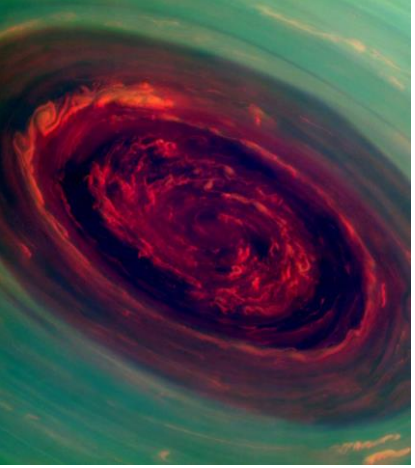

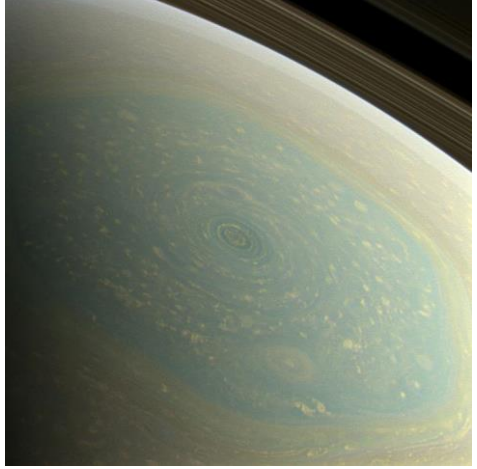
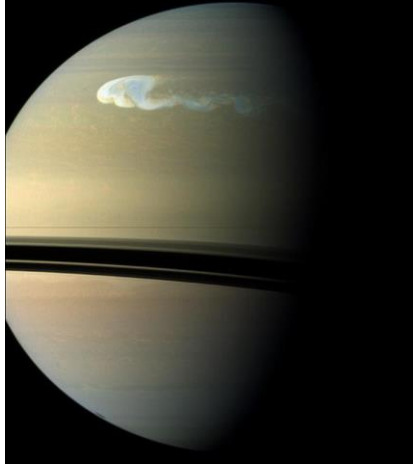

Science Planning & Sequence Team
CASSINI

SATURN TARGET WORKING TEAM

Rev 207-208 Segment Legacy Package

Segment Boundary: August 22, 2014 – September 18, 2014
2014-234T13:21:00 – 2014-261T08:18:00 (SCET)

Integration Began 12/16/2013
Segment Delivered to S85 Sequence 02/06/2014
Lead Integrator was Kathleen Kelleher

Legacy Package Assembled by Kathleen Kelleher

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Segment Overview and Final Products

Segment Summary

- Saturn 207-208 was a nearly 27-day “CAKE” (Cassini Apoapse for Kronian Exploration) during the inclined phase (IN-1C) of the Solstice Mission.
- The timeline was filled primarily with typical CAKE template activities in such inclined orbits, such as UVIS EUV/FUVs, Auroral Stares by UVIS and VIMS to map the northern hemisphere, and CIRS-led composition and mapping. Other Saturn observations included ISS tracking of the North Polar Vortex, and UVIS Saturn thermosphere imaging.
- Noteworthy out-of-discipline activities included ISS i small, irregular satellite imaging, Titan Cloud Monitoring campaign, a UVIS ring observation and two MAG calibration rolls. An Opnav was also performed.
- As usual, significant data cuts in several rounds and two station upgrades were necessary to fit the data volume into available resources.

Final Sequenced SPASS (1 of 4)

