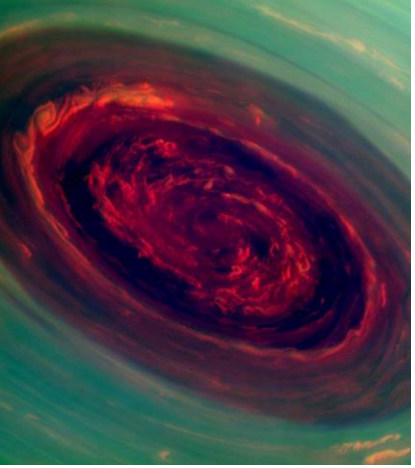

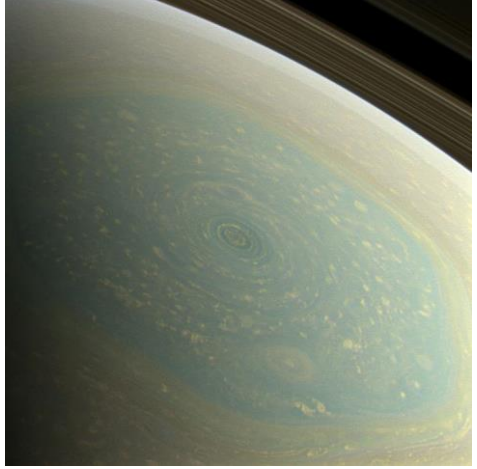
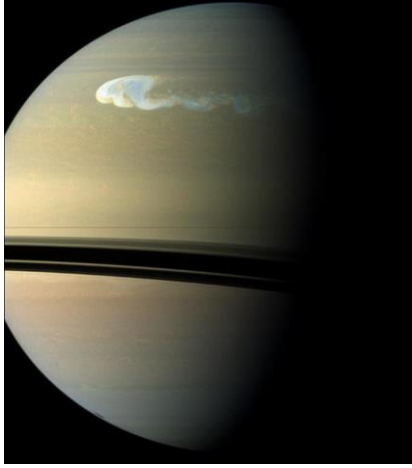

Science Planning & Sequence Team
CASSINI

SATURN TARGET WORKING TEAM

Rev 3 Segment Legacy Package

Segment Boundary: February 5, 2005 – February 14, 2005
2005-035T11:07:00 – 2005-045T09:07:00 (SCET)

Integration Began 07/29/2002
Segment Delivered to S08 Sequence 04/09/2003
Lead Integrator was Scott Edgington

Legacy Package Assembled by Shawn Boll

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*** N.A. = Slide present but content not available.**

Segment Overview and Final Products

Segment Summary

- This was a 10 day long segment, early in the Prime Mission, covering the inbound arc just after apoapse to just before the T3 Titan Flyby. The orbit was only slightly inclined and the views of Saturn's unobstructed southern hemisphere were at about 60 degrees phase. The northern hemisphere was bathed in ring shadow at this time.
- Saturn science included several ISS 3x3 movies and VIMS global movies. VIMS also conducted methane fluorescence observations.
- ISS also observed several small satellites as part of the campaign to determine orbital characteristics and Navigation took several images in support of optical navigation. ISS looked for shepherding moons in the C-ring.
- RSS performed several Operational Readiness Tests (ORTs) in preparation of their activities planned for the T3 Titan Flyby.
- Waypoint strategy was simple, with a single waypoint for the entire segment.

Final Sequenced SPASS (1 of 2)

