SOST

Rev B/C (Iapetus)

2004-366T01:30 - 2005-002T04:38

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04/03/03

SOST Rev B/C Iapetus Attitude Strategy

Request	Riders	Start(SCET)	Start(Epoch)	Duration	End(SCET)	Primary Pointing	Secondary Pointing	Comments
SP_00BIA_WAYPTTURN366_PRIME	R	2004-366T01:30:00		000T00:30:00	2004-366T02:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	end D/L with +X to NEP; 20.6 min turn; SAFE WP
NEW WAYPOINT		**2004-366T02:00:00**		**001T13:00:00**	**2005-001T15:00:00**	**ISS_NAC to Iapetus**	**NEG_Z to North_Pole_Dir**	
ISS_00BIA_GLOBCOLA001_PRIME	C, R	2004-366T02:00:00		000T00:45:00	2004-366T02:45:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
CIRS_00BIA_FP3MAP001_PRIME	R, U	2004-366T02:45:00		000T01:00:00	2004-366T03:45:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
VIMS_00BIA_COMPA001_PRIME	C, R, U	2004-366T03:45:00		000T01:00:00	2004-366T04:45:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	None
RADAR_00BIA_SCATTRADL001_PRIME	M	2004-366T04:45:00		000T03:15:00	2004-366T08:00:00	NEG_Z to Iapetus	POS_Y to North_Pole_Dir	RADAR must control both axes. PDT must be run
ISS_00CIA_LIMBTOPOB001_PRIME	C, M, V	2004-366T08:00:00		000T00:30:00	2004-366T08:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
SP_00CEA_DLTURN366_PRIME	M	2004-366T08:30:00		000T00:30:00	2004-366T09:00:00	XBAND to Earth	POS_X to NSP	20.7 min turn
SP_00CEA_G34HEFNON366_PRIME	M	2004-366T09:00:00		000T04:30:00	2004-366T13:30:00	XBAND to Earth	Rolling	
SP_00CIA_WAYPTTURN366_PRIME	M	2004-366T13:30:00		000T00:30:00	2004-366T14:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	21.1 min turn; end D/L with +X to NEP
ISS_00CIA_GLOBMAPC001_PRIME	C, M, V	2004-366T14:00:00		000T00:30:00	2004-366T14:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
CIRS_00CIA_FP3DSKMAP001_PRIME	M, U	2004-366T14:30:00		000T04:00:00	2004-366T18:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
ISS_00CIA_LIMBTOPOD001_PRIME	C, M, V	2004-366T18:30:00		000T00:30:00	2004-366T19:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
VIMS_00CIA_COMPD001_PRIME	C, M, U	2004-366T19:00:00		000T02:00:00	2004-366T21:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	None
CIRS_00CIA_FP13MAPS001_PRIME	M, U	2004-366T21:00:00		000T01:00:00	2004-366T22:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
ISS_00CIA_LIMBTOPOE001_PRIME	C, M, V	2004-366T22:00:00		000T00:30:00	2004-366T22:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
VIMS_00CIA_COMPE001_PRIME	C, I, M, U	2004-366T22:30:00		000T02:00:00	2005-001T00:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	Do offset to lat/lon -50/60 while ISS rides
CIRS_00CIA_FP13MAPS002_PRIME	M, U, V	2005-001T00:30:00		000T00:30:00	2005-001T01:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
ISS_00CIA_GLOBMAPF001_PRIME	C, M, U, V	2005-001T01:00:00		000T00:30:00	2005-001T01:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
ISS_00CIA_GRAYLITEG001_PRIME	C, M, U, V	2005-001T01:30:00		000T00:30:00	2005-001T02:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
CIRS_00CIA_FP13MAPS003_PRIME	M, U	2005-001T02:00:00		000T02:00:00	2005-001T04:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
ISS_00CIA_GRAYLITEH001_PRIME	C, M	2005-001T04:00:00		000T01:00:00	2005-001T05:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
SP_00CEA_DLTURN001_PRIME	M	2005-001T05:00:00		000T00:30:00	2005-001T05:30:00	XBAND to Earth	POS_Y to NEP	24.8 min turn
SP_00CEA_G70METNON001_PRIME	C, M	2005-001T05:30:00		000T06:00:00	2005-001T11:30:00	XBAND to Earth	Rolling	
SP_00CIA_WAYPTTURN001_PRIME	M	2005-001T11:30:00		000T00:30:00	2005-001T12:00:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	23.6 min turn; end D/L with +X to NEP
CIRS_00CIA_FP13MAPS004_PRIME	M, R, U	2005-001T12:00:00		000T01:30:00	2005-001T13:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
ISS_00CIA_DUSTSEAR001_PRIME	M, R	2005-001T13:30:00		000T01:00:00	2005-001T14:30:00	ISS_NAC to Iapetus	NEG_Z to North_Pole_Dir	
SP_00CIA_WAYPTTURN401_PRIME	M, R	2005-001T14:30:00		000T00:30:00	2005-001T15:00:00	NEG_Z to Iapetus	POS_X to North_Pole_Dir	safe WP; 21.9 min turn
NEW WAYPOINT		**2005-001T15:00:00**		**000T13:38:00**	**2005-002T04:38:00**	**NEG_Z to Iapetus**	**POS_X to North_Pole_Dir**	
RADAR_00CIA_SCATTRADL001_PRIME	C, M	2005-001T15:00:00		000T08:45:00	2005-001T23:45:00	NEG_Z to Iapetus	POS_Y to North_Pole_Dir	PDT must be run before 2ndary axis can be precisely determined.
SP_00CEA_DLTURN401_PRIME	C, M	2005-001T23:45:00		000T00:23:00	2005-002T00:08:00	XBAND to Earth	NEG_X to NEP	19.4 min turn
SP_00CEA_M70METNON001_PRIME	C, M	2005-002T00:08:00		000T04:30:00	2005-002T04:38:00	XBAND to Earth	Rolling	