Gap 1 → Gap 2 → Gap 3 → Gap 4 → Gap 5 → Gap 6

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S85, length = 67 days		2014-212T05:09:00		066T19:52:00	2014-279T01:01:00			
SATURN_207_208 Segment		2014-234T13:21:00		026T18:57:00	2014-261T08:18:00			
SP_207SA_WAYPTTURN234_PRIME		2014-234T13:21:00		000T00:40:00	2014-234T14:01:00	ISS_NAC to Saturn	POS_Z to NSP	coming from NAC to SA, NEG_Y to SA (0,0, -9.5)
NEW WAYPOINT		**2014-234T14:01:00**		**000T09:35:00**	**2014-234T23:36:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
VIMS_207SA_NREGMAP001_PRIME	C, I	2014-234T14:01:00		000T08:55:00	2014-234T22:56:00	ISS_NAC to Saturn	POS_Z to NSP	
SP_207EA_DLTURN434_PRIME		2014-234T22:56:00		000T00:40:00	2014-234T23:36:00	XBAND to Earth	NEG_Y to 118.0/-42.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-234T23:36:00**		**000T11:10:00**	**2014-235T10:46:00**	**XBAND to Earth**	**NEG_Y to 118.0/-42.0**	
SP_207EA_YGAP234_PRIME		2014-234T23:36:00		000T01:30:00	2014-235T01:06:00	XBAND to Earth	NEG_Y to 118.0/-42.0	MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207EA_C34HEFNON235_PRIME	C	2014-235T01:31:00		000T08:35:00	2014-235T10:06:00	XBAND to Earth	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207SA_WAYPTTURN235_PRIME		2014-235T10:06:00		000T00:40:00	2014-235T10:46:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-235T10:46:00**		**000T12:50:00**	**2014-235T23:36:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
UVIS_207SA_EUVFUV002_PRIME	C, I	2014-235T10:46:00		000T12:00:00	2014-235T22:46:00	UVIS_FUV to Saturn	NEG_X to Sun	
SP_207EA_DLTURN235_PRIME		2014-235T22:56:00		000T00:40:00	2014-235T23:36:00	XBAND to Earth	NEG_Y to 118.0/-42.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-235T23:36:00**		**000T11:10:00**	**2014-236T10:46:00**	**XBAND to Earth**	**NEG_Y to 118.0/-42.0**	
SP_207EA_YGAP235_PRIME		2014-235T23:36:00		000T01:30:00	2014-236T01:06:00	XBAND to Earth	NEG_Y to 118.0/-42.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207EA_C70METNON236_PRIME	C	2014-236T01:06:00		000T09:00:00	2014-236T10:06:00	XBAND to Earth	5_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_207SA_WAYPTTURN236_PRIME		2014-236T10:06:00		000T00:40:00	2014-236T10:46:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-236T10:46:00**		**000T14:20:00**	**2014-237T01:06:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_207TI_M120R2HZ236_PRIME	C, V	2014-236T10:46:00	E207_M120R2HZ236+000T00:00:00	000T01:30:00	2014-236T12:16:00	ISS_NAC to Titan	NEG_X to Sun	Instead of handing off to the waypoint, turn directly to the attitude used for the Op Nav Request: 7TARGET ISS_NAC SKY_RA_DEC_51 NEG_Z SKY_NEP, where SKY_RA_DEC_51 is RA: 300.060, DEC: -18.397
NAV_207SK_OPNAV361_PRIME		2014-236T12:16:00		000T01:30:00	2014-236T13:46:00	ISS_NAC to Satellites	NEG_Z to NEP	Instead of picking up at waypoint, pick up at attitude used for the OpNav observation or ISS_NAC to 300.060, DEC: -18.397. NEG_Z to NEP
MAG_207SU_CALROLL002_PRIME		2014-236T13:46:00		000T10:00:00	2014-236T23:46:00	NEG_X to Earth (0.0,0.0,-30.0 deg. offset)	Rolling	Instead of handing off to the waypoint, turn directly to the Downlink Attitude used in the next SP request: 7TARGET XBAND EARTH NEG_Y SKY_RA_DEC_77
