6	1.9	-11.0
	6.5	6.5	6.0	.9	2.6	2.5	2.2
LG SSC(GSFC) 88 L 01	-1.9	.1	2.1	-.3	-1.7	6.0	-7.7
	6.5	6.5	6.0	.9	2.6	2.5	2.2
SSC(BIH) 88 C 01	.0	.0	.0	.0	.0	.0	.0
(EXTRACT OF BTS87)	.0	.0	.0	.0	.0	.0	.0

SITE DOMES NUMBER		SOLUTION	SIGMAS (cm) XO	YO	ZO	RESIDUALS (cm) X	Y	Z
GRASSE 10002	S001	LG	.4	.5	.6	.5	1.2	.2
	S001	LC	.8	1.0	.7	-2.2	-4.8	-.3
	M001	BTS87	10.0	10.0	10.0	1.6	-.6	-.9
ONSALA 10402	S002	RN	.6	.4	1.0	-.7	-.4	-.5
	S002	RG	.5	.4	1.0	.5	.4	.5
	M003	BTS87	10.0	10.0	10.0	1.0	-7.3	-.4
METSAHOVI 10503	S001	LG	15.3	14.3	9.6	49.1	23.8	30.8
	S001	LC	8.8	8.0	5.6	-16.2	-7.4	-10.5
GRAZ 11001	S002	LG	6.2	.6	.6	.8	1.4	-.1
	S002	LC	.7	.8	.6	-.0	-2.5	.1
	M001	BTS87	10.0	10.0	10.0	-.2	2.5	.2
ROUMELLI 12613	M001	LG	1.3	1.6	1.5	1.6	4.2	-.8
	M001	LC	.9	1.2	1.0	-.8	-2.4	.4
KARITSA 12614	M001	LG	1.8	1.7	1.3	.5	1.3	1.0
	M001	LC	1.8	1.8	1.3	-.5	-1.5	-1.0
XRISOKALARIA 12616	M001	LG	2.1	2.6	2.3	-.4	5.2	-4.3
	M001	LC	1.4	1.5	1.3	.2	-1.7	1.4
BOLOGNE 12711	S001	RN	1.1	.6	1.5	-1.3	-.7	-1.1
	S001	RG	.9	.5	1.3	.9	.5	.8
	M001	BTS87	10.0	10.0	10.0	.2	-7.6	-.2
TRIESTE 12718	M002	LG	2.2	2.9	1.9	-.5	2.3	.9
	M002	LC	2.7	3.4	2.2	.8	-3.2	-1.2
CAGLIARI 12725	M002	LG	1.1	1.5	1.1	-.6	1.6	1.2
	S010	LC	1.7	2.3	1.6	1.5	-3.9	-2.5
MATERA 12734	M004	LG	1.7	1.9	1.3	2.5	1.8	1.5
	S001	LG	.4	.4	.6	.4	1.1	.9

	M005	LC	2.5	2.3	1.6	4.1	-3.8	-.3
	M004	LC	1.5	1.7	1.2	3.4	-1.5	1.2
	S001	LC	.5	.6	.5	-1.5	-2.3	-1.1
	S001	BTS87	10.0	10.0	10.0	.7	1.7	.4
CHILBOLTON 13201	S002	RN	1.2	.6	1.6	1.0	-.6	1.9
	S002	RG	.9	.5	1.2	-.6	.4	-1.1
HERSTMONCEUX 13202	S001	LG	.4	.4	.5	.4	.8	-.1
	S001	LC	.5	.7	.5	-.6	-2.6	.1
	M002	BTS87	10.0	10.0	10.0	.4	1.3	-.1
KOOTWIJK 13504	S001	LG	11.2	10.0	6.0	-13.0	4.7	-20.8
	S007	LG	3.2	3.0	1.8	6.0	4.7	4.0
	S001	LC	3.0	3.1	1.9	3.2	-4.4	-11.6
	S007	LC	2.9	3.0	1.9	-6.6	-1.4	9.4
	M001	BTS87	10.0	10.0	10.0	-5.0	3.7	-.5
ZIMMERWALD 14001	S001	LG	1.0	1.0	.8	2.1	2.0	-1.5
	S001	LC	1.7	1.8	1.1	-5.9	-6.4	2.8
	M001	BTS87	10.0	10.0	10.0	-2.3	-2.0	1.9
POTSDAM 14106	S001	LG	11.0	10.8	7.4	-2.8	3.0	6.5
	S001	LC	3.4	3.4	2.2	.7	-.4	-1.0
	M001	BTS87	10.0	10.0	10.0	-3.9	.7	9.3
WETTZELL 14201	S004	RN	.7	.4	1.1	1.3	-.7	3.2
	S004	RG	.6	.4	1.1	2.0	.1	3.4
	S002	LG	.5	.5	.6	-.6	2.3	.1
	S010	LC	2.1	2.7	1.6	-3.5	-2.7	8.4
	S011	LC	100.0	100.0	100.0	-13.7	-3.4	7.9
	S007	LC	100.0	100.0	100.0	598.2	-394.4	-379.6
	S002	LC	.9	1.0	.7	-4.2	-5.1	-4.4
	M001	BTS87	10.0	10.0	10.0	12.1	-3.3	5.6