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S008, length = 36 ...		2005-022T10:38:00	E00C_SEQUENCE_008+000T00:00:00	035T13:58:00	2005-058T00:36:00			
SATURN rev 3 Segment		2005-035T11:07:00		009T22:00:00	2005-045T09:07:00			
NAV_003SK_OPNAV351_PRIME	M, N	2005-035T11:07:00		000T00:59:00	2005-035T12:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at NEW waypoint
NAV_003SA_WAYPTTURN351_PRIME	M, N	2005-035T12:06:00		000T00:01:00	2005-035T12:07:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2005-035T12:07:00**		**004T04:45:00**	**2005-039T16:52:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_003SA_3X3MOVIEA001_PRIME	M	2005-035T12:07:00		000T04:00:00	2005-035T16:07:00	ISS_NAC to Saturn	POS_Z to NSP	
NAV_003SK_OPNAV352_PRIME	M, N	2005-035T16:07:00		000T00:59:00	2005-035T17:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN352_PRIME	M	2005-035T17:06:00		000T00:01:00	2005-035T17:07:00	XBAND to Earth	POS_X to NSP	
SP_003EA_M70METNON035_PRIME	C, M	2005-035T17:07:00		000T09:00:00	2005-036T02:07:00	XBAND to Earth	Rolling/SRU	
NAV_003SK_OPNAV361_PRIME	M, N	2005-036T02:07:00		000T00:59:00	2005-036T03:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN361_PRIME	M	2005-036T03:06:00		000T00:01:00	2005-036T03:07:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003SA_3X3MOVIEB001_PRIME	M, N	2005-036T03:07:00		000T20:00:00	2005-036T23:07:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003OT_SATELLORB012_PRIME	M	2005-036T23:07:00		000T00:30:00	2005-036T23:37:00	ISS_NAC to Rocks	POS_Z to NSP	
NAV_003SK_OPNAV362_PRIME	M	2005-036T23:37:00		000T00:59:00	2005-037T00:36:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN362_PRIME	M	2005-037T00:36:00		000T00:01:00	2005-037T00:37:00	XBAND to Earth	POS_X to NSP	
SP_003EA_G70METNON037_PRIME	C, M	2005-037T00:37:00		000T09:00:00	2005-037T09:37:00	XBAND to Earth	Rolling/SRU	
NAV_003SK_OPNAV371_PRIME	M	2005-037T09:37:00		000T00:59:00	2005-037T10:36:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN371_PRIME	M	2005-037T10:36:00		000T00:01:00	2005-037T10:37:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003SA_3X3MOVIEA002_PRIME	M, V	2005-037T10:37:00		000T05:30:00	2005-037T16:07:00	ISS_NAC to Saturn	POS_Z to NSP	
NAV_003SK_OPNAV372_PRIME	M, N	2005-037T16:07:00		000T00:59:00	2005-037T17:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN372_PRIME	M	2005-037T17:06:00		000T00:01:00	2005-037T17:07:00	XBAND to Earth	POS_X to NSP	
SP_003EA_M70METNON037_PRIME	M	2005-037T17:07:00		000T09:00:00	2005-038T02:07:00	XBAND to Earth	Rolling/SRU	
NAV_003SK_OPNAV381_PRIME	M	2005-038T02:07:00		000T00:59:00	2005-038T03:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN381_PRIME	M	2005-038T03:06:00		000T00:01:00	2005-038T03:07:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003SA_3X3MOVIEB002_PRIME	M, R, V	2005-038T03:07:00		000T19:45:00	2005-038T22:52:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003OT_SATELLORB018_PRIME	M, R	2005-038T22:52:00		000T00:30:00	2005-038T23:22:00	ISS_NAC to Rocks	POS_Z to NSP	
NAV_003SK_OPNAV382_PRIME	M, N, R	2005-038T23:22:00		000T00:59:00	2005-039T00:21:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN382_PRIME	M, R	2005-039T00:21:00		000T00:01:00	2005-039T00:22:00	XBAND to Earth	POS_X to NSP	
SP_003EA_G70METNON039_PRIME	C, M, R	2005-039T00:22:00		000T09:00:00	2005-039T09:22:00	XBAND to Earth	Rolling/SRU	
NAV_003SK_OPNAV391_PRIME	M, N	2005-039T09:22:00		000T00:59:00	2005-039T10:21:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN391_PRIME	M	2005-039T10:21:00		000T00:01:00	2005-039T10:22:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003SA_3X3MOVIEA003_PRIME	M, R, V	2005-039T10:22:00		000T05:30:00	2005-039T15:52:00	ISS_NAC to Saturn	POS_Z to NSP	
NAV_003SK_OPNAV392_PRIME	M, R	2005-039T15:52:00		000T00:59:00	2005-039T16:51:00	ISS_NAC to Satellites	POS_Z to NSP	Ends at NEW waypoint
NAV_003EA_DLTURN392_PRIME	M, N, R	2005-039T16:51:00		000T00:01:00	2005-039T16:52:00	XBAND to Earth	POS_X to NSP	
NEW WAYPOINT		**2005-039T16:52:00**		**001T01:00:00**	**2005-040T17:52:00**	**XBAND to Earth**	**POS_X to NSP**	
SP_003EA_M34BWGNON039_PRIME	C, M, R	2005-039T17:32:00		000T09:50:00	2005-040T03:22:00	XBAND to Earth	POS_X to NSP	RSS USO PIM for the first 4 hours (no rolling); Remain Earth-pointing for CDA
SP_003EA_RWDTURN040_PRIME	M	2005-040T03:22:00		000T13:30:00	2005-040T16:52:00	XBAND to Earth	POS_X to NSP	
NAV_003SK_OPNAV401_PRIME	M, N	2005-040T16:52:00		000T00:59:00	2005-040T17:51:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at NEW waypoint

Final Sequenced SPASS (2 of 2)