SP_207EA_DLTURN237_PRIME		2014-237T00:26:00		000T00:40:00	2014-237T01:06:00	XBAND to Earth	NEG_Y to 118.0/-42.0	Per RBOT, picking up at XBAND to Earth, NEG_Y to 118.0/-42.0 instead of the waypoint. PTG for MIMI. CIRS heating
NEW WAYPOINT		**2014-237T01:06:00**		**000T09:40:00**	**2014-237T10:46:00**	**XBAND to Earth**	**NEG_Y to 118.0/-42.0**	
SP_207EA_C34HEFOTP237_PRIME	C, E, N	2014-237T01:06:00		000T09:00:00	2014-237T10:06:00	XBAND to Earth	4_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). OTP. SID suspend. CIRS heating
SP_207SA_WAYPTTURN237_PRIME		2014-237T10:06:00		000T00:40:00	2014-237T10:46:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-237T10:46:00**		**000T14:20:00**	**2014-238T01:06:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
CIRS_207SA_MIRMAP003_PRIME	V	2014-237T10:46:00		000T13:40:00	2014-238T00:26:00	CIRS_FP3 to Saturn	POS_Z to 97.376/52.697	
SP_207EA_DLTURN238_PRIME		2014-238T00:26:00		000T00:40:00	2014-238T01:06:00	XBAND to Earth	NEG_Y to 118.0/-42.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-238T01:06:00**		**000T09:40:00**	**2014-238T10:46:00**	**XBAND to Earth**	**NEG_Y to 118.0/-42.0**	
SP_207EA_C34HEFOTB238_PRIME	C, N	2014-238T01:06:00		000T09:00:00	2014-238T10:06:00	XBAND to Earth	4_Hr_Rolling	MIMI. same as OTP pass. OTB. SID suspend
SP_207SA_WAYPTTURN238_PRIME		2014-238T10:06:00		000T00:40:00	2014-238T10:46:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-238T10:46:00**		**001T12:34:00**	**2014-239T23:20:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
CIRS_207SA_MIRTMAP001_PRIME	V	2014-238T10:46:00		000T11:00:00	2014-238T21:46:00	CIRS_FP3 to Saturn	POS_Z to 94.11/49.379	
CIRS_207SA_COMPSIT003_PRIME	U, V	2014-238T21:46:00		000T08:54:00	2014-239T06:40:00	CIRS_FP3 to Saturn	POS_Z to 90.795/49.171	
UVIS_207SA_EUVFUV003_PRIME	C, I	2014-239T06:40:00		000T16:00:00	2014-239T22:40:00	UVIS_FUV to Saturn	NEG_X to 38.195/21.518	
SP_207EA_DLTURN239_PRIME		2014-239T22:40:00		000T00:40:00	2014-239T23:20:00	XBAND to Earth	NEG_Y to 125.0/-35.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-239T23:20:00**		**000T11:10:00**	**2014-240T10:30:00**	**XBAND to Earth**	**NEG_Y to 125.0/-35.0**	
SP_207EA_YGAP239_PRIME		2014-239T23:20:00		000T01:30:00	2014-240T00:50:00	XBAND to Earth	NEG_Y to 125.0/-35.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207EA_C70METNON240_PRIME	C	2014-240T00:50:00		000T06:00:00	2014-240T06:50:00	XBAND to Earth	NEG_Y to 125.0/-35.0	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_207SA_WAYPTTURN240_PRIME		2014-240T09:50:00		000T00:40:00	2014-240T10:30:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-240T10:30:00**		**001T06:20:00**	**2014-241T16:50:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
CIRS_207SA_MIRMAP005_PRIME	V	2014-240T10:30:00		000T22:00:00	2014-241T08:30:00	CIRS_FP3 to Saturn	POS_Z to NSP	
CIRS_207SA_COMPSIT004_PRIME	U, V	2014-241T08:30:00		000T07:30:00	2014-241T16:00:00	CIRS_FP3 to Saturn	POS_Z to NSP	
SP_207EA_DLTURN241_PRIME		2014-241T16:10:00		000T00:40:00	2014-241T16:50:00	XBAND to Earth	NEG_Y to 125.0/-35.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating