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SSR MANAGEMENT TOOL (SMT) VERSION: SMT-V02-D9.0
REPORT FOR revC_IA_030407_v2.apf
USING DICTIONARY FILE  /cas/msspath/MSS.D9.0/base/mss_sw/smt/dict/dict.txt
AND SSR CONFIGURATION TABLE /cas/msspath/MSS.D9.0/base/mss_sw/smt/tables/double_ssr.conf
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ACTIVITIES OUTSIDE EXECUTION PERIOD

ACTIVITY NAME	ACTIVITY TYPE	START TIME

SPECIAL ACTIVITIES REPORT

ACTIVITY NAME	ACTIVITY TYPE	START TIME	DATA CLASS	NOTIFICATION

TELEMETRY MODE REPORT

SCET	TELEMETRY MODE	REQUEST
2004-366T01:30:00	S_N_ER_5A	SP_00BNA_G34OBSNON366_NA
2004-366T04:45:00	S_N_ER_8	SP_00BNA_G34OBSNON366_NA
2004-366T08:00:00	S_N_ER_3	SP_00BNA_G34OBSNON366_NA
2004-366T09:00:00	RTE_N_SPB_47400	SP_00CEA_G34HEFNON366_PRIME
2004-366T12:08:00	RTE_N_SPB_41475	SP_00CEA_G34HEFNON366_PRIME
2004-366T13:08:00	RTE_N_SPB_35550	SP_00CEA_G34HEFNON366_PRIME
2004-366T13:30:00	S_N_ER_3	SP_00CNA_G70OBSNON001_NA
2005-002T05:30:00	RTE_N_SPB_165900	SP_00CEA_G70METNON001_PRIME
2005-002T11:30:00	S_N_ER_5A	SP_00CNA_M70OBSNON001_NA
2005-002T15:00:00	S_N_ER_8	SP_00CNA_M70OBSNON001_NA
2005-002T00:08:00	RTE_N_SPB_165900	SP_00CEA_M70METNON001_PRIME
2005-002T01:00:00	RTE_N_SPB_142200	SP_00CEA_M70METNON001_PRIME