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
NAV_003SA_WAYPTTURN401_PRIME	M	2005-040T17:51:00		000T00:01:00	2005-040T17:52:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2005-040T17:52:00**		**004T15:45:00**	**2005-045T09:37:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ENGR_003SC_GYROCALB001_AACS	M	2005-040T17:52:00		000T04:00:00	2005-040T21:52:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003OT_SATELLORB024_PRIME	M	2005-040T22:52:00		000T00:30:00	2005-040T23:22:00	ISS_NAC to Rocks	POS_Z to NSP	
NAV_003SK_OPNAV402_PRIME	M, N	2005-040T23:22:00		000T00:59:00	2005-041T00:21:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN402_PRIME	M	2005-041T00:21:00		000T00:01:00	2005-041T00:22:00	XBAND to Earth	POS_X to NSP	
SP_003EA_G34HEFNON041_PRIME	C, M	2005-041T00:22:00		000T09:00:00	2005-041T09:22:00	XBAND to Earth	Rolling	
NAV_003SK_OPNAV411_PRIME	M	2005-041T09:22:00		000T00:59:00	2005-041T10:21:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN411_PRIME	M	2005-041T10:21:00		000T00:01:00	2005-041T10:22:00	ISS_NAC to Saturn	POS_Z to NSP	
VIMS_003SA_CH4FLR001_PRIME	M, R	2005-041T10:22:00		000T05:15:00	2005-041T15:37:00	VIMS_IR to Saturn	POS_Z to NSP	None
NAV_003SK_OPNAV412_PRIME	M, N, R	2005-041T15:37:00		000T00:59:00	2005-041T16:36:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN412_PRIME	M, R	2005-041T16:36:00		000T00:01:00	2005-041T16:37:00	XBAND to Earth	POS_X to NSP	
SP_003EA_M70METNON041_PRIME	C, M, R	2005-041T16:37:00		000T09:00:00	2005-042T01:37:00	XBAND to Earth	Rolling	
NAV_003SK_OPNAV421_PRIME	M	2005-042T01:37:00		000T00:59:00	2005-042T02:36:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN421_PRIME	M	2005-042T02:36:00		000T00:01:00	2005-042T02:37:00	ISS_NAC to Saturn	POS_Z to NSP	
VIMS_003SA_GLOMOV001_PRIME	M	2005-042T02:37:00		000T10:00:00	2005-042T12:37:00	ISS_NAC to Saturn	POS_Z to NSP	None
ISS_003OT_SATELLORB030_PRIME	M	2005-042T12:37:00		000T00:30:00	2005-042T13:07:00	ISS_NAC to Rocks	POS_Z to NSP	
VIMS_003SA_GLOMOV002_PRIME	M	2005-042T13:07:00		000T10:00:00	2005-042T23:07:00	ISS_NAC to Saturn	POS_Z to NSP	None
NAV_003SK_OPNAV422_PRIME	M	2005-042T23:07:00		000T00:59:00	2005-043T00:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN422_PRIME	M	2005-043T00:06:00		000T00:01:00	2005-043T00:07:00	XBAND to Earth	POS_X to NSP	
SP_003EA_G34HEFOTP043_PRIME	M, N	2005-043T00:07:00		000T09:00:00	2005-043T09:07:00	XBAND to Earth	Rolling	
NAV_003SK_OPNAV431_PRIME	M	2005-043T09:07:00		000T00:59:00	2005-043T10:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN431_PRIME	M, N	2005-043T10:06:00		000T00:01:00	2005-043T10:07:00	ISS_NAC to Saturn	POS_Z to NSP	
ISS_003RC_LPMRLFMOV001_PRIME	M	2005-043T10:07:00		000T04:30:00	2005-043T14:37:00	ISS_NAC to Rings	POS_Z to NSP	
ISS_003TI_1X1PHOT30001_PRIME	M	2005-043T14:37:00		000T01:00:00	2005-043T15:37:00	ISS_NAC to Titan	NEG_X to Sun	
NAV_003SK_OPNAV432_PRIME	M	2005-043T15:37:00		000T00:59:00	2005-043T16:36:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN432_PRIME	M	2005-043T16:36:00		000T00:01:00	2005-043T16:37:00	XBAND to Earth	POS_X to NSP	
SP_003EA_M70METOTB043_PRIME	M, N	2005-043T16:37:00		000T09:00:00	2005-044T01:37:00	XBAND to Earth	Rolling	
NAV_003SK_OPNAV441_PRIME	M	2005-044T01:37:00		000T00:59:00	2005-044T02:36:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at Earth point, ends at waypoint
NAV_003SA_WAYPTTURN441_PRIME	M, N	2005-044T02:36:00		000T00:01:00	2005-044T02:37:00	ISS_NAC to Saturn	POS_Z to NSP	
VIMS_003SA_GLOMOV003_PRIME	M, N	2005-044T02:37:00		000T10:00:00	2005-044T12:37:00	ISS_NAC to Saturn	POS_Z to NSP	None
ISS_003OT_SATELLORB036_PRIME	M	2005-044T12:37:00		000T00:30:00	2005-044T13:07:00	ISS_NAC to Rocks	POS_Z to NSP	
VIMS_003SA_GLOMOV004_PRIME	M, R	2005-044T13:07:00		000T10:00:00	2005-044T23:07:00	ISS_NAC to Saturn	POS_Z to NSP	None
NAV_003SK_OPNAV442_PRIME	M, R	2005-044T23:07:00		000T00:59:00	2005-045T00:06:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_003EA_DLTURN442_PRIME	M, N, R	2005-045T00:06:00		000T00:01:00	2005-045T00:07:00	XBAND to Earth	POS_X to NSP	
SP_003EA_G70METNON045_PRIME	M, R	2005-045T00:07:00		000T09:00:00	2005-045T09:07:00	XBAND to Earth	Rolling	

Final Sequenced SMT and Data Volume (1 of 2)

DATA VOLUME SUMMARY --- TRANSFER FRAME OVERHEAD INCLUDED (80 BITS PER 8800-BIT FRAME)

			OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4						P5	RECORDED		PLAYBACK					
DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MRGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	(%)	CAROVR (Mb)
SP_003EA_M70METNON035_PRIME	035 17:07	036 02:07	0	2170	20	2190	3489	1299	35	2120	53	4399	4575	176	270	1%	0
SP_003EA_G70METNON037_PRIME	037 00:37	037 09:37	0	3317	76	3393	3489	96	35	1067	53	4548	4575	27	110	0%	0
SP_003EA_M70METNON037_PRIME	037 17:07	038 02:07	0	2722	25	2748	3489	741	35	1728	53	4564	4575	11	105	0%	0
SP_003EA_G70METNON039_PRIME	039 00:22	039 09:22	0	3318	76	3394	3489	95	35	1045	53	4527	4554	27	94	0%	0
SP_003EA_M34BWGNON039_PRIME	039 17:32	040 03:22	0	1363	28	1391	3489	2098	35	697	58	2181	1114	-1067	67	0%	1067
SP_003EA_G34HEFNON041_PRIME	041 00:22	041 09:22	1067	1317	71	2455	3489	1034	35	646	53	3190	1233	-1956	67	0%	1957
SP_003EA_M70METNON041_PRIME	041 16:37	042 01:37	1957	1408	24	3389	3489	100	35	1046	53	4524	4554	30	67	0%	0
SP_003EA_G34HEFOTP043_PRIME	043 00:07	043 09:07	0	2624	76	2701	3489	788	35	483	53	3273	1035	-2237	41	0%	2237
SP_003EA_M70METOTB043_PRIME	043 16:37	044 01:37	2237	1140	25	3402	3489	87	35	1067	53	4558	4575	17	41	0%	0
SP_003EA_G70METNON045_PRIME	045 00:07	045 09:07	0	3323	76	3400	3489	89	35	1039	53	4528	4549	22	24	0%	0

