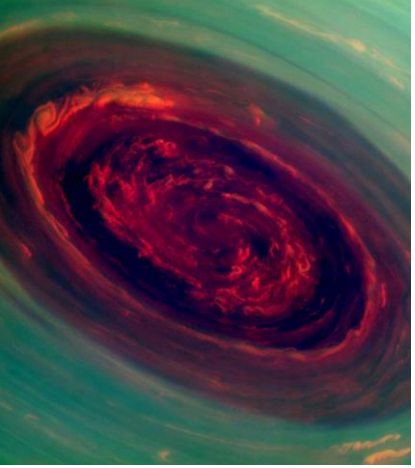

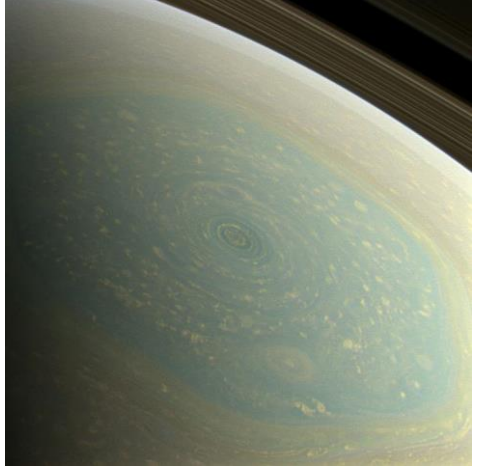
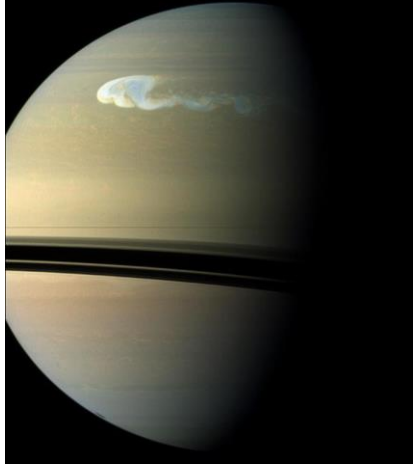

Science Planning & Sequence Team
CASSINI

SATURN TARGET WORKING TEAM

Rev 68_69 Segment Legacy Package

Segment Boundary: May 17, 2008 – May 27, 2008
2008-138T04:20:00 – 2008-148T04:43:00 (SCET)

Integration Began 11/03/2003
Segment Delivered to S40 Sequence 09/16/2004
Lead Integrators were Scott Edgington & Barbara Larsen

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 which spanned an entire orbit, starting just before Rev 68 periapse and ending after Rev 69 periapse. This was an inclined orbit in the Prime Mission with low phase angles at apoapse and high phase angles at periapse.

- The first periapse timeline contained VIMS Saturn polar movies and CIRS helium abundance measurements. The highlights were the RSS Saturn- Earth occultation and Saturn gravity experiments. Dione, Janus, and the rings were also observed.

- At apoapse, Saturn science included VIMS global dynamics, CIRS Far-IR mapping, and UVIS aurora. Navigation completed a set of images for optical navigation.

- The second periapse of the segment was dedicated to the ORS instruments, led by ISS and UVIS, observing the Saturn-Solar occultation with the specially designed solar ports in the case of UVIS and VIMS. This suite of observations was contained in a Ground Movable Block (GMB) to protect against trajectory changes in the sequence development process. Additional Saturn observations included more VIMS global dynamics and CIRS limb integration. Tethys, Janus, and Enceladus were also observed.

- This segment employed a relatively complicated waypoint strategy with many different waypoints to optimize science return and avoid flight rule violations.

Final Sequenced SPASS (1 of 2)

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S040, length = 42 ...		2008-110T07:18:00	E065_SEQUENCE_040+000T00:00:00	041T21:09:00	2008-152T04:27:00			
SATURN revs 68/69 Segment		2008-138T04:20:00		010T00:23:00	2008-148T04:43:00			
SP_068DI_WAYPTTURN138_PRIME	M	2008-138T04:20:00		000T00:30:00	2008-138T04:50:00	ISS_NAC to Dione	NEG_Z to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-138T04:50:00**		**000T04:10:00**	**2008-138T09:00:00**	**ISS_NAC to Dione**	**NEG_Z to NSP**	
CIRS_068DI_FP1SECLNX001_PRIME	C, I, M, V	2008-138T04:50:00		000T03:55:00	2008-138T08:45:00	CIRS_FP3 to Dione	NEG_Z to NSP	
SP_068SA_WAYPTTURN138_PRIME	M	2008-138T08:45:00		000T00:15:00	2008-138T09:00:00	ISS_NAC to Saturn	NEG_Z to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-138T09:00:00**		**000T10:35:00**	**2008-138T19:35:00**	**ISS_NAC to Saturn**	**NEG_Z to NSP**	
VIMS_068SA_ALPCENOCC001_PRIME	I, M	2008-138T09:00:00		000T01:15:00	2008-138T10:15:00	VIMS_IR to 219.901/-60.835	NEG_Z to NSP	
VIMS_068SA_POLMOVIE001_PRIME	M, R	2008-138T10:15:00		000T07:30:00	2008-138T17:45:00	ISS_NAC to Saturn	NEG_Z to NSP	
UVIS and INMS sleep during ...		2008-138T17:30:00		000T10:35:00	2008-139T04:05:00	XBAND to Earth	POS_X to 168.0/-77.0	SP Turn to Earth
CIRS_068JA_JANUSORS001_PRIME	C, I, M, R, V	2008-138T17:45:00		000T01:20:00	2008-138T19:05:00	CIRS_FP1 to Janus	NEG_Z to NSP	
SP_068EA_DLTURN138_PRIME	M, R	2008-138T19:05:00		000T00:30:00	2008-138T19:35:00	XBAND to Earth	POS_X to 168.0/-77.0	SP Turn to Earth
NEW WAYPOINT		**2008-138T19:35:00**		**000T09:00:00**	**2008-139T04:35:00**	**XBAND to Earth**	**POS_X to 168.0/-77.0**	
Inbound RSS Saturn gravity ...		2008-138T19:35:00		000T01:45:00	2008-138T21:20:00	XBAND to Earth	POS_X to 168.0/-77.0	This is an inbound RSS Saturn gravity pass. It is a PRIME observation during which a DL is performed, hence is marked as a SPASS Note.
SP_068EA_M34BWGNON138_PRIME	C, M	2008-138T19:35:00		000T01:45:00	2008-138T21:20:00	XBAND to Earth	POS_X to 168.0/-77.0	
SP_068EA_DEADTIME138_PRIME	**M**	**2008-138T21:20:00**		**000T00:21:35**	**2008-138T21:41:35**	**XBAND to Earth**	**POS_X to 168.0/-77.0**	
RSS_068SA_OCCIN001_PRIME	M	2008-138T21:41:35	LMB_E068_SATURN_RSS_OCC_1_EGR-000T01:37:20	000T02:06:00	2008-138T23:47:35	XBAND to Earth	POS_X to 168.0/-77.0	
SP_068EA_DEADTIME438_PRIME	**M**	**2008-138T23:47:35**	LMB_E068_SATURN_RSS_OCC_1_EGR+000T00:28:40	**000T00:08:25**	**2008-138T23:56:00**	**XBAND to Earth**	**POS_X to 168.0/-77.0**	
Periapse R = 3.211 Rs, lat ...		2008-138T23:54:44		000T00:00:01	2008-138T23:54:45			
Outbound RSS Saturn gravity...		2008-138T23:56:00		000T04:09:00	2008-139T04:05:00	XBAND to Earth	POS_X to 168.0/-77.0	This is an outbound RSS Saturn gravity pass. It is a PRIME observation during which a DL is performed, hence is marked as a SPASS Rider.
SP_068EA_G34BWGNON138_PRIME	C, M	2008-138T23:56:00		000T04:09:00	2008-139T04:05:00	XBAND to Earth	POS_X to 168.0/-77.0	
SP_068EA_RWDTURN138_PRIME	M	2008-138T23:57:00		000T00:10:00	2008-139T00:07:00	XBAND to Earth	POS_X to 264.22/56.78	Roll while downlinking to RA/Dec for RBOT
SP_068SA_WAYPTTURN139_PRIME	M	2008-139T04:05:00		000T00:30:00	2008-139T04:35:00	ISS_NAC to Saturn	POS_Z to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-139T04:35:00**		**002T01:09:00**	**2008-141T05:44:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
CIRS_068SA_NADIROCC010_PRIME	M, V	2008-139T04:35:00		000T03:00:00	2008-139T07:35:00	CIRS_FPB to Saturn	POS_Z to NSP	
VIMS_068SA_POLEMAP002_PRIME	M	2008-139T07:35:00		000T02:30:00	2008-139T10:05:00	ISS_NAC to Saturn	POS_Z to NSP	
CIRS_068RI_TEMPL48LP001_PRIME	C, M	2008-139T10:05:00		000T02:09:00	2008-139T12:14:00	CIRS_FP1 to Rings	POS_Z to NSP	
ISS_068TE_LIMTOP001_PRIME	C, M, V	2008-139T12:14:00		000T01:00:00	2008-139T13:14:00	ISS_NAC to Tethys	POS_Z to NSP	
SP_068EA_DLTURN139_PRIME	M	2008-139T13:14:00		000T00:30:00	2008-139T13:44:00	XBAND to Earth	NEG_X to 300.0/75.0	SP Turn to Earth
SP_068EA_M34HEFOTB139_PRIME	C, E, M, N	2008-139T13:44:00		000T09:00:00	2008-139T22:44:00	XBAND to Earth	5_Hr_Rolling	
SP_068SA_WAYPTTURN439_PRIME	M	2008-139T22:44:00		000T00:30:00	2008-139T23:14:00	ISS_NAC to Saturn	POS_Z to NSP	SP Turn to Waypoint
ISS_068OT_RETARGEMR006_PRIME	M	2008-139T23:14:00		000T06:00:00	2008-140T05:14:00	ISS_NAC to Retargetable	PIC	
VIMS_068SA_POLEMAP001_PRIME	I, M	2008-140T05:14:00		000T09:59:00	2008-140T15:13:00	ISS_NAC to Saturn	POS_Z to NSP	
VIMS_068ST_RLEOOCC001_PRIME	I, M	2008-140T15:13:00		000T04:31:00	2008-140T19:44:00	VIMS_IR to 146.889/11.429	POS_Z to NSP	
SP_068EA_DLTURN140_PRIME	M	2008-140T19:44:00		000T00:30:00	2008-140T20:14:00	XBAND to Earth	NEG_X to NSP	
SP_068EA_G34HEFNON140_PRIME	C, E, M	2008-140T20:14:00		000T09:00:00	2008-141T05:14:00	XBAND to Earth	5_Hr_Rolling	
SP_068SA_WAYPTTURN141_PRIME	M	2008-141T05:14:00		000T00:30:00	2008-141T05:44:00	ISS_NAC to Saturn	POS_X to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-141T05:44:00**		**001T23:59:00**	**2008-143T05:43:00**	**ISS_NAC to Saturn**	**POS_X to NSP**	
CIRS_068SA_FIRMAP024_PRIME	M	2008-141T05:44:00		000T11:00:00	2008-141T16:44:00	CIRS_FP1 to Saturn	POS_X to NSP	
VIMS_068SA_GLOBDYN001_PRIME	M	2008-141T16:44:00		000T02:59:00	2008-141T19:43:00	ISS_NAC to Saturn	POS_X to NSP	
SP_068EA_DLTURN141_PRIME	M	2008-141T19:43:00		000T00:23:00	2008-141T20:06:00	XBAND to Earth	NEG_X to NSP	SP Turn to Earth
SP_068EA_DLTURN441_PRIME	M	2008-141T20:06:00		000T00:07:00	2008-141T20:13:00	XBAND to Earth	NEG_X to 260.0/50.0	SP Turn to Earth
SP_068EA_G34HEFNON141_PRIME	C, M	2008-141T20:13:00		000T09:00:00	2008-142T05:13:00	XBAND to Earth	NEG_X to 260.0/50.0	
SP_068SA_WAYPTTURN142_PRIME	M	2008-142T05:13:00		000T00:23:00	2008-142T05:36:00	ISS_NAC to Saturn (0.0,45.0,0.0 deg. offset)	POS_X to NSP	Part 1 of 2-part Turn
SP_068SA_WAYPTTURN442_PRIME	M	2008-142T05:36:00		000T00:12:00	2008-142T05:48:00	ISS_NAC to Saturn	POS_X to NSP	Part 2 of 2-part Turn
CIRS_068SA_FIRMAPB024_PRIME	M	2008-142T05:48:00		000T10:55:00	2008-142T16:43:00	CIRS_FP1 to Saturn	POS_X to NSP	
VIMS_068SA_GLOBDYN002_PRIME	I, M	2008-142T16:43:00		000T02:30:00	2008-142T19:13:00	ISS_NAC to Saturn	POS_X to NSP	
NAV_068SK_OPNAV421_PRIME	M	2008-142T19:13:00		000T00:59:00	2008-142T20:12:00	ISS_NAC to Satellites	POS_X to NSP	Starts at waypoint, ends at Earth point
NAV_068EA_DLTURN421_PRIME	M	2008-142T20:12:00		000T00:01:00	2008-142T20:13:00	XBAND to Earth	NEG_X to NSP	
SP_068EA_G34HEFOTP143_PRIME	C, M, N	2008-142T20:13:00		000T09:00:00	2008-143T05:13:00	XBAND to Earth	4_Hr_Rolling	
Apoapse Per = 8.0 d, inc =...		2008-142T23:30:41		000T00:00:01	2008-142T23:30:42			
SP_069SA_WAYPTTURN143_PRIME	M	2008-143T05:13:00		000T00:30:00	2008-143T05:43:00	ISS_NAC to Saturn	POS_Z to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-143T05:43:00**		**000T23:45:00**	**2008-144T05:28:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
VIMS_069SA_GLOBDYN003_PRIME	I, M	2008-143T05:43:00		000T13:45:00	2008-143T19:28:00	ISS_NAC to Saturn	POS_Z to NSP	
SP_069EA_DLTURN143_PRIME	M	2008-143T19:28:00		000T00:30:00	2008-143T19:58:00	XBAND to Earth	NEG_X to NSP	
SP_069EA_G34BWGSEQ143_PRIME	C, M, N	2008-143T19:58:00		000T09:00:00	2008-144T04:58:00	XBAND to Earth	4_Hr_Rolling	