DATA VOLUME SUMMARY
(see calculations)

SSR PARTITION SIZE SUMMARY - SELECTED SSR CONFIGURATION: DOUBLE

	SSR A/B		
OBSERVATION PERIOD	P4 Size (Frames)	P5 Size (Frames)	P6 Size (Frames)
SP_00BNA_G34OBSNON366_NA	202826	328	25596
SP_00CNA_G70OBSNON001_NA	202826	328	25596
SP_00CNA_M70OBSNON001_NA	202826	328	25596

DATA VOLUME REPORT

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	366 01:30	366 09:00	27.0	4.9	39.6	1.4	378.6	16.2	24.3	299.8	195.5	18.1	29.5	0.0	0.0	1034.8
SP_00CEA_G34HEFNON366_PRIME	366 09:00	366 13:30	16.2	2.4	0.0	0.8	0.0	9.7	14.6	0.0	21.2	0.0	0.0	0.0	0.0	65.0

OBSERVATION_NOR	366 13:30	002 05:30	57.6	8.6	187.2	2.9	715.5	34.6	51.8	0.0	75.5	99.6	119.3	0.0	0.0	1352.6
SP_00CEA_G70METNON001_PRIME	002 05:30	002 11:30	21.6	3.2	86.4	1.1	0.0	13.0	19.4	0.0	28.3	0.0	0.0	0.0	0.0	173.0
OBSERVATION_NOR	002 11:30	002 00:08	45.5	6.8	45.1	2.3	80.0	27.3	40.9	1261.3	59.6	27.2	0.0	0.0	0.0	1595.9
SP_00CEA_M70METNON001_PRIME	002 00:08	002 04:38	16.6	2.4	62.9	0.8	0.0	9.7	14.6	0.0	21.2	0.0	0.0	0.0	0.0	128.2
TOTAL (OPNAV data not included)			184.4	28.4	421.2	9.2	1174.1	110.4	165.7	1561.1	401.3	144.9	148.8			

AVERAGE DATA RATE REPORT (calculated over observation periods and downlink passes)

Event	Start doy hh:mm	End doy hh:mm	CAPS (bps)	CDA (bps)	INMS (bps)	MAG (bps)	MIMI (bps)	RPWS (bps)	UVIS (bps)
SP_00BNA_G34OBSNON366_NA	366 01:30	366 09:00	1000.0	180.1	50.0	600.0	901.8	7239.9	670.9
SP_00CEA_G34HEFNON366_PRIME	366 09:00	366 13:30	1000.0	149.9	50.0	600.0	900.0	1310.0	0.0
SP_00CNA_G70OBSNON001_NA	366 13:30	002 05:30	1000.0	149.9	50.0	600.0	900.0	1310.0	1729.7
SP_00CEA_G70METNON001_PRIME	002 05:30	002 11:30	1000.0	149.9	50.0	600.0	900.0	1310.0	0.0
SP_00CNA_M70OBSNON001_NA	002 11:30	002 00:08	1000.0	149.9	50.0	600.0	900.0	1310.0	597.5
SP_00CEA_M70METNON001_PRIME	002 00:08	002 04:38	1022.2	149.9	50.0	600.0	900.0	1310.0	0.0