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

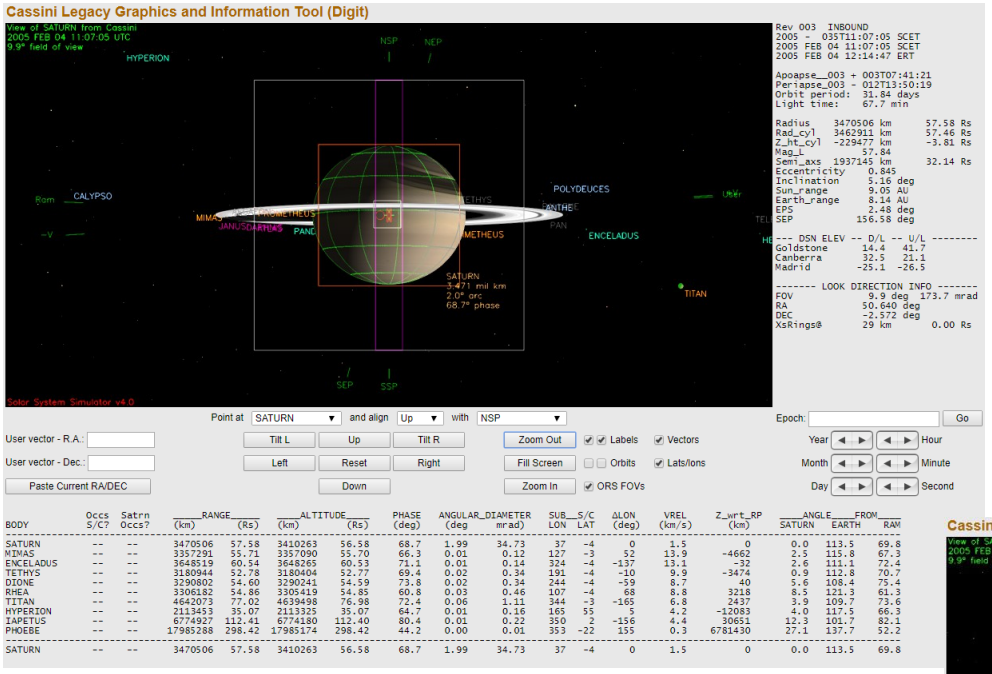
Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	035 11:07	035 17:07	332.2	7.4	0.0	2.2	630.0	42.7	38.9	0.0	1097.0	0.0	0.0	0.0	0.0	2150.3
OBSERVATION_OPN	035 11:07	035 17:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M70METNON035_PRIME	035 17:07	036 02:07	375.4	11.1	86.4	3.2	0.0	64.0	58.3	0.0	1500.0	2.5	0.0	0.0	0.0	2100.9
DAILY TOTAL SCIENCE	035 11:07	036 02:07	707.5	18.6	86.4	5.4	630.0	106.7	97.2	0.0	2597.0	2.5	0.0	0.0		
OBSERVATION_NOR	036 02:07	037 00:37	569.8	24.7	0.0	8.1	1406.0	160.1	145.8	0.0	972.0	0.0	0.0	0.0	0.0	3286.4
OBSERVATION_OPN	036 02:07	037 00:37	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G70METNON037_PRIME	037 00:37	037 09:37	252.5	11.1	86.4	3.2	0.0	64.0	58.3	0.0	579.2	2.5	0.0	0.0	0.0	1057.3
DAILY TOTAL SCIENCE	036 02:07	037 09:37	822.2	35.8	86.4	11.3	1406.0	224.1	204.1	0.0	1551.2	2.5	0.0	0.0		
OBSERVATION_NOR	037 09:37	037 17:07	335.9	9.3	0.0	2.7	630.0	53.4	40.5	0.0	1425.8	0.0	200.0	0.0	0.0	2697.6
OBSERVATION_OPN	037 09:37	037 17:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M70METNON037_PRIME	037 17:07	038 02:07	476.9	9.5	0.0	3.2	0.0	64.0	48.6	0.0	1107.2	2.5	0.0	0.0	0.0	1711.9
DAILY TOTAL SCIENCE	037 09:37	038 02:07	812.8	18.8	0.0	5.9	630.0	117.4	89.1	0.0	2533.0	2.5	200.0	0.0		

Final Sequenced SMT and Data Volume (2 of 2)