EFFELSBERG 14209	S001	RN	1.4	.8	2.1	1.5	.2	3.0
	S001	RG	.8	.5	1.3	-.5	-.1	-1.2
BAR GIYYORA 20702	S001	LG	1.2	1.3	1.3	.4	1.7	1.2
	S001	LC	1.7	1.9	1.7	-.8	-3.7	-1.9
	M001	BTS87	10.0	10.0	10.0	1.3	4.2	-6.3
YIGILCA 20804	S001	LG	1.7	1.5	1.2	-.6	1.9	.3
	M001	LC	2.4	1.9	1.4	1.3	-3.0	-.4
SHANGHAI 21605	S001	LG	25.9	22.2	18.5	9.3	-7.5	-.8
	S001	LC	10.3	8.8	7.5	7.5	.6	-2.1
	M001	BTS87	10.0	10.0	10.0	-8.5	.7	4.0
KASHIMA 21701	S001	RG	1.1	.7	2.0	-.1	.0	.3
	M001	BTS87	10.0	10.0	10.0	8.1	-9.6	-8.6
SIMOSATO 21726	S001	LG	.5	.5	.5	-.1	-.9	.1
	S001	LC	.6	.6	.6	.2	1.3	-.2
	M001	BTS87	10.0	10.0	10.0	-4.1	1.2	.9
HELWAN 30101	S001	LG	96.1	58.6	56.9	-57.4	145.1	52.5
	S001	LC	9.2	9.9	8.0	.5	-4.1	-1.0
JOHANNESBURG 30302	S001	RN	2.6	1.4	1.7	-.4	-2.2	-3.0
	S001	RG	2.6	1.7	1.7	.4	3.3	3.0
GOLDSTONE 40405	S009	RN	.3	1.4	1.6	-.8	-1.7	2.5
	S014	RG	.8	1.5	1.3	1.8	.4	-.8
	S009	RG	.1	.5	.7	.0	-1.1	.4
	M001	LG	19.5	52.8	60.9	-.1	29.4	66.2
	M002	LG	1.0	1.0	.9	3.3	6.3	-1.4
	M006	LG	1.3	1.4	1.0	-2.5	-6.9	.0
	M001	LC	9.2	10.0	6.7	-28.4	-41.4	34.2
	M002	LC	1.1	1.0	.9	5.5	4.1	-.6

	M006	LC	1.9	2.0	1.4	-1.7	-5.3	.6
	M001	BTS87	10.0	10.0	10.0	-.2	.2	-1.6
FAIRBANKS 40408	S002	RG	.3	.5	1.0	-.0	.0	.1
	S001	BTS87	10.0	10.0	10.0	.6	-1.9	-6.9
VANDENBERG 40420	M002	RG	.2	.6	.8	-.0	-.0	.1
	M004	LG	15.2	64.1	15.2	15.6	79.0	-21.9
	M004	LC	100.0	100.0	100.0	14.3	26.0	-3.9
	M001	BTS87	10.0	10.0	10.0	.6	.8	-3.6
PATRICK AFB 40417	M002	LG	14.2	8.3	11.0	-.5	.1	.1
	M002	LC	100.0	100.0	100.0	24.5	-7.9	-5.4
KAUAI 40424	S001	RG	.7	1.0	1.5	-.0	-.2	-.2
	S001	BTS87	10.0	10.0	10.0	8.0	22.5	10.9
QUINCY 40433	M001	LG	1.7	1.6	1.2	-1.1	9.0	11.1
	M002	LG	.3	.4	.2	-.1	-.8	-.6
	S010	LG	4.6	4.0	2.5	3.0	2.1	5.0
	M001	LC	1.8	1.6	1.3	1.7	9.5	14.5
	M002	LC	.6	.5	.5	.3	-1.3	.3
	M005	LC	1.5	1.1	.8	-.0	4.0	-2.7
	M001	BTS87	10.0	10.0	10.0	1.2	.0	5.2
MOUNT HOPKINS 40434	S001	LG	2.1	1.8	2.0	-4.5	1.5	-6.9
	S001	LC	1.6	1.4	1.4	2.6	-.9	3.4
SAN DIEGO 40436	M002	LG	1.5	1.3	1.4	-1.3	-.6	2.8
	M002	LC	1.6	1.4	1.4	1.5	.7	-2.8
BEAR LAKE 40438	M001	LG	2.1	2.1	1.5	-2.4	4.5	-3.3
	M001	LC	2.6	2.4	1.7	3.7	-5.9	4.2
OWENS VALLEY 40439	S002	RN	.3	.8	.9	-1.3	-.0	-.8
	S002	RG	.1	.5	.7	.2	-.8	-2.1
	M003	LG	21.8	55.3	62.0	-9.5	66.6	66.0