DATA POLICING TABLES

Event	Start doy hh:mm	End doy hh:mm	CAPS (Pkts)	CDA (Pkts)	CIRS (Pkts)	INMS (Pkts)	ISS (Pkts)	MAG (Pkts)	MIMI (Pkts)	RADAR (Pkts)	RPWS (Pkts)	UVIS (Pkts)	VIMS (Pkts)	DPT #
OBSERVATION_NOR	366 01:30	366 09:00	3400	1200	5000	400	49800	2100	3100	39500	25700	2100	5100	1
SP_00CEA_G34HEFNON366_PRIME	366 09:00	366 13:30	2100	600	0	300	0	1300	1900	0	2800	0	0	2
OBSERVATION_NOR	366 13:30	002 05:30	7200	2100	23400	900	94000	4400	6500	0	10000	11500	20300	3
SP_00CEA_G70METNON001_PRIME	002 05:30	002 11:30	2700	800	10800	400	0	1700	2500	0	3800	0	0	4
OBSERVATION_NOR	002 11:30	002 00:08	5700	1700	5700	700	10600	3500	5200	166000	7900	3200	0	5
SP_00CEA_M70METNON001_PRIME	002 00:08	002 04:38	2100	600	7900	300	0	1300	1900	0	2800	0	0	6

Iapetus B/C data volume calculations 4/7/03

					OBSERVATION PERIOD								DOWNLINK PASS							
	START		END		START	SCI	HK + E	TOTAL	CAPACITY	MARGIN	MARGIN	OPNAV	RECORDED: SCI	ENGR	PLAYBACK: TOTAL	CAPACITY	MARGIN	MARGIN	CARRYOVER
DOWNLINK PASS NAME	doy	hh:mm	doy	hh:mm	(Mb)	(Mb)	(Mb)	(Mb)	(Mb)	(Mb)	(%)	(Mb)	(Mb)	(Mb)	(Mb)	(Mb)	(Mb)	(%)	(Mb)
SP_00CEA_G34HEFNON366_PRIME	366	9:00	366	13:30	0	1035	25	1059	2080	1021	49%	0	65	26	1150	590	-560	-95%	560
SP_00CEA_G70METNON001_PRIME	2	5:30	2	11:30	560	1353	54	1967	2080	113	5%	0	173	35	2175	2080	-95	-5%	95
SP_00CEA_M70METNON001_PRIME	2	0:00	2	4:38	95	1596	43	1734	2080	346	17%	0	128	26	1888	1989	101	5%	0

CASSINI DSN COVERAGE SUMMARY for revC_IA_030407_v2.apf generated on 2003-Apr-07 14:11:20
(+ = pass overlaps with previous pass; * = in conflict with DSN weekly maintenance)

C	ANT	ID	BOT_TO_EOT ERT	DUR hh:mm	XMT_AT ERT	2WAY_PERIOD ERT	DUR hh:mm	DL_PERIOD ERT	DL_PERIOD SCET	DUR hh:mm	NOT	CALS min	RADIO_CONFG UD	D	UD	MAR	DATA_RATES kbps
G	34HEF	15	366T07:50-14:40	06:50	366T08:00	10:14-14:37	04:23	366T10:07-14:37	366T09:00-13:30	04:30	---	15/15	XX	-	--	--0	47,41,35
G	70MET	14	001T04:10-12:40	08:30	001T04:20	06:37-12:37	06:00	001T06:37-12:37	001T05:30-11:30	06:00	---	15/15	XX	-	--	--0	165
M	70MET	63	001T20:05-05:45	09:40	001T20:15	01:15-05:45	04:30	002T01:15-05:45	002T00:08-04:38	04:30	---	15/15	XX	-	--	--0	165,142

Issues

- NAV (Jerry) has agreed to the DSN tracking plan. The agreement was that:
  - we would get as much 2-way tracking time as possible during the pass on DOY366.
  - we would get 6 hr 2-way tracking during the pass on DOY 001
  - continuous coverage starts at 002T00:00, although only 04:30 2-way is during the SOST segment.
- Turns will be designed so that they are robust enough to handle the probe contingency plan
  - Turn rates assuming probe still attached will be used, so that this segment may be executed even in the contingency plan