Final Sequenced SPASS (2 of 2)

SP_069SA_WAYPTTURN144_PRIME	M	2008-144T04:58:00		000T00:20:30	2008-144T05:18:30	ISS_NAC to Saturn (20.0,0.0,0.0 deg. offset)	POS_X to NSP	Part 1 of 2 Part Turn
SP_069SA_WAYPTTURN444_PRIME	M	2008-144T05:18:30		000T00:09:30	2008-144T05:28:00	ISS_NAC to Saturn	POS_X to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-144T05:28:00**		**000T16:30:00**	**2008-144T21:58:00**	**ISS_NAC to Saturn**	**POS_X to NSP**	
UVIS_069SA_NAURMOV002_PRIME	I, M, V	2008-144T05:28:00		000T06:00:00	2008-144T11:28:00	UVIS_EUV to Saturn	POS_X to NSP	
NAV_069SK_OPNAV441_PRIME	M	2008-144T11:28:00		000T00:59:00	2008-144T12:27:00	ISS_NAC to Satellites	POS_Z to NSP	Starts at waypoint, ends at Earth point
NAV_069EA_DLTURN441_PRIME	M	2008-144T12:27:00		000T00:01:00	2008-144T12:28:00	XBAND to Earth	POS_X to NEP	
SP_069EA_M34HEFSEQ144_PRIME	C, M	2008-144T12:28:00		000T09:00:00	2008-144T21:28:00	XBAND to Earth	Rolling	
SP_069SA_WAYPTTURN447_PRIME	M	2008-144T21:28:00		000T00:30:00	2008-144T21:58:00	ISS_NAC to Saturn	NEG_Z to NSP	
NEW WAYPOINT		**2008-144T21:58:00**		**001T23:00:00**	**2008-146T20:58:00**	**ISS_NAC to Saturn**	**NEG_Z to NSP**	
VIMS_069SA_GLOBDYN004_PRIME	M	2008-144T21:58:00		000T21:30:00	2008-145T19:28:00	ISS_NAC to Saturn	NEG_Z to NSP	
SP_069EA_DLTURN145_PRIME	M	2008-145T19:28:00		000T00:30:00	2008-145T19:58:00	XBAND to Earth	ISS_NAC to Saturn	SP Turn to Earth
SP_069EA_G34HEFOTP145_PRIME	C, E, M, N	2008-145T19:58:00		000T09:00:00	2008-146T04:58:00	XBAND to Earth	ISS_NAC to Saturn	
SP_069SA_WAYPTTURN146_PRIME	M	2008-146T04:58:00		000T00:30:00	2008-146T05:28:00	ISS_NAC to Saturn	NEG_Z to NSP	
VIMS_069SA_GLOBDYN005_PRIME	M	2008-146T05:28:00		000T01:02:00	2008-146T06:30:00	ISS_NAC to Saturn	NEG_Z to NSP	
CIRS_069TE_FP1SECLN001_PRIME	C, I, M, V	2008-146T06:30:00		000T02:00:00	2008-146T08:30:00	CIRS_FP3 to Tethys	NEG_Z to NSP	
VIMS_069SA_ALPCENOCC002_PRIME	M	2008-146T08:30:00		000T01:00:00	2008-146T09:30:00	VIMS_IR to 219.901/-60.835	NEG_Z to NSP	
ISS_069OT_SATORB001_PRIME	M	2008-146T09:30:00		000T00:30:00	2008-146T10:00:00	ISS_NAC to Satellites	NEG_Z to NSP	
NAV_069SK_OPNAV461_PRIME	M	2008-146T10:00:00		000T01:27:00	2008-146T11:27:00	ISS_NAC to Satellites	POS_X to NSP	Starts at waypoint, ends at Earth point
NAV_069EA_DLTURN461_PRIME	M	2008-146T11:27:00		000T00:01:00	2008-146T11:28:00	XBAND to Earth (0.0,0.0,-5.0 deg. offset)	POS_X to NSP	
GAP from removed Downlink		2008-146T11:28:00		000T09:00:00	2008-146T20:28:00			
SP_069SA_WAYPTTURN446_PRIME	M	2008-146T20:28:00		000T00:30:00	2008-146T20:58:00	VIMS_IR_SOL to Sun	NEG_X to NSP	SP Turn to Waypoint
NEW WAYPOINT		**2008-146T20:58:00**		**001T08:15:00**	**2008-148T05:13:00**	**VIMS_IR_SOL to Sun**	**NEG_X to NSP**	
SP_069SA_DEADTIME146_PRIME	**M**	**2008-146T20:58:00**		**000T00:26:06**	**2008-146T21:24:06**	**VIMS_IR_SOL to Sun**	**NEG_X to NSP**	
ISS_069SA_SOLNGRESS001_PRIME	M	2008-146T21:24:06	GMB_E069_SATURN_SOLAR_OCC_1_EGR-000T00:58:10	000T00:36:00	2008-146T22:00:06	VIMS_IR_SOL to Sun	NEG_X to NSP	
UVIS_069SU_USUNOCC001_PRIME	M, V	2008-146T22:00:06	GMB_E069_SATURN_SOLAR_OCC_1_EGR-000T00:22:10	000T01:10:00	2008-146T23:10:06	ISS_NAC to Sun (-20.0,0.0,-0.109 deg. offset)	NEG_X to NSP	
Periapse R = 3.211 Rs, lat ...		2008-146T23:06:39		000T00:00:01	2008-146T23:06:40			
SP_069SA_DEADTIME446_PRIME	**M**	**2008-146T23:10:06**	**GMB_E069_SATURN_SOLAR_OCC_1_EGR+000T00:47:50**	**000T00:03:54**	**2008-146T23:14:00**	**VIMS_IR_SOL to Sun**	**NEG_X to NSP**	
Begin Custom		**2008-146T23:14:00**		**000T00:00:01**	**2008-146T23:14:01**			
ISS_069JA_COLORF003_PRIME	C, M, U, V	2008-146T23:14:00		000T02:56:00	2008-147T02:10:00	NEG_X to Dust_RAM	POS_Y to Saturn	Pick up at VIMS_IR_SOL to Sun, NEG_X to NSP; Hand off at CIRS_FP1 to Janus, NEG_X to Dust_RAM. "CIRS_FP1 to Saturn DUST_RAM, POS_Y to Saturn"
CIRS_069SA_LIMBINT006_PRIME	C, M, V	2008-147T02:10:00		000T05:30:00	2008-147T07:40:00	CIRS_FPB to Saturn	POS_Z to NSP	Pick up at CIRS_FP1 to Janus, NEG_X to Dust_RAM; Hand off at VIMS_IR_SOL to Sun, NEG_X to NSP.
End Custom		**2008-147T07:40:00**		**000T00:00:01**	**2008-147T07:40:01**			
VIMS_069SA_GLOBDYN006_PRIME	M	2008-147T07:40:00		000T06:48:00	2008-147T14:28:00	ISS_NAC to Saturn	NEG_X to NSP	
ISS_069EN_LIMTOP001_PRIME	M, U	2008-147T14:28:00		000T00:45:00	2008-147T15:13:00	ISS_NAC to Enceladus	NEG_X to NSP	
SP_069EA_DLTURN147_PRIME	M	2008-147T15:13:00		000T00:30:00	2008-147T15:43:00	XBAND to Earth	NEG_X to 274.0/66.0	SP Turn to Earth
SP_069EA_M34HEFOTB147_PRIME	C, M, N	2008-147T15:43:00		000T07:00:00	2008-147T22:43:00	XBAND to Earth	Rolling	
SP_069EA_G34HEFOTB147_PRIME	C, E, M, N	2008-147T22:43:00		000T06:00:00	2008-148T04:43:00	XBAND to Earth	NEG_X to 274.0/66.0	