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

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	038 02:07	039 00:22	513.3	20.6	0.0	8.0	1406.0	158.3	120.2	0.0	861.7	0.0	200.0	0.0	0.0	3288.1
OBSERVATION_OPN	038 02:07	039 00:22	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G70METNON039_PRIME	039 00:22	039 09:22	252.5	9.5	86.4	3.2	0.0	64.0	58.3	0.0	558.6	2.5	0.0	0.0	0.0	1035.1
DAILY TOTAL SCIENCE	038 02:07	039 09:22	765.8	30.1	86.4	11.3	1406.0	222.3	178.5	0.0	1420.3	2.5	200.0	0.0		
OBSERVATION_NOR	039 09:22	039 17:32	117.6	4.4	0.0	2.9	630.0	58.1	52.9	0.0	264.6	0.2	220.0	0.0	0.0	1350.7
OBSERVATION_OPN	039 09:22	039 17:32	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M34BWGNON039_PRIME	039 17:32	040 03:22	141.6	4.1	86.4	3.5	0.0	70.0	63.7	0.0	318.6	2.7	0.0	0.0	0.0	690.6
DAILY TOTAL SCIENCE	039 09:22	040 03:22	259.2	8.5	86.4	6.5	630.0	128.0	116.6	0.0	583.2	2.9	220.0	0.0		
OBSERVATION_NOR	040 03:22	041 00:22	302.4	8.9	0.0	7.6	20.0	149.4	136.1	0.0	680.4	0.0	0.0	0.0	0.0	1304.7
OBSERVATION_OPN	040 03:22	041 00:22	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G34HEFNON041_PRIME	041 00:22	041 09:22	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	2.5	0.0	0.0	0.0	640.5
DAILY TOTAL SCIENCE	040 03:22	041 09:22	432.0	13.8	86.4	10.8	20.0	213.4	194.4	0.0	972.0	2.5	0.0	0.0		
OBSERVATION_NOR	041 09:22	041 16:37	227.3	8.1	0.0	2.6	0.0	51.6	47.0	0.0	258.9	0.0	800.0	0.0	0.0	1395.4
OBSERVATION_OPN	041 09:22	041 16:37	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M70METNON041_PRIME	041 16:37	042 01:37	252.5	11.1	86.4	3.2	0.0	64.0	58.3	0.0	558.6	2.5	0.0	0.0	0.0	1036.7
DAILY TOTAL SCIENCE	041 09:22	042 01:37	479.8	19.2	86.4	5.9	0.0	115.6	105.3	0.0	817.5	2.5	800.0	0.0		
OBSERVATION_NOR	042 01:37	043 00:07	1017.5	20.9	0.0	8.1	20.0	160.1	125.5	0.0	1048.4	0.0	200.0	0.0	0.0	2600.5
OBSERVATION_OPN	042 01:37	043 00:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G34HEFOTP043_PRIME	043 00:07	043 09:07	112.1	3.2	0.0	3.2	0.0	55.4	50.2	0.0	252.2	2.5	0.0	0.0	0.0	478.9
DAILY TOTAL SCIENCE	042 01:37	043 09:07	1129.6	24.1	0.0	11.3	20.0	215.4	175.8	0.0	1300.7	2.5	200.0	0.0		
OBSERVATION_NOR	043 09:07	043 16:37	93.4	6.9	0.0	2.7	581.6	53.4	41.9	0.0	349.5	0.0	0.0	0.0	0.0	1129.3
OBSERVATION_OPN	043 09:07	043 16:37	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M70METOTB043_PRIME	043 16:37	044 01:37	375.4	9.5	0.0	3.2	0.0	64.0	58.3	0.0	544.6	2.5	0.0	0.0	0.0	1057.5
DAILY TOTAL SCIENCE	043 09:07	044 01:37	468.8	16.4	0.0	5.9	581.6	117.4	100.2	0.0	894.1	2.5	0.0	0.0		
OBSERVATION_NOR	044 01:37	045 00:07	815.5	20.7	0.0	8.1	20.0	160.1	145.8	0.0	1483.0	0.0	640.0	0.0	0.0	3293.1
OBSERVATION_OPN	044 01:37	045 00:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G70METNON045_PRIME	045 00:07	045 09:07	252.5	9.5	0.0	48.5	0.0	64.0	58.3	0.0	594.6	2.5	0.0	0.0	0.0	1029.9
DAILY TOTAL SCIENCE	044 01:37	045 09:07	1068.0	30.2	0.0	56.6	20.0	224.1	204.1	0.0	2077.6	2.5	640.0	0.0		