Final Sequenced SPASS (2 of 4)

NEW WAYPOINT		**2014-241T16:50:00**		**002T10:55:00**	**2014-244T03:45:00**	**XBAND to Earth**	**NEG_Y to 125.0/-35.0**	
SP_207EA_YGAP241_PRIME		2014-241T16:50:00		000T01:30:00	2014-241T18:20:00	XBAND to Earth	NEG_Y to 125.0/-35.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207EA_G34HEFNON241_PRIME	C, E	2014-241T18:20:00		000T09:00:00	2014-242T03:20:00	XBAND to Earth	5_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
ISS_207OT_THRROT024_PRIME		2014-242T03:20:00		001T13:15:00	2014-243T16:35:00	UVIS_FUV to Rocks	NEG_Z to Earth	Jettison activity
SP_207EA_YGAP243_PRIME		2014-243T16:35:00		000T01:30:00	2014-243T18:05:00	XBAND to Earth	NEG_Y to 125.0/-35.0	
SP_207EA_G70METNON243_PRIME	C	2014-243T18:20:00		000T04:40:00	2014-243T23:00:00	XBAND to Earth	Rolling/SRU	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_207EA_G34B26NON243_PRIME	C, M	2014-243T23:00:00		000T04:05:00	2014-244T03:05:00	XBAND to Earth	Rolling/SRU	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_207SA_WAYPTTURN244_PRIME	M	2014-244T03:05:00		000T00:40:00	2014-244T03:45:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-244T03:45:00**		**001T12:50:00**	**2014-245T16:35:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
VIMS_207SA_NHEMMOV001_PRIME	C, I, M	2014-244T03:45:00		001T12:00:00	2014-245T15:45:00	ISS_NAC to Saturn	POS_Z to NSP	
SP_207EA_DLTURN245_PRIME		2014-245T15:55:00		000T00:40:00	2014-245T16:35:00	XBAND to Earth	NEG_Y to 127.0/-31.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-245T16:35:00**		**000T11:10:00**	**2014-246T03:45:00**	**XBAND to Earth**	**NEG_Y to 127.0/-31.0**	
SP_207EA_YGAP245_PRIME		2014-245T16:35:00		000T01:30:00	2014-245T18:05:00	XBAND to Earth	NEG_Y to 127.0/-31.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207EA_G34HEFNON245_PRIME	C, M	2014-245T18:05:00		000T09:00:00	2014-246T03:05:00	XBAND to Earth	5_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_207SA_WAYPTTURN246_PRIME	M	2014-246T03:05:00		000T00:40:00	2014-246T03:45:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-246T03:45:00**		**000T19:04:00**	**2014-246T22:49:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_207TI_M90R3CLD246_PRIME	C, M	2014-246T03:45:00	E207_M90R3CLD246+000T00:00:00	000T01:30:00	2014-246T05:15:00	ISS_NAC to Titan	POS_Z to NSP	No Preference to secondary pointing
UVIS_207SA_EUVFUV004_PRIME	C, I, M	2014-246T05:15:00		000T16:00:00	2014-246T21:15:00	UVIS_FUV to Saturn	NEG_X to Sun	
SP_207EA_DLTURN246_PRIME		2014-246T22:09:00		000T00:40:00	2014-246T22:49:00	XBAND to Earth	NEG_Y to 127.0/-31.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-246T22:49:00**		**000T11:10:00**	**2014-247T09:59:00**	**XBAND to Earth**	**NEG_Y to 127.0/-31.0**	
SP_207EA_YGAP246_PRIME		2014-246T22:49:00		000T01:30:00	2014-247T00:19:00	XBAND to Earth	NEG_Y to 127.0/-31.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_207EA_C70METNON247_PRIME		2014-247T00:54:00		000T08:25:00	2014-247T09:19:00	XBAND to Earth	Rolling/SRU	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
Apoapse Per = 31.9 d, inc ...		2014-247T01:17:14		000T00:00:01	2014-247T01:17:15			
SP_208SA_WAYPTTURN247_PRIME		2014-247T09:19:00		000T00:40:00	2014-247T09:59:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-247T09:59:00**		**000T12:50:00**	**2014-247T22:49:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
CIRS_208SA_COMPSIT003_PRIME	M, U, V	2014-247T09:59:00		000T12:00:00	2014-247T21:59:00	CIRS_FP3 to Saturn	POS_Z to NSP	
SP_208EA_DLTURN247_PRIME	M	2014-247T22:09:00		000T00:40:00	2014-247T22:49:00	XBAND to Earth	NEG_Y to 128.0/-29.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-247T22:49:00**		**000T11:10:00**	**2014-248T09:59:00**	**XBAND to Earth**	**NEG_Y to 128.0/-29.0**	
SP_208EA_YGAP247_PRIME	M	2014-247T22:49:00		000T01:30:00	2014-248T00:19:00	XBAND to Earth	NEG_Y to 128.0/-29.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208EA_C34BWGNON248_PRIME	C, E, M, R	2014-248T00:19:00		000T09:00:00	2014-248T09:19:00	XBAND to Earth	5_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_208SA_WAYPTTURN248_PRIME		2014-248T09:19:00		000T00:40:00	2014-248T09:59:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-248T09:59:00**		**000T12:50:00**	**2014-248T22:49:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208TI_M60R3CLD248_PRIME	C, V	2014-248T09:59:00	E208_M60R3CLD248+000T00:00:00	000T01:30:00	2014-248T11:29:00	ISS_NAC to Titan	POS_Z to 240.928/34.207	
UVIS_208SA_NAURSLEW001_PRIME	C	2014-248T11:29:00		000T10:00:00	2014-248T21:29:00	UVIS_FUV to Saturn	NEG_X to NSP	
SP_208EA_DLTURN248_PRIME		2014-248T22:09:00		000T00:40:00	2014-248T22:49:00	XBAND to Earth	NEG_Y to 128.0/-29.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-248T22:49:00**		**000T11:10:00**	**2014-249T09:59:00**	**XBAND to Earth**	**NEG_Y to 128.0/-29.0**	
SP_208EA_YGAP248_PRIME		2014-248T22:49:00		000T01:30:00	2014-249T00:19:00	XBAND to Earth	NEG_Y to 128.0/-29.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208EA_C34HEFNON249_PRIME	C, M	2014-249T00:19:00		000T09:00:00	2014-249T09:19:00	XBAND to Earth	Rolling/SRU	MIMI. NEG_Y to Saturn (0,0,-9.5). SID suspend. CIRS heating
SP_208SA_WAYPTTURN249_PRIME	M	2014-249T09:19:00		000T00:40:00	2014-249T09:59:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-249T09:59:00**		**000T14:20:00**	**2014-250T00:19:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
UVIS_208SA_EUVFUV001_PRIME	C, I, M	2014-249T09:59:00		000T13:40:00	2014-249T23:39:00	UVIS_FUV to Saturn	NEG_X to Sun	
SP_208EA_DLTURN249_PRIME	M	2014-249T23:39:00		000T00:40:00	2014-250T00:19:00	XBAND to Earth	NEG_Y to 129.0/-26.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating

Gap 7 → ISS_207OT_THRROT024_PRIME

Gap 8 → VIMS_207SA_NHEMMOV001_PRIME

Gap 9 → UVIS_207SA_EUVFUV004_PRIME

Gap 10 → SP_208SA_WAYPTTURN247_PRIME

Gap 11 → UVIS_208SA_NAURSLEW001_PRIME

Gap 12 → UVIS_208SA_EUVFUV001_PRIME

Final Sequenced SPASS (3 of 4)