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 (%)	CAROVR (Mb)
SP_068EA_M34BWGNON138_PRIME	138 19:35	138 21:20	0	614	64	679	3509	2831	0	71	10	760	142	-619	0	0%	619
SP_068EA_G34BWGNON138_PRIME	138 23:56	139 04:05	619	116	11	746	3509	2763	0	155	24	925	395	-530	0	0%	530
SP_068EA_M34HEFOTB139_PRIME	139 13:44	139 22:44	530	407	41	977	3509	2532	0	175	53	1205	903	-302	0	0%	302
SP_068EA_G34HEFNON140_PRIME	140 20:14	141 05:14	302	1072	91	1464	3509	2045	0	178	53	1695	929	-767	0	0%	766
SP_068EA_G34HEFNON141_PRIME	141 20:13	142 05:13	766	290	63	1120	3509	2390	0	170	53	1343	929	-414	-714	-10%	414
SP_068EA_G34HEFOTP143_PRIME	142 20:13	143 05:13	414	302	63	779	3509	2730	9	170	53	1011	782	-229	-714	-7%	229
SP_069EA_G34BWGSEQ143_PRIME	143 19:58	144 04:58	229	581	62	872	3509	2638	0	189	53	1113	814	-300	-714	-7%	300
SP_069EA_M34HEFSEQ144_PRIME	144 12:28	144 21:28	300	468	32	799	3509	2710	9	193	53	1054	907	-147	-714	-8%	147
SP_069EA_G34HEFOTP145_PRIME	145 19:58	146 04:58	147	786	95	1028	3509	2481	0	184	53	1265	782	-483	-714	-9%	483
SP_069EA_M34HEFOTB147_PRIME	147 15:43	147 22:43	483	1494	147	2124	3509	1386	13	159	41	2337	662	-1675	-714	-10%	1675
SP_069EA_G34HEFOTB147_PRIME	147 22:43	148 04:43	1675	0	0	1675	3509	1834	0	129	35	1840	623	-1217	-714	-11%	1217

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

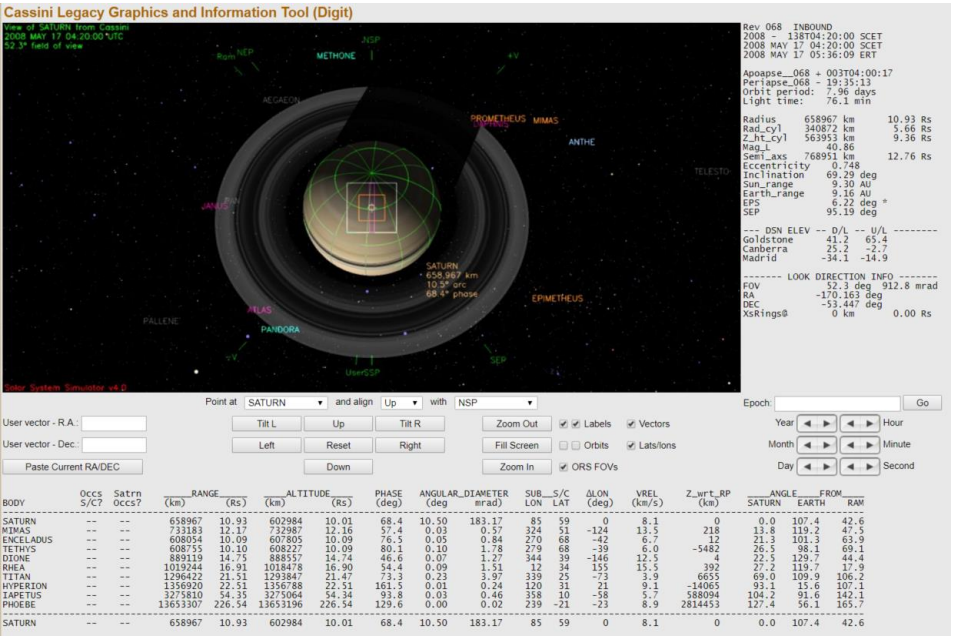
Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	138 04:20	138 19:35	38.4	6.6	24.8	2.7	73.5	19.3	23.3	0.0	126.9	0.0	288.2	0.0	12.5	616.3
OBSERVATION_SI	138 04:20	138 19:35	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0
SP_068EA_M34BWGNON138_PRIME	138 19:35	138 21:20	4.4	0.8	10.8	0.3	0.0	3.1	2.7	0.0	48.6	0.0	0.0	0.0	0.0	70.6
DAILY TOTAL SCIENCE	138 04:20	138 21:20	42.8	7.3	40.6	3.1	73.5	22.4	26.0	0.0	175.4	0.0	288.2	0.0		
OBSERVATION_NOR	138 21:20	138 23:56	6.6	17.0	0.0	8.3	0.0	4.6	4.0	0.0	74.7	0.0	0.0	0.0	2.1	117.3
SP_068EA_G34BWGNON138_PRIME	138 23:56	139 04:05	10.5	1.9	45.4	0.7	0.0	7.4	6.3	0.0	81.0	0.0	0.0	0.0	0.0	153.2
DAILY TOTAL SCIENCE	138 21:20	139 04:05	17.0	19.0	45.4	9.0	0.0	12.0	10.3	0.0	155.7	0.0	0.0	0.0		
OBSERVATION_NOR	139 04:05	139 13:44	24.3	4.2	45.5	1.7	12.0	12.8	14.8	0.0	141.3	0.0	142.6	0.0	7.9	407.0
OBSERVATION_SI	139 04:05	139 13:44	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0
SP_068EA_M34HEFOTB139_PRIME	139 13:44	139 22:44	22.7	3.9	86.4	1.6	0.0	10.7	18.7	0.0	29.2	0.0	0.0	0.0	0.0	173.1
DAILY TOTAL SCIENCE	139 04:05	139 22:44	47.0	8.1	135.9	3.4	12.0	23.4	33.5	0.0	170.4	0.0	142.6	0.0		
OBSERVATION_NOR	139 22:44	140 20:14	54.2	9.3	0.0	3.9	539.5	25.5	32.9	0.0	69.7	0.0	327.0	0.0	17.6	1079.4
SP_068EA_G34HEFNON140_PRIME	140 20:14	141 05:14	22.7	6.8	86.4	1.6	0.0	10.7	18.7	0.0	29.2	0.0	0.0	0.0	0.0	176.0
DAILY TOTAL SCIENCE	139 22:44	141 05:14	76.9	16.1	86.4	5.5	539.5	36.2	51.6	0.0	98.8	0.0	327.0	0.0		