	M001	LG	1.0	1.0	.8	-1.8	3.4	.7
	M003	LC	10.8	9.6	6.3	-24.6	1.9	42.7
	M001	LC	1.1	1.0	.9	-1.4	-.1	2.4
	M001	BTS87	10.0	10.0	10.0	-2.1	1.7	-1.3
WESTFORD HAYSTAK 40440	S003	RN	1.0	1.0	1.0	.8	-.5	1.4
	S002	RN	.1	.3	.3	-.1	1.3	-.7
	S002	RG	.1	.1	.1	-.5	.0	-.3
	S003	RG	.1	.2	.2	.4	-.1	.6
	M001	LG	1.3	1.1	1.0	5.7	-9.4	8.3
	M001	LC	1.3	1.1	1.0	7.8	-10.3	7.9
	M001	BTS87	10.0	10.0	10.0	-3.6	-2.7	1.7
GREENBANK 40441	S001	RN	.2	.7	.6	.4	.4	-.3
	S001	RG	.1	.5	.5	-.1	-.2	.2
FORT DAVIS 40442	S003	RN	.2	.5	.6	.5	-.8	2.6
	S003	RG	.2	.5	.5	.1	-.4	2.7
	M001	LG	.4	.4	.3	-1.9	1.2	-1.4
	M005	LG	2.6	2.7	2.1	.8	-13.0	1.4
	M001	LC	.7	.4	.6	-1.4	-.0	-1.1
	M005	LC	2.9	3.1	2.3	3.1	-5.3	2.8
	M004	BTS87	10.0	10.0	10.0	-1.1	1.8	.9
MAUI 40445	M002	LG	.7	1.0	1.0	-3.8	3.5	-2.3
	M001	LG	.3	.5	.1	.1	-.2	.1
	M002	LC	.8	1.1	1.0	-2.0	1.2	-3.4
	M001	LC	.4	.7	.6	1.6	-1.9	-1.2
	M001	BTS87	10.0	10.0	10.0	-1.4	-2.6	.1
WASHINGTON 40451	M112	LG	.1	.6	.5	-.1	-.5	-.5
	M106	LG	22.6	18.0	19.5	-12.3	35.8	-46.4

	M101	LG	8.4	5.2	7.5	-15.2	7.6	-3.8
	M102	LG	1.2	1.0	.8	2.3	4.8	-.7
	M103	LG	1.8	1.9	1.2	.4	1.8	1.2
	M104	LG	6.4	5.4	5.3	-6.6	-11.7	-9.9
	M105	LG	.1	.2	.2	.0	-1.0	-.1
	M114	LG	1.3	1.1	.9	-2.1	9.2	-1.7
	M111	LG	3.6	3.7	3.1	4.7	1.4	-5.2
	M112	LC	1.2	.9	.9	5.0	2.1	.7
	M107	LC	100.0	100.0	100.0	-31.1	5.3	-28.5
	M108	LC	100.0	100.0	100.0	-108.4	93.8	62.0
	M106	LC	100.0	100.0	100.0	-21.2	60.6	-45.1
	M101	LC	100.0	100.0	100.0	-22.6	14.8	3.7
	M102	LC	1.3	1.1	.9	.4	2.4	1.1
	M103	LC	2.1	2.0	1.4	4.5	1.5	.7
	M104	LC	6.2	5.2	5.4	.7	-5.6	-2.1
	M105	LC	.7	.4	.5	-.2	.6	1.0
	M114	LC	2.1	1.7	1.4	-7.7	13.9	4.0
	M116	LC	12.5	10.7	8.4	.2	4.5	3.1
	M111	LC	3.6	3.6	3.0	7.4	1.0	-8.9
	M110	BTS87	10.0	10.0	10.0	2.6	1.8	-.4
HAT CREEK 40489	S001	RG	.2	.6	.8	-.0	-.0	.0
	M001	BTS87	10.0	10.0	10.0	.1	.4	-4.2
PASADENA 40400	M001	LG	2.3	2.5	1.9	-.8	4.7	.9
	M001	LC	2.4	2.4	1.9	.8	-4.4	-.9
MRYLAND POINT 40490	S001	RN	.5	2.0	1.6	-.2	.8	.6
	S001	RG	.4	1.1	.9	.2	-.2	-.2
RICHMOND 40499	S001	RN	.2	.4	.3	.3	.1	-.2
	S001	RG	.2	.4	.3	-.3	-.1	.2