NEW WAYPOINT		**2014-250T00:19:00**		**000T09:40:00**	**2014-250T09:59:00**	**XBAND to Earth**	**NEG_Y to 129.0/-26.0**	
SP_208EA_G34BWGOTP250_PRIME	C, M, N	2014-250T00:19:00		000T01:40:00	2014-250T01:59:00	XBAND to Earth	4_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). OTP. SID suspend. CIRS heating
SP_208EA_C34HEFOTP250_PRIME	C, E, N	2014-250T01:59:00		000T07:20:00	2014-250T09:19:00	XBAND to Earth	4_Hr_Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). OTP. SID suspend. CIRS heating
SP_208SA_WAYPTTURN250_PRIME		2014-250T09:19:00		000T00:40:00	2014-250T09:59:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-250T09:59:00**		**000T14:20:00**	**2014-251T00:19:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208SA_SATSTARE001_PRIME	C, V	2014-250T09:59:00	E208_M60R3CLD250+000T00:00:00	000T01:30:00	2014-250T11:29:00	ISS_NAC to Saturn	POS_Z to NSP	No Preference to secondary pointing
CIRS_208SA_COMPSIT004_PRIME	U, V	2014-250T11:29:00		000T12:00:00	2014-250T23:29:00	CIRS_FPB to Saturn	POS_Z to NSP	CIRS_FPB TO 75N for North Auroral Campaign
SP_208EA_DLTURN250_PRIME		2014-250T23:39:00		000T00:40:00	2014-251T00:19:00	XBAND to Earth	NEG_Y to 129.0/-26.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-251T00:19:00**		**000T09:40:00**	**2014-251T09:59:00**	**XBAND to Earth**	**NEG_Y to 129.0/-26.0**	
SP_208EA_C70METOTB251_PRIME	C, N	2014-251T00:39:00		000T08:40:00	2014-251T09:19:00	XBAND to Earth	Rolling	MIMI. same as OTP pass. OTB. CIRS heating
SP_208SA_WAYPTTURN251_PRIME		2014-251T09:19:00		000T00:40:00	2014-251T09:59:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-251T09:59:00**		**001T06:05:00**	**2014-252T16:04:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208OT_KIVPOL047_PRIME	U	2014-251T09:59:00		001T00:00:00	2014-252T09:59:00	UVIS_FUV to Rocks	POS_Z to 194.854/33.333	
UVIS_208SA_EUVFUV002_PRIME	C, I	2014-252T09:59:00		000T05:00:00	2014-252T14:59:00	UVIS_FUV to Saturn	NEG_X to Sun	
SP_208EA_DLTURN252_PRIME		2014-252T15:24:00		000T00:40:00	2014-252T16:04:00	XBAND to Earth	NEG_Y to 131.0/-20.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-252T16:04:00**		**000T19:10:00**	**2014-253T11:14:00**	**XBAND to Earth**	**NEG_Y to 131.0/-20.0**	
SP_208EA_YGAP252_PRIME		2014-252T16:04:00		000T01:30:00	2014-252T17:34:00	XBAND to Earth	NEG_Y to 131.0/-20.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208EA_G70METNON252_PRIME	C	2014-252T17:34:00		000T04:45:00	2014-252T22:19:00	XBAND to Earth	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
MAG_208SU_CALROLL001_PRIME		2014-253T02:34:00		000T08:00:00	2014-253T10:34:00	NEG_X to Earth (0.0,0.0,-30.0 deg. offset)	Rolling	
SP_208SA_WAYPTTURN253_PRIME		2014-253T10:34:00		000T00:40:00	2014-253T11:14:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-253T11:14:00**		**001T04:50:00**	**2014-254T16:04:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208TI_M60R3CLD253_PRIME	C, V	2014-253T11:14:00	E208_M60R3CLD253+000T00:00:00	000T01:30:00	2014-253T12:44:00	ISS_NAC to Titan	POS_Z to NSP	
ISS_208SA_NPOLVOR001_PRIME	C, U, V	2014-253T12:44:00		001T02:30:00	2014-254T15:14:00	ISS_NAC to Saturn	POS_Z to 153.695/57.366	