Final Sequenced SMT and Data Volume (2 of 2)

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

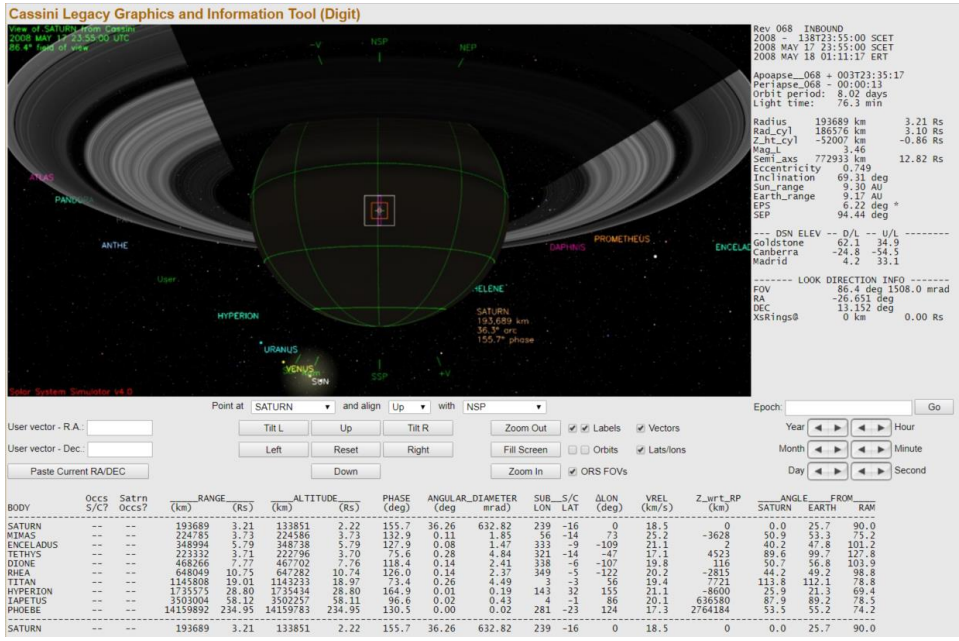
Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	141 05:14	141 20:13	37.8	6.5	79.2	2.7	0.0	17.8	22.9	0.0	48.5	0.0	72.0	0.0	12.2	299.6
SP_068EA_G34HEFNON141_PRIME	141 20:13	142 05:13	22.7	3.9	86.4	1.6	0.0	10.7	13.8	0.0	29.2	0.0	0.0	0.0	0.0	168.2
DAILY TOTAL SCIENCE	141 05:14	142 05:13	60.4	10.4	165.6	4.3	0.0	28.4	36.7	0.0	77.7	0.0	72.0	0.0		
OBSERVATION_NOR	142 05:13	142 20:13	37.8	6.5	78.6	2.7	24.0	17.8	22.9	0.0	48.6	0.0	60.0	0.0	12.3	311.2
OBSERVATION_OPN	142 05:13	142 20:13	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7
SP_068EA_G34HEFOTP143_PRIME	142 20:13	143 05:13	22.7	3.9	86.4	1.6	0.0	10.7	13.8	0.0	29.2	0.0	0.0	0.0	0.0	168.2
DAILY TOTAL SCIENCE	142 05:13	143 05:13	60.5	10.4	165.0	4.3	24.0	28.5	36.7	0.0	77.8	0.0	60.0	0.0		
OBSERVATION_NOR	143 05:13	143 19:58	37.2	6.4	0.0	2.7	121.5	17.5	22.6	0.0	47.8	0.0	320.0	0.0	12.1	587.6
SP_069EA_G34BWGSEQ143_PRIME	143 19:58	144 04:58	22.7	3.9	86.4	1.6	0.0	10.7	32.5	0.0	29.2	0.0	0.0	0.0	0.0	186.9
DAILY TOTAL SCIENCE	143 05:13	144 04:58	59.8	10.3	86.4	4.3	121.5	28.2	55.1	0.0	76.9	0.0	320.0	0.0		
OBSERVATION_NOR	144 04:58	144 12:28	18.9	3.2	0.0	1.4	151.0	8.9	23.0	0.0	24.3	73.9	159.0	0.0	6.1	469.6
OBSERVATION_OPN	144 04:58	144 12:28	0.0	0.0	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7
SP_069EA_M34HEFSEQ144_PRIME	144 12:28	144 21:28	22.7	3.9	86.4	1.6	0.0	10.7	36.5	0.0	29.2	0.0	0.0	0.0	0.0	190.9
DAILY TOTAL SCIENCE	144 04:58	144 21:28	41.6	7.1	86.4	3.0	151.0	19.6	59.4	0.0	53.5	73.9	159.0	0.0		
OBSERVATION_NOR	144 21:28	145 19:58	56.7	9.7	0.0	4.1	0.0	26.7	68.8	0.0	73.0	0.0	540.0	0.0	18.4	797.3
SP_069EA_G34HEFOTP145_PRIME	145 19:58	146 04:58	22.7	3.9	86.4	1.6	0.0	10.7	27.5	0.0	29.2	0.0	0.0	0.0	0.0	182.0
DAILY TOTAL SCIENCE	144 21:28	146 04:58	79.4	13.6	86.4	5.7	0.0	37.3	96.4	0.0	102.1	0.0	540.0	0.0		
OBSERVATION_NOR	146 04:58	147 15:43	87.6	31.1	148.3	8.8	109.3	48.8	74.6	0.0	422.6	130.4	412.2	0.0	28.4	1502.1
OBSERVATION_OPN	146 04:58	147 15:43	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1
OBSERVATION_SI	146 04:58	147 15:43	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0
SP_069EA_M34HEFOTB147_PRIME	147 15:43	147 22:43	17.6	3.0	86.4	1.3	0.0	8.3	17.6	0.0	22.7	0.8	0.0	0.0	0.0	157.8
SP_069EA_G34HEFOTB147_PRIME	147 22:43	148 04:43	15.1	2.6	72.0	1.1	0.0	7.1	9.2	0.0	19.4	1.6	0.0	0.0	0.0	128.2
DAILY TOTAL SCIENCE	146 04:58	148 04:43	120.3	36.7	313.7	11.2	109.3	64.2	101.5	0.0	464.7	132.8	412.2	0.0		

Segment Geometry (1 of 3)



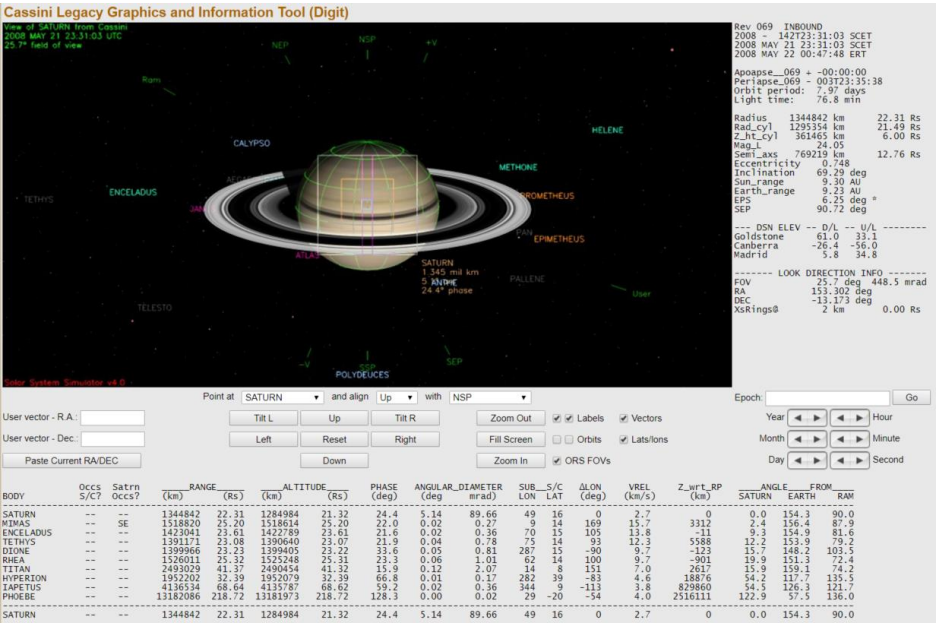
Seg Start (Left)

Rev 68 Periapse (below)



	Saturn Range	Phase Angle	Sub-S/C Lat.
Segment Start	10.93 Rs	68.4	59
Periapse	3.21 Rs	155.7	-16
Apoapse	22.31 Rs	24.4	16
Periapse	3.21 Rs	155.6	-16
Segment End	14.13	25.3	-18