	M001	BTS87	10.0	10.0	10.0	-4.3	1.1	-.4
MONUMENT PEAK 40497	M001	LG	.3	.4	.3	-.3	-.2	.1
	M002	LG	1.5	1.3	1.1	3.9	-3.1	-4.5
	M001	LC	.6	.4	.5	-.5	.4	1.6
	M002	LC	1.5	1.5	1.3	5.1	4.1	-5.9
	M003	LC	1.6	1.6	1.4	2.2	-2.7	-1.2
	M001	BTS87	10.0	10.0	10.0	1.8	-1.8	-.4
PLATTEVILLE 40496	M002	RG	.2	.8	.8	-.5	.3	-1.7
	M001	LG	.6	.6	.4	2.7	-.2	-.0
	M001	LC	.9	.7	.6	3.5	-.0	1.0
	M002	BTS87	10.0	10.0	10.0	-.8	-1.5	-2.9
YUMA 40493	S001	LG	2.4	2.3	2.2	-.7	-1.0	-.7
	M001	LC	2.5	2.4	2.4	.7	1.1	.9
FLAGSTAFF 40491	M001	LG	3.0	2.9	2.3	-3.4	-4.9	-4.9
	M001	LC	3.2	3.1	2.4	3.9	5.5	5.3
VERNAL 40492	M001	LG	2.1	2.3	1.4	-.3	3.8	-4.0
	M001	LC	2.3	2.5	1.6	.3	-4.4	5.3
MAZATLAN 40504	M001	LG	.4	.4	.3	-.4	-.2	-.1
	M001	LC	.7	.4	.6	1.1	.2	.2
	M001	BTS87	10.0	10.0	10.0	2.6	-1.4	2.1
CABO SAN LUCAS 40505	M001	LG	2.5	2.5	2.2	.0	.0	.0
	M001	LC	100.0	100.0	100.0	-1.1	-7.6	-1.6
NATAL 41604	S001	LG	1.4	1.9	2.1	-.9	1.7	2.3
	S001	LC	3.4	4.4	4.6	5.4	-9.1	-11.0
SANTIAGO 41705	S001	LG	1.8	1.2	1.5	-1.0	.0	-1.4
	M001	LC	2.4	1.7	2.1	1.8	-.1	2.7
EASTER ISLAND	M001	LG	12.8	10.0	9.9	-6.2	2.4	1.7

41703	M001	BTS87	10.0	10.0	10.0	3.8	-2.4	-1.7
CERRO TOLOLO	S001	LG	1.2	.9	1.0	-1.2	.1	.1
41706	M001	LC	1.6	1.2	1.5	2.1	-.2	-.3
AREQUIPA	S001	LG	.5	.3	.3	-1.1	-.9	-.0
42202	S001	LC	.7	.3	.6	2.2	.9	.1
	M002	BTS87	10.0	10.0	10.0	2.4	.3	1.4
BERMUDA	M001	LG	13.9	8.9	12.9	-6.7	-7.9	1.7
42501	M001	LC	7.2	4.8	7.3	1.8	2.3	-.6
GRAND TURK	M002	LG	45.0	24.8	38.0	-2.0	-.4	-.5
43602	M002	LC	100.0	100.0	100.0	9.8	6.7	3.2
ORRORAL	S008	LG	.8	.7	.9	10.7	-4.4	-.4
50103	S003	LG	.8	.8	.8	-1.0	-1.5	11.8
	S008	LC	.8	.9	.7	3.9	.4	-9.1
	S003	LC	.7	.8	.7	-10.4	6.9	.4
	M103	BTS87	10.0	10.0	10.0	-7.7	1.0	-3.5
YARRAGADEE	M001	LG	.3	.3	.5	.1	-.2	-.4
50107	M001	LC	.6	.4	.5	-.4	.4	.4
	M001	BTS87	10.0	10.0	10.0	-3.9	-1.3	-1.5
AMERICAN	M001	LG	1.4	2.0	1.9	.8	-1.1	.3
SAMOA 50503	M001	LC	1.3	2.0	1.9	-.7	1.1	-.3
KWAJALEIN	S003	RN	1.5	1.3	2.0	.4	.1	-4.6
ATOLL 50505	M001	LG	1.7	2.4	2.4	.2	1.1	2.1
	M001	LC	1.7	2.4	2.4	-.7	-1.4	4.5
MOTU HIUMOO	M002	LG	.5	.7	.6	-.3	-.5	.4
92202	M002	LC	1.1	1.5	1.4	1.4	2.2	-2.2
	M001	BTS87	10.0	10.0	10.0	-.0	-1.6	.7