SP_208EA_DLTURN254_PRIME		2014-254T15:24:00		000T00:40:00	2014-254T16:04:00	XBAND to Earth	NEG_Y to 131.0/-20.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-254T16:04:00**		**000T11:10:00**	**2014-255T03:14:00**	**XBAND to Earth**	**NEG_Y to 131.0/-20.0**	
ENGR_208SC_KPTYBIAS254_PRIME		2014-254T16:04:00		000T01:30:00	2014-254T17:34:00	NEG_Z to DELTA_H (0.0,0.0,87.001 deg. offset)	NEG_X to Sun	
SP_208EA_G70METNON254_PRIME	C	2014-254T18:49:00		000T03:40:00	2014-254T22:29:00	XBAND to Earth	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208EA_G34HEFNON254_PRIME	C	2014-254T22:29:00		000T04:05:00	2014-255T02:34:00	XBAND to Earth	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208SA_WAYPTTURN255_PRIME		2014-255T02:34:00		000T00:40:00	2014-255T03:14:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-255T03:14:00**		**001T12:34:00**	**2014-256T15:48:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208TI_M60R2CLD255_PRIME	C, V	2014-255T03:14:00	E208_M60R2CLD255+000T00:00:00	000T01:30:00	2014-255T04:44:00	ISS_NAC to Titan	POS_Z to 226.676/33.544	
UVIS_208SA_EUVFUV003_PRIME	I	2014-255T04:44:00		000T16:00:00	2014-255T20:44:00	UVIS_FUV to Saturn	NEG_X to Sun	
VIMS_208SA_NAURSTARE001_PRIME	I, U	2014-255T20:44:00		000T09:00:00	2014-256T05:44:00	ISS_NAC to Saturn	POS_Z to NSP	
UVIS_208SA_NAURSLEW002_PRIME		2014-256T05:44:00		000T09:00:00	2014-256T14:44:00	UVIS_FUV to Saturn	NEG_X to NSP	
SP_208EA_DLTURN256_PRIME		2014-256T15:08:00		000T00:40:00	2014-256T15:48:00	XBAND to Earth	NEG_Y to 135.0/-8.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-256T15:48:00**		**000T11:10:00**	**2014-257T02:58:00**	**XBAND to Earth**	**NEG_Y to 135.0/-8.0**	
SP_208EA_YGAP256_PRIME		2014-256T15:48:00		000T01:30:00	2014-256T17:18:00	XBAND to Earth	NEG_Y to 135.0/-8.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208EA_G34HEFNON256_PRIME	C	2014-256T17:18:00		000T09:00:00	2014-257T02:18:00	XBAND to Earth	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5).
SP_208SA_WAYPTTURN257_PRIME		2014-257T02:18:00		000T00:40:00	2014-257T02:58:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-257T02:58:00**		**001T12:50:00**	**2014-258T15:48:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208TI_M90R2CLD257_PRIME	V	2014-257T02:58:00	E208_M90R2CLD257+000T00:00:00	000T01:30:00	2014-257T04:28:00	ISS_NAC to Titan	POS_Z to 133.831/48.992	
VIMS_208SA_NREGMOV001_PRIME	C, I	2014-257T04:28:00		001T10:30:00	2014-258T14:58:00	ISS_NAC to Saturn	POS_Z to NSP	
SP_208EA_DLTURN258_PRIME	R	2014-258T15:08:00		000T00:40:00	2014-258T15:48:00	XBAND to Earth	NEG_Y to 144.0/23.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
NEW WAYPOINT		**2014-258T15:48:00**		**000T11:10:00**	**2014-259T02:58:00**	**XBAND to Earth**	**NEG_Y to 144.0/23.0**	
SP_208EA_YGAP258_PRIME	R	2014-258T15:48:00		000T01:30:00	2014-258T17:18:00	XBAND to Earth	NEG_Y to 144.0/23.0	ptg from DLWG for MIMI. NEG_Y to Saturn (0,0,-9.5). CIRS heating
SP_208EA_G34BWGNON258_PRIME	C, R	2014-258T17:33:00		000T08:45:00	2014-259T02:18:00	XBAND to Earth	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5).
SP_208SA_WAYPTTURN259_PRIME		2014-259T02:18:00		000T00:40:00	2014-259T02:58:00	ISS_NAC to Saturn	POS_Z to NSP	