Segment Geometry (2 of 3)



Rev 069 INBOUND
2008 - 142T23:31:03 SCET
2008 MAY 21 23:31:03 SCET
2008 MAY 22 00:47:48 ERT

Apoapse__069 + -00:00:00
Periapse_069 - 003T23:35:38
Orbit period: 7.97 days
Light time: 76.8 min

Radius	1344842 km	22.31 Rs
Rad_cyl	1295354 km	21.49 Rs
Z_ht_cyl	361465 km	6.00 Rs
Mag_L	24.05	
Semi_axs	769219 km	12.76 Rs
Eccentricity	0.748	
Inclination	69.29 deg	
Sun_range	9.30 AU	
Earth_range	9.23 AU	
EPS	6.25 deg °	
SEP	90.72 deg	

--- DSN ELEV -- D/L -- U/L --------

Goldstone	61.0	33.1
Canberra	-26.4	-56.0
Madrid	5.8	34.8

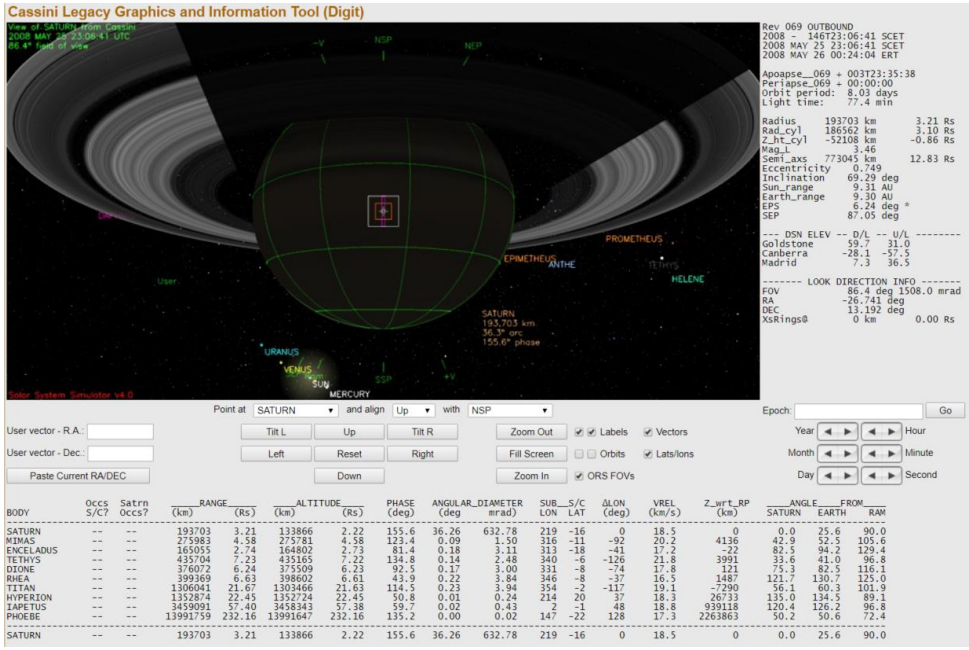
------- LOOK DIRECTION INFO -------

FOV	25.7 deg	448.5 mrad
RA	153.302 deg	
DEC	-13.173 deg	
XsRings@	2 km	0.00 Rs

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	--	--	1344842	22.31	1284984	21.32	24.4	5.14	89.66	49	16	0	2.7	0	0.0	154.3	90.0
MIMAS	--	SE	1518820	25.20	1518614	25.20	22.0	0.02	0.27	9	14	169	15.7	3312	2.4	156.4	87.9
ENCELADUS	--	--	1423041	23.61	1422789	23.61	21.6	0.02	0.36	70	15	105	13.8	-11	9.3	154.9	81.6
TETHYS	--	--	1391171	23.08	1390640	23.07	21.9	0.04	0.78	75	14	93	12.3	5588	12.2	153.9	79.2
DIONE	--	--	1399966	23.23	1399405	23.22	33.6	0.05	0.81	287	15	-90	9.7	-123	15.7	148.2	103.5
RHEA	--	--	1526011	25.32	1525248	25.31	23.3	0.06	1.01	62	14	100	9.7	-901	19.9	151.3	72.4
TITAN	--	--	2493029	41.37	2490454	41.32	15.9	0.12	2.07	14	8	151	7.0	2617	15.9	159.1	74.2
HYPERION	--	--	1952202	32.39	1952079	32.39	66.8	0.01	0.17	282	39	-83	4.6	18876	54.2	117.7	135.5
IAPETUS	--	--	4136534	68.64	4135787	68.62	59.2	0.02	0.36	344	9	-113	3.8	829860	54.5	126.3	121.7
PHOEBE	--	--	13182086	218.72	13181973	218.72	128.3	0.00	0.02	29	-20	-54	4.0	2516111	122.9	57.5	136.0
SATURN	--	--	1344842	22.31	1284984	21.32	24.4	5.14	89.66	49	16	0	2.7	0	0.0	154.3	90.0

← Apoapse (Left)

↓ Rev 69 Periapse (below)



Rev 069 OUTBOUND
2008 - 146T23:06:41 SCET
2008 MAY 25 23:06:41 SCET
2008 MAY 26 00:24:04 ERT

Apoapse__069 + 003T23:35:38
Periapse_069 + 00:00:00
Orbit period: 8.03 days
Light time: 77.4 min

Radius	193703 km	3.21 Rs
Rad_cyl	186562 km	3.10 Rs
Z_ht_cyl	-52108 km	-0.86 Rs
Mag_L	3.46	
Semi_axs	773045 km	12.83 Rs
Eccentricity	0.749	
Inclination	69.29 deg	
Sun_range	9.31 AU	
Earth_range	9.30 AU	
EPS	6.24 deg °	
SEP	87.05 deg	

--- DSN ELEV -- D/L -- U/L --------

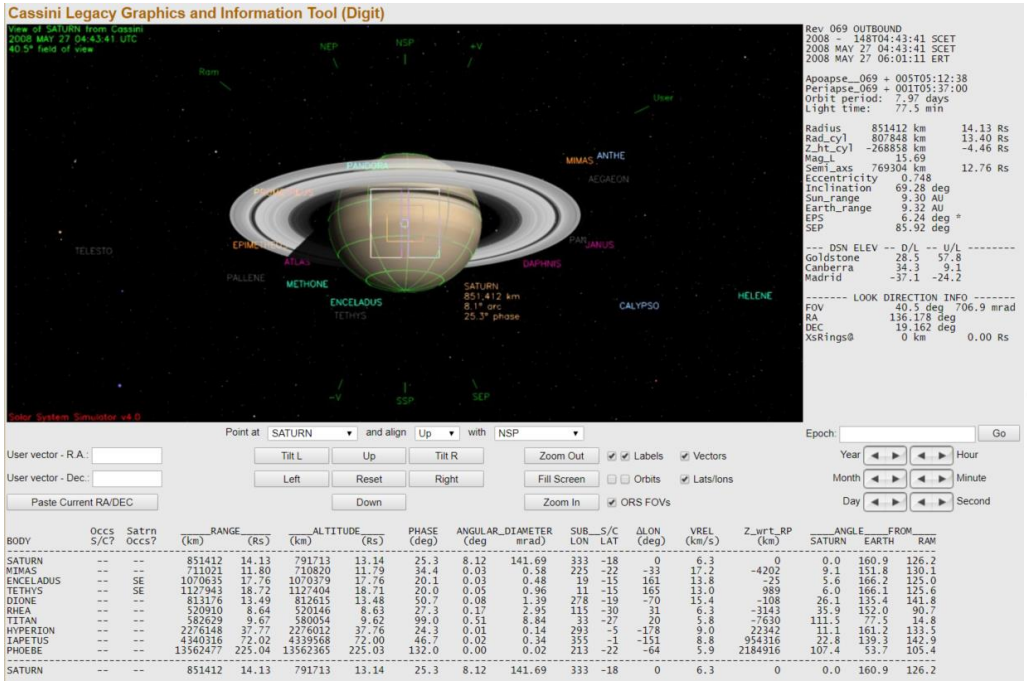
Goldstone	59.7	31.0
Canberra	-28.1	-57.5
Madrid	7.3	36.5

------- LOOK DIRECTION INFO -------

FOV	86.4 deg	1508.0 mrad
RA	-26.741 deg	
DEC	13.192 deg	
XsRings@	0 km	0.00 Rs

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	--	--	193703	3.21	133866	2.22	155.6	36.26	632.78	219	-16	0	18.5	0	0.0	25.6	90.0
MIMAS	--	--	275983	4.58	275781	4.58	123.4	0.09	1.50	316	-11	-92	20.2	4136	42.9	52.5	105.6
ENCELADUS	--	--	165055	2.74	164802	2.73	81.4	0.18	3.11	313	-18	-41	17.2	-22	82.5	94.2	129.4
TETHYS	--	--	435704	7.23	435165	7.22	134.8	0.14	2.48	340	-6	-126	21.8	3991	33.6	41.0	96.8
DIONE	--	--	376072	6.24	375509	6.23	92.5	0.17	3.00	331	-8	-74	17.8	121	75.3	82.5	116.1
RHEA	--	--	399369	6.63	398602	6.61	43.9	0.22	3.84	346	-8	-37	16.5	1487	121.7	130.7	125.0
TITAN	--	--	1306041	21.67	1303466	21.63	114.5	0.23	3.94	354	-2	-117	19.1	-7290	56.1	60.3	101.9
HYPERION	--	--	1352874	22.45	1352724	22.45	50.8	0.01	0.24	214	20	37	18.3	26733	135.0	134.5	89.1
IAPETUS	--	--	3459091	57.40	3458343	57.38	59.7	0.02	0.43	2	-1	48	18.8	939118	120.4	126.2	96.8
PHOEBE	--	--	13991759	232.16	13991647	232.16	135.2	0.00	0.02	147	-22	128	17.3	2263863	50.2	50.6	72.4
SATURN	--	--	193703	3.21	133866	2.22	155.6	36.26	632.78	219	-16	0	18.5	0	0.0	25.6	90.0