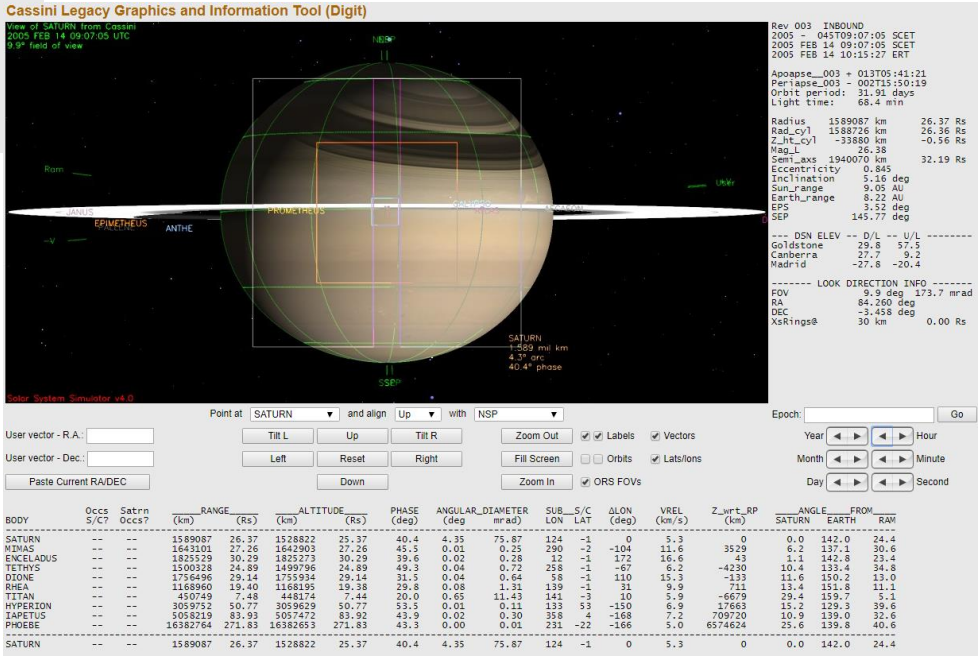
Segment Geometry



BODY	Occs S/C?	Satrn Occs?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGULAR_DIAMETER (deg)	ANGULAR_DIAMETER mrad	SUB_S/C LON	SUB_S/C LAT	ΔLON (deg)	VREL (km/s)	Z_wrt_RP (km)	ANGLE_FROM SATURN	ANGLE_FROM EARTH	ANGLE_FROM RAM
SATURN	--	--	3475056	57.58	3410263	56.58	68.7	1.99	34.73	37	-4	0	1.5	0	0.0	113.5	69.8
MIMAS	--	--	3357291	55.71	3357090	55.70	66.3	0.01	0.12	127	-3	52	13.9	-4662	2.5	115.8	67.3
ENCELADUS	--	--	3648519	60.54	3648265	60.53	71.1	0.01	0.14	324	-4	-137	13.1	-32	2.6	111.1	72.4
TETHYS	--	--	3180944	52.78	3180404	52.77	69.4	0.02	0.34	191	-4	-10	9.9	-3474	0.9	112.8	70.7
DIONE	--	--	3290802	54.60	3290241	54.59	73.8	0.02	0.34	244	-4	-59	8.7	40	5.6	108.4	75.4
RHEA	--	--	3306182	54.86	3305419	54.85	60.8	0.03	0.46	107	-4	68	8.8	3218	8.5	121.3	61.3
TITAN	--	--	4642073	77.02	4639498	76.98	72.4	0.06	1.11	344	-3	-165	6.8	2437	3.9	109.7	73.6
HYPERION	--	--	2113453	35.07	2113325	35.07	64.7	0.01	0.16	165	55	5	4.2	-12083	4.0	117.5	66.3
IAPETUS	--	--	6774927	112.41	6774180	112.40	80.4	0.01	0.22	350	2	-156	4.4	30651	12.3	101.7	82.1
PHOEBE	--	--	17985288	298.42	17985174	298.42	44.2	0.00	0.01	353	-22	155	0.3	6781430	27.1	137.7	52.2
SATURN	--	--	3475056	57.58	3410263	56.58	68.7	1.99	34.73	37	-4	0	1.5	0	0.0	113.5	69.8

Seg Start (Left)

Seg End (below)



BODY	Occs S/C?	Satrn Occs?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGULAR_DIAMETER (deg	ANGULAR_DIAMETER mrad)	SUB_S/C LON	SUB_S/C LAT	ΔLON (deg)	VREL (km/s)	Z_wrt_RP (km)	ANGLE_FROM SATURN	ANGLE_FROM EARTH	ANGLE_FROM RAM
SATURN	--	--	1589087	26.37	1528822	25.37	40.4	4.35	75.87	124	-1	0	5.3	0	0.0	142.0	24.4
MIMAS	--	--	1643101	27.26	1642903	27.26	45.5	0.01	0.25	290	-2	-104	11.6	3529	6.2	137.1	30.6
ENCELADUS	--	--	1825529	30.29	1825273	30.29	39.6	0.02	0.28	12	-1	172	16.6	43	1.1	142.8	23.4
TETHYS	--	--	1500328	24.89	1499796	24.89	49.3	0.04	0.72	258	-1	-67	6.2	-4230	10.4	133.4	34.8
DIONE	--	--	1756496	29.14	1755934	29.14	31.5	0.04	0.64	58	-1	110	15.3	-133	11.6	150.2	13.0
RHEA	--	--	1168960	19.40	1168195	19.38	29.8	0.08	1.31	139	-1	31	9.9	711	13.4	151.8	11.1
TITAN	--	--	450749	7.48	448174	7.44	20.0	0.65	11.43	141	-3	10	5.9	-6679	29.4	159.7	5.1
HYPERION	--	--	3059752	50.77	3059629	50.77	53.5	0.01	0.11	133	53	-150	6.9	17663	15.2	129.3	39.6
IAPETUS	--	--	5058219	83.93	5057472	83.92	43.9	0.02	0.30	358	4	-168	7.2	709720	10.9	139.0	32.6
PHOEBE	--	--	16382764	271.83	16382653	271.83	43.3	0.00	0.01	231	-22	-166	5.0	6574624	25.6	139.8	40.6
SATURN	--	--	1589087	26.37	1528822	25.37	40.4	4.35	75.87	124	-1	0	5.3	0	0.0	142.0	24.4

	Saturn Range	Phase Angle	Sub-S/C Lat.
Segment Start	57.58 Rs	68.7	-4
Segment End	26.37 Rs	40.4	-1

Solar Geometry – ORS Boresight Concerns

No ORS Boresight Solar Constraints on Science Pointing.

Daily Science Highlights

In the third week of execution for tour sequence S08, the Imaging Science Subsystem (ISS) and the Visible and Infrared Mapping Spectrometer (VIMS) conducted observations for time variable atmospheric events as we approached Saturn. Each day of this week had the Optical Remote Sensing instruments taking data and the Navigation team obtaining Optical Navigation images.

Monday, February 7:
The Radio Science Subsystem (RSS) conducted an Operations Readiness Test of their instrument. Additional activities occured Tuesday, Thursday, and Sunday.

Tuesday, February 8:
RSS performed an Ultra Stable Oscillator characterization and a periodic instrument maintenance.

The fourth week of S08 began with the ongoing Visible and Infrared Mapping Spectrometer (VIMS) observations of the Saturn atmosphere, which focused on the detection of methane fluorescence. The Imaging Science Subsystem (ISS) observed Titan and looked for shepherding satellites of the C-Ring.