Gap 13 → ISS_208SA_SATSTARE001_PRIME

Gap 14 → ISS_208OT_KIVPOL047_PRIME

Gap 15 → MAG_208SU_CALROLL001_PRIME

Gap 16 → UVIS_208SA_EUVFUV003_PRIME

Gap 17 → VIMS_208SA_NREGMOV001_PRIME

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Gap 18

Gap 19

NEW WAYPOINT		**2014-259T02:58:00**		**000T19:05:00**	**2014-259T22:03:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
ISS_208TI_M90R2CLD259_PRIME	C, V	2014-259T02:58:00	E208_M90R2CLD259+000T00:00:00	000T01:30:00	2014-259T04:28:00	ISS_NAC to Titan	POS_Z to NSP	
UVIS_208SA_EUVFUV004_PRIME	C, I	2014-259T04:28:00		000T09:00:00	2014-259T13:28:00	UVIS_FUV to Saturn	NEG_X to Sun	
ISS_208SA_NHEMMAP001_PRIME	C, V	2014-259T13:28:00		000T07:55:00	2014-259T21:23:00	ISS_NAC to Saturn	POS_Z to NSP	
SP_208EA_DLTURN259_PRIME		2014-259T21:23:00		000T00:40:00	2014-259T22:03:00	XBAND to Earth	NEG_X to NSP	ptg from DLWG for MIMI
NEW WAYPOINT		**2014-259T22:03:00**		**000T11:10:00**	**2014-260T09:13:00**	**XBAND to Earth**	**NEG_X to NSP**	
SP_208EA_YGAP259_PRIME		2014-259T22:03:00		000T01:30:00	2014-259T23:33:00	XBAND to Earth	NEG_X to NSP	
SP_208EA_C70METNON259_PRIME	C	2014-260T04:33:00		000T04:00:00	2014-260T08:33:00	XBAND to Earth	Rolling	NEG_X to NSP.
SP_208SA_WAYPTTURN260_PRIME		2014-260T08:33:00		000T00:40:00	2014-260T09:13:00	ISS_NAC to Saturn	POS_Z to NSP	
NEW WAYPOINT		**2014-260T09:13:00**		**000T12:35:00**	**2014-260T21:48:00**	**ISS_NAC to Saturn**	**POS_Z to NSP**	
UVIS_208SA_THERMOSPH001_PRIME		2014-260T09:13:00		000T11:55:00	2014-260T21:08:00	ISS_NAC to Saturn	POS_Z to NSP	No Preference to secondary pointing
SP_208EA_DLTURN260_PRIME		2014-260T21:08:00		000T00:40:00	2014-260T21:48:00	XBAND to Earth	NEG_X to NSP	ptg from DLWG for MIMI
NEW WAYPOINT		**2014-260T21:48:00**		**000T11:10:00**	**2014-261T08:58:00**	**XBAND to Earth**	**NEG_X to NSP**	
ENGR_208SC_KPTYBIAS260_PRIME		2014-260T21:48:00		000T01:30:00	2014-260T23:18:00	POS_Z to DELTA_H (0.0,0.0,-43.0 deg. offset)	NEG_X to Sun	
SP_208EA_C70METNON260_PRIME	C	2014-260T23:38:00		000T07:55:00	2014-261T07:33:00	XBAND to Earth	Rolling	NEG_X to NSP.

Final Sequenced SMT and Data Volume (1 of 3)

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_207EA_C34HEFNON235_PRIME	235 01:31	235 10:06	120	1168	51	1339	3322	1983	0	440	51	1830	737	-1094	438	4%	1093
SP_207EA_C70METNON236_PRIME	236 01:06	236 10:06	1093	970	63	2126	3322	1196	0	457	53	2637	3332	694	438	4%	0
SP_207EA_C34HEFOTP237_PRIME	237 01:06	237 10:06	0	796	63	859	3322	2463	0	457	53	1370	628	-742	-256	-2%	742
SP_207EA_C34HEFOTB238_PRIME	238 01:06	238 10:06	742	1150	63	1955	3322	1367	0	159	53	2167	756	-1411	-256	-2%	1410
SP_207EA_C70METNON240_PRIME	240 00:50	240 06:50	1410	1641	164	3215	3322	107	0	102	35	3353	2221	-1132	-256	-2%	1132
SP_207EA_G34HEFNON241_PRIME	241 18:20	242 03:20	1132	1652	150	2934	3322	388	0	159	53	3146	635	-2511	-256	-2%	2510
SP_207EA_G70METNON243_PRIME	243 18:20	243 23:00	2510	904	165	3579	3322	-256	0	80	28	3429	1511	-1918	0	0%	1918
SP_207EA_G34B26NON243_PRIME	243 23:00	244 03:05	1918	0	0	1918	3322	1404	0	77	24	2019	271	-1748	134	1%	1748
SP_207EA_G34HEFNON245_PRIME	245 18:05	246 03:05	1748	914	165	2826	3322	496	0	159	53	3038	629	-2409	134	1%	2409
SP_207EA_C70METNON247_PRIME	247 00:54	247 09:19	2409	687	92	3188	3322	134	0	67	50	3305	3087	-218	1453	13%	217
SP_208EA_C34BWGNON248_PRIME	248 00:19	248 09:19	217	609	63	890	3322	2432	0	159	53	1101	681	-421	1453	18%	420
SP_208EA_C34HEFNON249_PRIME	249 00:19	249 09:19	420	441	63	925	3322	2397	0	159	53	1136	699	-438	1453	18%	438
SP_208EA_G34BWGOTP250_PRIME	250 00:19	250 01:59	438	515	63	1015	3322	2307	0	20	10	1046	92	-954	1453	19%	954
SP_208EA_C34HEFOTP250_PRIME	250 01:59	250 09:19	954	0	0	954	3322	2369	0	138	43	1135	466	-670	1234	14%	669
SP_208EA_C70METOTB251_PRIME	251 00:39	251 09:19	669	770	65	1504	3322	1818	0	156	51	1711	3164	1452	1234	11%	0
SP_208EA_G70METNON252_PRIME	252 17:34	252 22:19	0	1236	136	1373	3322	1950	0	79	28	1479	1442	-38	-218	-1%	37
SP_208EA_G70METNON254_PRIME	254 18:49	254 22:29	37	1447	188	1672	3322	1650	0	69	22	1762	1263	-500	-218	-1%	499
SP_208EA_G34HEFNON254_PRIME	254 22:29	255 02:34	499	0	0	499	3322	2823	0	77	24	600	269	-331	-218	-1%	331
SP_208EA_G34HEFNON256_PRIME	256 17:18	257 02:18	331	963	164	1457	3322	1865	0	159	53	1669	616	-1053	-218	-1%	1053
SP_208EA_G34BWGNON258_PRIME	258 17:33	259 02:18	1053	1525	166	2744	3322	578	0	157	52	2952	481	-2472	-218	-1%	2471
SP_208EA_C70METNON259_PRIME	260 04:33	260 08:33	2471	959	111	3541	3322	-218	0	79	24	3425	1340	-2086	762	5%	2085
SP_208EA_C70METNON260_PRIME	260 23:38	261 07:33	2085	411	64	2560	3322	762	0	149	47	2756	2849	92	1244	9%	0

* NOTE: Negative SSR (P4) Margins did not result in data loss due to compression/under-utilization.