Segment Geometry (3 of 3)



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	--	--	851412	14.13	791713	13.14	25.3	8.12	141.69	333	-18	0	6.3	0	0.0	160.9	126.2
MIMAS	--	--	711021	11.80	710820	11.79	34.4	0.03	0.58	225	-22	-33	17.2	-4202	9.1	151.8	130.1
ENCELADUS	--	SE	1070635	17.76	1070379	17.76	20.1	0.03	0.48	19	-15	161	13.8	-25	5.6	166.2	125.0
TETHYS	--	SE	1127943	18.72	1127404	18.71	20.0	0.05	0.96	11	-15	165	13.0	989	6.0	166.1	125.6
DIONE	--	--	813176	13.49	812615	13.48	50.7	0.08	1.39	278	-19	-70	15.4	-108	26.1	135.4	141.8
RHEA	--	--	520910	8.64	520146	8.63	27.3	0.17	2.95	115	-30	31	6.3	-3143	35.9	152.0	90.7
TITAN	--	--	582629	9.67	580054	9.62	99.0	0.51	8.84	33	-27	20	5.8	-7630	111.5	77.5	14.8
HYPERION	--	--	2276148	37.77	2276012	37.76	24.3	0.01	0.14	293	-5	-178	9.0	22342	11.1	161.2	133.5
IAPETUS	--	--	4340316	72.02	4339568	72.00	46.7	0.02	0.34	355	-1	-151	8.8	954316	22.8	139.3	142.9
PHOEBE	--	--	13562477	225.04	13562365	225.03	132.0	0.00	0.02	213	-22	-64	5.9	2184916	107.4	53.7	105.4
SATURN	--	--	851412	14.13	791713	13.14	25.3	8.12	141.69	333	-18	0	6.3	0	0.0	160.9	126.2

Seg End

Solar Geometry – ORS Boresight Concerns

No ORS Boresight Solar Constraints on Science Pointing were Noted. However, the sun being just below the planet at each periapse could have been a challenge. ORS solar angle issues were likely avoided by placing RSS activities over the first periapse and observing the solar occultation with the ORS occultation port on the second.

Daily Science Highlights

DOY 138: Prior to periapse, CIRS began the day by leading a joint ORS observation of a Dione solar eclipse. VIMS observed a stellar occultation by Saturn with ISS riding and then recorded a Saturn polar movie. CIRS led a joint ORS observation of Janus. The highlights of the day however, were the Radio Science Saturn occultation and gravity experiments. The inbound and outbound gravity experiments were, in particular, rare opportunities in the prime mission.

DOY 139: CIRS began with a NADIROCC which aimed to obtain spectra in the vicinity of RSS occultation points to obtain a new helium determination. VIMS performed more Saturn polar mapping while CIRS took a look at the rings. ISS wrapped up the day leading a joint ORS observation of Tethys.

DOY 140: VIMS performed more Saturn polar mapping and watched a star as it slipped behind the rings while ISS rode along. MAPS teams continued their inner magnetosphere dynamics campaign.

DOY 141: CIRS and VIMS split the day with CIRS doing Far-IR mapping of Saturn and VIMS observing global dynamics.

DOY 142: This day mirrored the one before with CIRS and VIMS splitting the time for some more of the same observations.

DOY 143: Following apoapse, VIMS took more measurements of Saturn dynamics, while ISS rode along. MAPS teams continued their inner magnetosphere dynamics campaign.

DOY 144: On this day, UVIS led a joint ORS campaign to image Saturn's northern aurora. Like days before, VIMS gathered information on Saturn atmospheric dynamics.

DOY 145: VIMS continued their Saturn dynamics campaign while MAPS teams continud their inner magnetosphere dynamics campaign.

DOY 146: On this high priority day, following more VIMS Saturn dynamics, CIRS led a joint ORS observation of a Tethys solar eclipse. VIMS watched a star as it was occulted by the rings, and ISS looked at some satellites to determine orbit determination. As the spacecraft moved though periapse, ISS and UVIS led high priority observations of a Saturn solar occultation.

DOY 147: As the spacecraft moved outbound from periapse, ISS led a joint ORS observation of Janus. CIRS performed a Saturn limb integration to obtain stratospheric thermal structure by means of limb sounding in the mid-IR. VIMS performed more measurements of Saturn's global dynamics and ISS wrapped up the day with an observation of Enceladus.

Segment Integration Planning

Timeline Gaps and Suggested Observations

Rev 68/69 Strawman v0.5

Request	Start Time	Epoch Relative Start Time	Duration	EndTime	Effective Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing	Agreement
SP_068NA_SATURNSEG138_NA	2008-138T05:29:00		009T23:14:00	2008-148T04:43:00	0	0	SPASS Note			
VIMS_068SA_ALPCENOCC001_PRIME	2008-138T09:00:00		000T01:30:00	2008-138T10:30:00	53759.3	290.3	Prime			
SP_Turn			000T00:30:00							
Deadtime?			000T00:15:00							
RSS_068SA_GRAVITY001_PRIME	2008-138T19:49:52		000T01:53:02	2008-138T21:42:54	0	0	Prime			
RSS_068SA_OCCIN001_PRIME	2008-138T21:42:54		000T00:35:31	2008-138T22:18:25	0	0	Non-SPASS			
RSS_068SA_OCCOUT001_PRIME	2008-138T22:49:46		000T00:44:31	2008-138T23:34:17	0	0	Prime			
RSS_068SA_GRAVITY002_PRIME	2008-138T23:34:17		000T04:15:35	2008-139T03:49:52	0	0	Prime			
Deadtime?			000T00:15:00							
SP_Turn			000T00:30:00							
SP_068EA_M70ARROTB139_PRIME	2008-139T12:44:00		000T09:00:00	2008-139T21:44:00	0	0	Prime	XBAND to Earth		
VIMS_068ST_RLEOOCC001_PRIME	2008-140T15:19:50		000T03:59:31	2008-140T19:19:21	6053.9	87	Prime			
SP_Turn or OPNAV	2008-140T19:19:21			2008-140T20:14:00						
SP_068EA_G34HEFNON140_PRIME	2008-140T20:14:00		000T09:00:00	2008-141T05:14:00	0	0	Prime	XBAND to Earth		
SP_068EA_G34HEFNON141_PRIME	2008-141T20:13:00		000T09:00:00	2008-142T05:13:00	0	0	Prime	XBAND to Earth		
SP_068EA_G34HEFOTP142_PRIME	2008-142T20:13:00		000T09:00:00	2008-143T05:13:00	0	0	Prime	XBAND to Earth		
SP_069EA_G34BWGOTB143_PRIME	2008-143T19:58:00		000T09:00:00	2008-144T04:58:00	0	0	Prime	XBAND to Earth		
SP_069EA_M34HEFNON144_PRIME	2008-144T12:28:00		000T09:00:00	2008-144T21:28:00	0	0	Prime	XBAND to Earth		
SP_069EA_G34HEFNON145_PRIME	2008-145T19:58:00		000T09:00:00	2008-146T04:58:00	0	0	Prime	XBAND to Earth		
VIMS_069SA_ALPCENOCC001_PRIME	2008-146T08:05:00		000T01:30:00	2008-146T09:35:00	53759.3	290.3	Prime			
SP_069EA_M34HEFOTP146_PRIME	2008-146T11:58:00		000T09:00:00	2008-146T20:58:00	0	0	Prime	XBAND to Earth		
SP_Turn	2008-146T20:58:00			2008-146T21:28:00?						
Deadtime?			000T00:15:00							
UVIS_069SU_USUNOCC001_PRIME	2008-146T21:39:00		000T01:35:00	2008-146T23:14:00	18936.6	107.939	Prime			
Deadtime?			000T00:15:00							
ISS_069JA_COLORF003_PRIME	2008-147T00:40:00		000T01:30:00	2008-147T02:10:00	0	138.412	Prime	ISS_NAC to Janus	POS_Z to NSP	
CIRS_069SA_LIMBINT006_PRIME	2008-147T02:10:00		000T05:30:00	2008-147T07:40:00	4000	79.2	Prime			
SP_069EA_G34HEFOTB147_PRIME	2008-147T19:43:00		000T09:00:00	2008-148T04:43:00	0	0	Prime	XBAND to Earth		

Initial SMT and Data Volume

First look during Integration:

DATA VOLUME SUMMARY

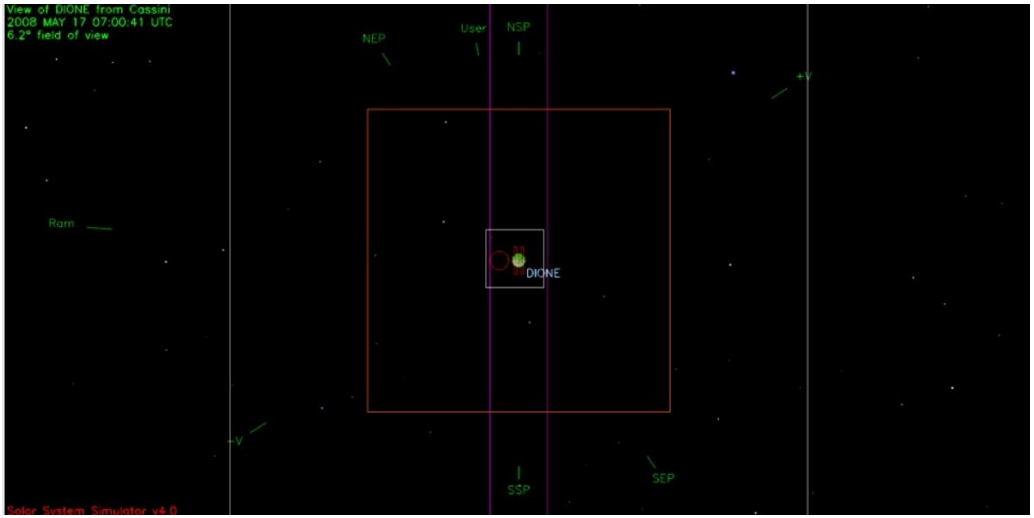
			OBSERVATION_PERIOD								DOWNLINK_PASS						
			P4							P5	RECORDED		PLAYBACK				
DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGIN (Mb)	MARGIN (%)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGIN (Mb)	MARGIN (%)	CAROVR (Mb)
SP_068EA_M34BWGNON138_PRIME	138 19:35	138 21:20	0	913	53	966	3566	2600	73%	0	49	10	1026	133	-892	-670%	892
SP_068EA_G34BWGNON138_PRIME	138 23:56	139 04:05	892	420	9	1322	3457	2135	62%	0	216	24	1562	395	-1167	-295%	1167
SP_068EA_M70ARROTB139_PRIME	139 12:44	139 21:44	1167	792	30	1989	3569	1579	44%	0	238	53	2280	4174	1894	45%	0
SP_068EA_G34HEFNON140_PRIME	140 20:14	141 05:14	0	2282	78	2361	3516	1155	33%	26	232	53	2672	1015	-1657	-163%	1657
SP_068EA_G34HEFNON141_PRIME	141 20:13	142 05:13	1657	597	52	2306	3568	1262	35%	0	229	53	2588	1005	-1583	-157%	1583
SP_068EA_G34HEFOTP142_PRIME	142 20:13	143 05:13	1583	567	52	2202	3534	1331	38%	17	229	53	2502	837	-1664	-199%	1664
SP_069EA_G34BWGOTB143_PRIME	143 19:58	144 04:58	1664	1030	51	2746	3534	788	22%	17	229	53	3045	818	-2227	-272%	2227
SP_069EA_M34HEFNON144_PRIME	144 12:28	144 21:28	2227	922	26	3175	3534	359	10%	17	229	53	3474	905	-2569	-284%	2569
SP_069EA_G34HEFNON145_PRIME	145 19:58	146 04:58	2569	1614	78	4261	3534	-728	-21%	17	231	53	3835	964	-2871	-298%	2871
SP_069EA_M34HEFOTP146_PRIME	146 11:58	146 20:58	2871	237	24	3133	3534	401	11%	17	209	53	3412	751	-2661	-354%	2661
SP_069EA_G34HEFOTB147_PRIME	147 19:43	148 04:43	2661	3142	79	5882	3570	-2313	-65%	0	329	53	3952	929	-3023	-326%	3023

Waypoint Selection

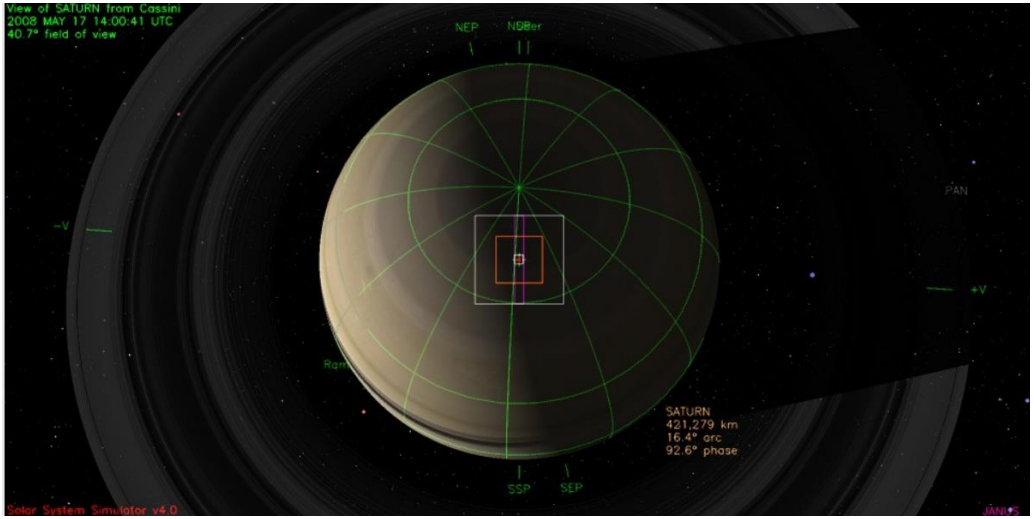
No Waypoint Selection Info Available.

Waypoints Chosen (1 of 5)

Waypoint 1 (2008-138T04:50:00 – 2008-138T09:00:00): ISS_NAC to Dione; NEG_Z to NSP



Waypoint 2 (2008-138T09:00:00 – 2008-138T19:35:00): ISS_NAC to Saturn; NEG_Z to NSP

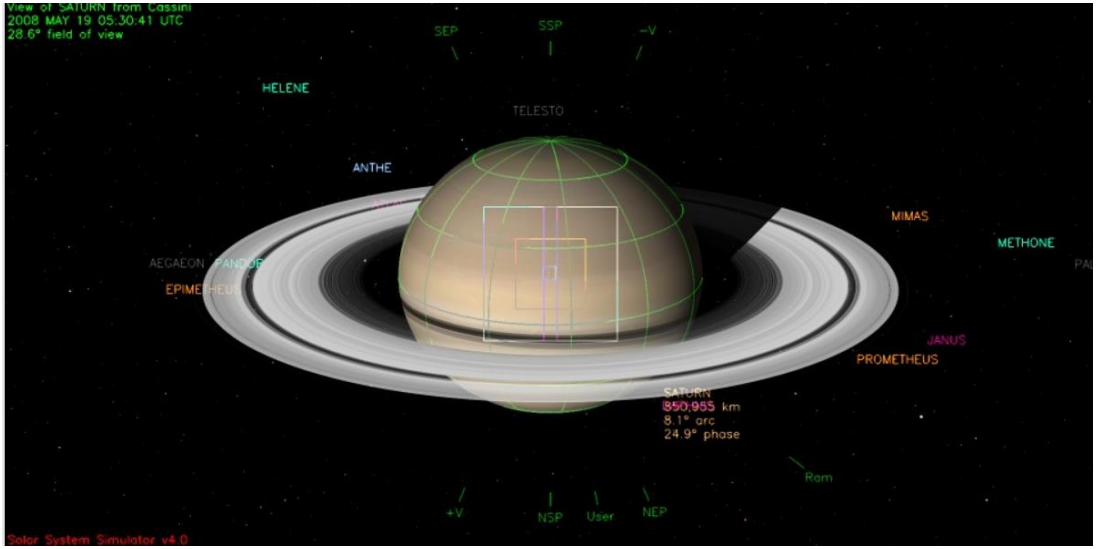


Waypoints Chosen (2 of 5)

Waypoint 3 (2008-138T19:35:00 – 2008-139T04:35:00): XBAND to Earth; POS_X to 168.0/-77.0

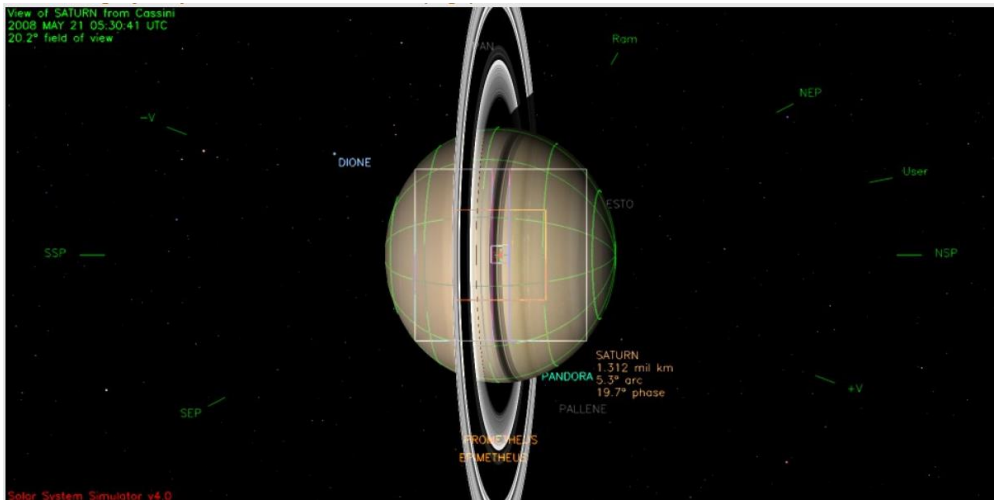
Not Pictured: Earth pointed for RSS Occultation and Gravity Experiments