Thursday, February 10:
The Radio Science Subsystem (RSS) team performed another operational readiness test (ORT) today. The tests are being performed to prepare the instrument and the DSN for an occultation during Titan-3 and for the Enceladus mass determination observations.

Monday, February 14:
Early on this day, RSS performed their final ORT in preparation for the upcoming Titan flyby.

Segment Integration Planning

Timeline Gaps and Suggested Observations

Rev 3 Proposed TOL

- ISS Movie
- Downlink 1 (Goldstone)
- ISS Movie
- Downlink 2 (Goldstone)
- ISS Movie
- Downlink 3 (Goldstone)
- ISS Movie
- Downlink 4 (Goldstone)
- ISS Movie
- Downlink 5 (Goldstone)
- ISS Movie
- Downlink 6 (Goldstone)
- VIMS Global Movie
- Downlink 7 (Goldstone)
  - RSS USO PIM
- VIMS Global Movie
- Downlink 8 (Goldstone)
  - OTM
- VIMS Global Movie/Titan 1x1
- Downlink 9 (Goldstone)
  - OTB
- VIMS Global Movie/Tethys Occultation
- Downlink 10 (Goldstone)
  - TOST Boundary

Initial SMT and Data Volume (1 of 2)

First Look in Integration:

DATA VOLUME SUMMARY

Playback	Start doy hh:mm	End doy hh:mm	PLAYBACK CAPACITY (Mb)	OBSERVATION_PERIOD NORM_SCI (Mb)	OPNV_HVS (Mb)	SCI_HK (Mb)	ENGR (Mb)	DOWNLINK_PASS NORM_SCI (Mb)	ENGR (Mb)	TOTAL PLAYBK DATA (Mb)	MARGIN (%)	OVER CARRIED (MB)
SP_003EA_G70METNON034_PRIME	034 23:07	035 11:07	5564	0	0	0	0	399	70	469	92	0
SP_003EA_M34HEFNON035_PRIME	035 17:07	036 02:07	1210	940	17	5	16	638	53	1669	-38	458
SP_003EA_G34HEFNON037_PRIME	037 00:37	037 09:37	1252	2785	35	18	58	638	53	4045	-223	2793
SP_003EA_M34HEFNON037_PRIME	037 17:07	038 02:07	1206	1290	35	6	19	638	53	4263	-254	3057
SP_003EA_G34HEFNON039_PRIME	039 00:22	039 09:22	1254	3520	35	17	58	638	53	4263	-240	3009
SP_003EA_M34HEFNON039_PRIME	039 16:52	040 01:52	1201	1310	35	6	19	638	53	4263	-255	3062
SP_003EA_G34HEFNON041_PRIME	041 00:22	041 09:22	1252	1388	35	18	58	638	53	4263	-240	3011
SP_003EA_M34HEFNON041_PRIME	041 16:37	042 01:37	1196	1244	35	6	19	589	53	4214	-252	3018
SP_003EA_G34HEFOTM043_PRIME	043 00:07	043 09:07	1054	2188	35	18	58	552	53	4177	-296	3123
SP_003EA_M34HEFOTB043_PRIME	043 16:37	044 01:37	1192	1051	35	6	19	552	53	4177	-250	2985
SP_003EA_G70METNON045_PRIME	045 00:07	045 09:07	4472	2139	35	18	58	228	53	3853	14	0

Initial SMT and Data Volume (2 of 2)

First Look in Integration:

DATA VOLUME REPORT

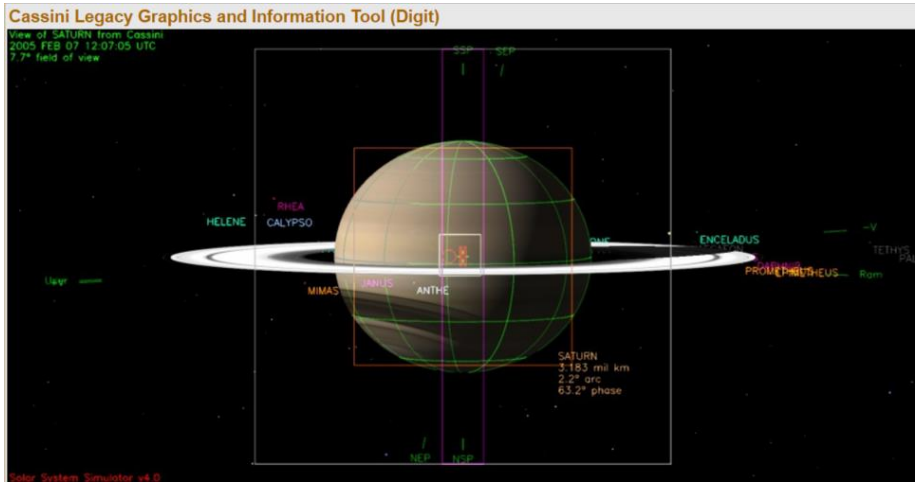
Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
SP_003EA_G70METNON034_PRIME	034 23:07	035 11:07	172.8	6.5	0.0	0.8	57.3	15.1	77.8	0.0	68.6	0.0	0.0	0.0	0.0	398.7
OBSERVATION_NOR	035 11:07	035 17:07	86.4	3.2	0.0	2.2	572.7	42.7	38.9	0.0	194.4	0.0	0.0	0.0	0.0	940.5
OBSERVATION_OPN	035 11:07	035 17:07	0.0	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4
SP_003EA_M34HEFNON035_PRIME	035 17:07	036 02:07	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	638.0
OBSERVATION_NOR	036 02:07	037 00:37	324.0	12.1	0.0	8.1	1406.0	160.1	145.8	0.0	729.0	0.0	0.0	0.0	0.0	2785.1
OBSERVATION_OPN	036 02:07	037 00:37	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G34HEFNON037_PRIME	037 00:37	037 09:37	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	638.0
OBSERVATION_NOR	037 09:37	037 17:07	108.0	4.0	0.0	2.7	630.0	53.4	48.6	0.0	243.0	0.0	200.0	0.0	0.0	1289.7
OBSERVATION_OPN	037 09:37	037 17:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M34HEFNON037_PRIME	037 17:07	038 02:07	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	638.0
OBSERVATION_NOR	038 02:07	039 00:22	320.4	12.0	0.0	8.0	1406.0	158.3	144.2	0.0	720.9	0.0	750.0	0.0	0.0	3519.8
OBSERVATION_OPN	038 02:07	039 00:22	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G34HEFNON039_PRIME	039 00:22	039 09:22	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	638.0
OBSERVATION_NOR	039 09:22	039 16:52	108.0	4.0	0.0	2.7	630.0	53.4	48.6	0.0	243.0	0.0	220.0	0.0	0.0	1309.7
OBSERVATION_OPN	039 09:22	039 16:52	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M34HEFNON039_PRIME	039 16:52	040 01:52	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	638.0
OBSERVATION_NOR	040 01:52	041 00:22	324.0	1.3	0.0	8.1	20.0	160.1	145.8	0.0	729.0	0.0	0.0	0.0	0.0	1388.3
OBSERVATION_OPN	040 01:52	041 00:22	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G34HEFNON041_PRIME	041 00:22	041 09:22	129.6	4.9	86.4	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	638.0
OBSERVATION_NOR	041 09:22	041 16:37	104.4	3.9	0.0	2.6	0.0	51.6	47.0	0.0	234.9	0.0	800.0	0.0	0.0	1244.4
OBSERVATION_OPN	041 09:22	041 16:37	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M34HEFNON041_PRIME	041 16:37	042 01:37	129.6	4.9	37.7	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	589.3
OBSERVATION_NOR	042 01:37	043 00:07	324.0	12.1	48.7	8.1	20.0	160.1	145.8	0.0	729.0	0.0	740.0	0.0	0.0	2187.8
OBSERVATION_OPN	042 01:37	043 00:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G34HEFOTM043_PRIME	043 00:07	043 09:07	129.6	4.9	0.0	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	551.6
OBSERVATION_NOR	043 09:07	043 16:37	108.0	4.0	0.0	2.7	591.6	53.4	48.6	0.0	243.0	0.0	0.0	0.0	0.0	1051.3
OBSERVATION_OPN	043 09:07	043 16:37	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_M34HEFOTB043_PRIME	043 16:37	044 01:37	129.6	4.9	0.0	3.2	0.0	64.0	58.3	0.0	291.6	0.0	0.0	0.0	0.0	551.6
OBSERVATION_NOR	044 01:37	045 00:07	324.0	12.1	0.0	8.1	20.0	160.1	145.8	0.0	729.0	0.0	740.0	0.0	0.0	2139.1
OBSERVATION_OPN	044 01:37	045 00:07	0.0	0.0	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.8
SP_003EA_G70METNON045_PRIME	045 00:07	045 09:07	129.6	4.9	0.0	0.3	0.0	6.3	58.3	0.0	28.6	0.0	0.0	0.0	0.0	228.0

Waypoint Selection

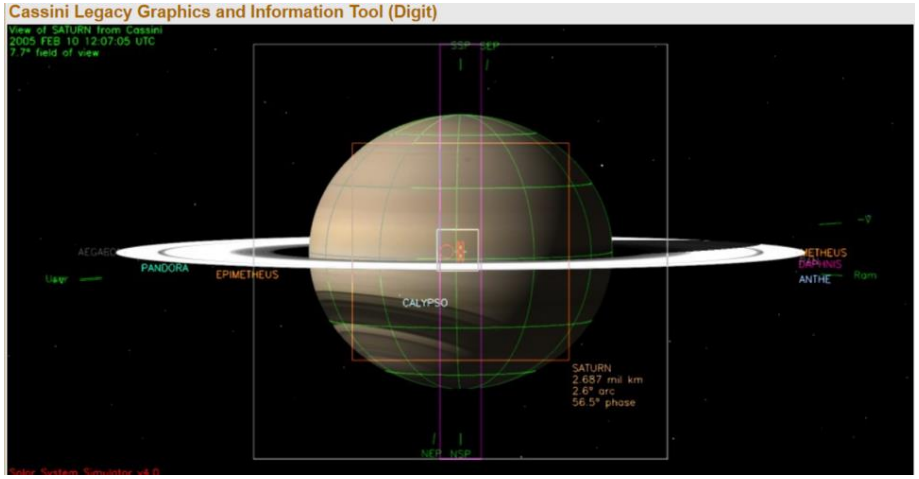
No Waypoint Selection Info Available.

Waypoints Chosen

Waypoint 1 (Whole Segment): ISS_NAC to Saturn; POS_Z to NSP



@ DOY 038



@ DOY 041

Notes & Liens

- **Pointing Issues**
  - Must be Earth-pointing at the end of the downlink on beginning on DOY 039 for the CDA decon activity.
- **Data Volume Issues**
  - None
- **Telemetry Mode Issues**
  - None
- **CIMS Issues**
  - None
- **Power/OPMODE Issues**
  - None
- **Flight Rule/Mission Planning Guideline and Constraint Issues**
  - None
- **Other Issues**
  - Special activities include RSS USO&PIM, OTMs, and AACS GyroCals