Waypoint 4 (2008-139T04:35:00 – 2008-141T05:44:00): ISS_NAC to Saturn POS_Z to NSP

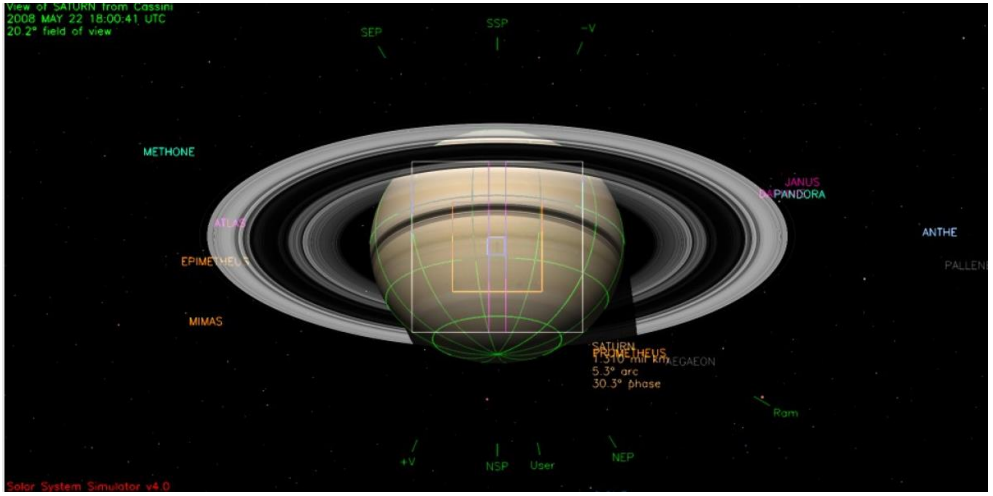


Waypoints Chosen (3 of 5)

Waypoint 5 (2008-141T05:44:00 – 2008-143T05:43:00): ISS_NAC to Saturn; POS_X to NSP

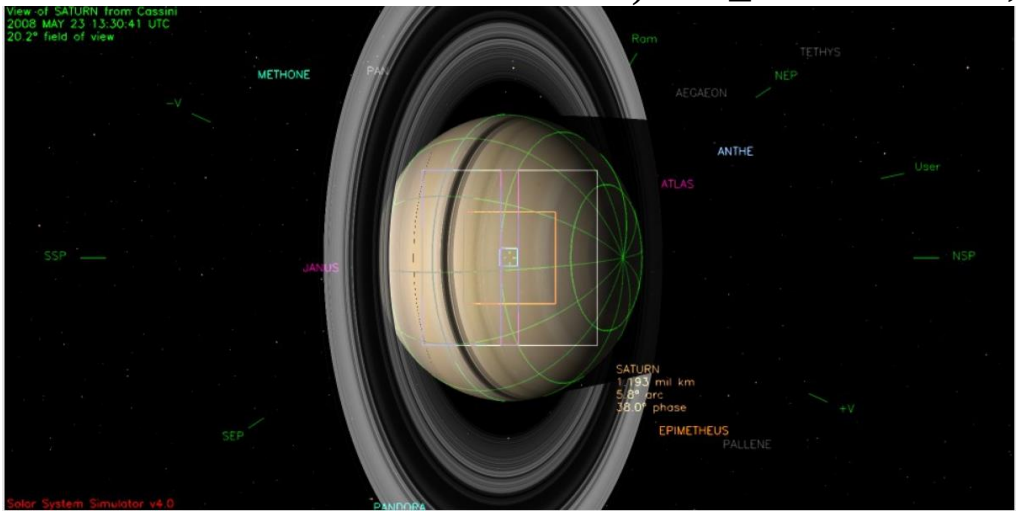


Waypoint 6 (2008-143T05:43:00 – 2008-144T05:28:00): ISS_NAC to Saturn; POS_Z to NSP

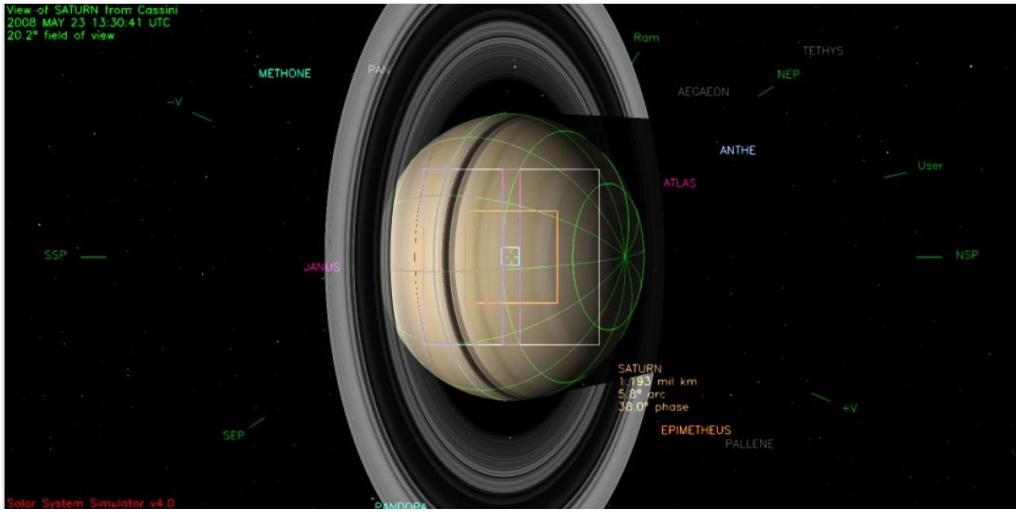


Waypoints Chosen (4 of 5)

Waypoint 7 (2008-144T05:28:00 – 2008-144T21:58:00): ISS_NAC to Saturn; POS_X to NSP

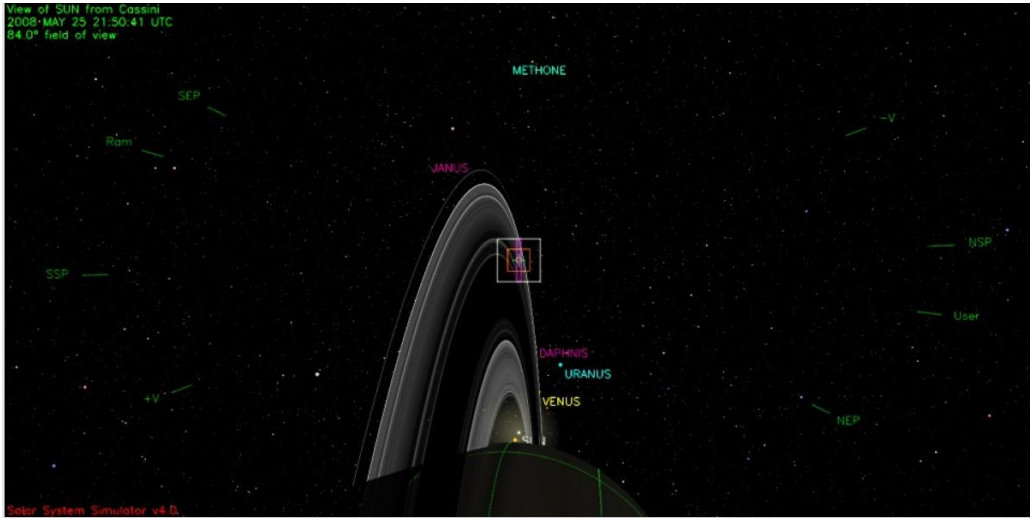


Waypoint 8 (2008-144T21:58:00 – 2008-146T20:58:00): ISS_NAC to Saturn; NEG_Z to NSP



Waypoints Chosen (5 of 5)

Waypoint 9 (2008-146T20:58:00 – 2008-148T04:43:00): VIMS_IR_SOL to Sun; NEG_X to NSP



Notes & Liens

- **Pointing Issues**
  - SP controls pointing during the RSS Inbound and Outbound Gravity Passes
  - UVIS_069SU_USUNOCC001_PRIME Primary is UVIS_SOLAR, which is not in bvt
  - If SRU violations occur during any of the OTM passes, the roll must be removed
- **No Data Volume Issues**
- **No Telemetry Mode Issues**
- **No CIMS Issues**
- **Power/OPMODE Issues**
  - UVIS and VIMS will be asleep during the RSS Gravity Pass and Saturn Occ periods
- **Flight Rule/Mission Planning Guideline and Constraint Issues**
  - Not checked
- **Other Issues**
  - Special activities requring special attention include the RSS Gravity Passes, RSS Earth Occulation, and 3 OTM/OTBs
  - The RSS needs to coordinate with the DSN for the proper station configuration and coverage. Per MP advice, the DSN Pass Blocks remain in their standard configuration.