Final Sequenced SMT and Data Volume (2 of 3)

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

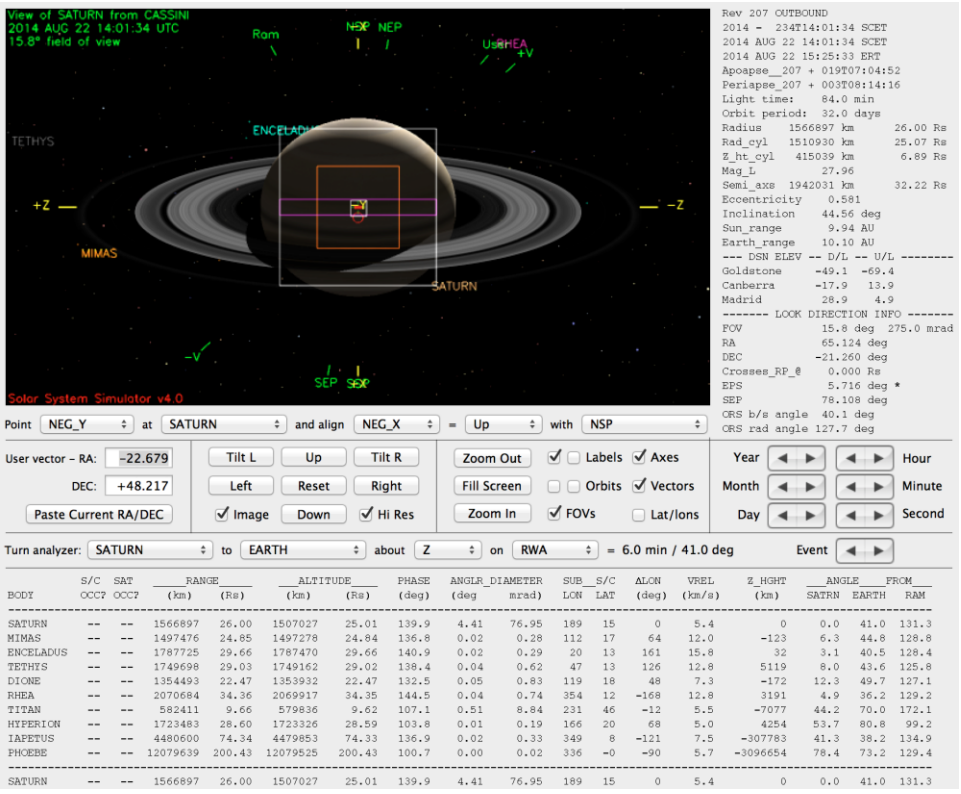
Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	234 13:21	235 01:31	0.0	11.5	64.2	4.4	200.0	10.8	26.3	0.0	439.7	0.1	400.0	0.0	50.8	1207.8
SP_207EA_C34HEFNON235_PRIME	235 01:31	235 10:06	0.0	8.1	86.4	3.1	0.0	7.6	18.5	0.0	310.2	2.3	0.0	0.0	0.0	436.3
DAILY TOTAL SCIENCE	234 13:21	235 10:06	0.0	19.6	150.6	7.5	200.0	18.5	44.8	0.0	749.9	2.5	400.0	0.0	50.8	
OBSERVATION_NOR	235 10:06	236 01:06	0.0	14.1	86.4	5.4	50.0	13.3	32.4	0.0	542.1	217.4	0.0	0.0	62.7	1023.9
SP_207EA_C70METNON236_PRIME	236 01:06	236 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	325.3	2.5	0.0	0.0	0.0	453.3
DAILY TOTAL SCIENCE	235 10:06	236 10:06	0.0	22.6	172.8	8.6	50.0	21.3	51.8	0.0	867.4	219.8	0.0	0.0	62.7	
OBSERVATION_NOR	236 10:06	237 01:06	0.0	14.1	21.6	5.4	35.0	75.6	32.4	0.0	542.1	0.0	10.0	0.0	62.7	798.9
OBSERVATION_SI	236 10:06	237 01:06	0.0	0.0	0.0	0.0	52.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.2
SP_207EA_C34HEFOTP237_PRIME	237 01:06	237 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	325.3	2.5	0.0	0.0	0.0	453.3
DAILY TOTAL SCIENCE	236 10:06	237 10:06	0.0	22.6	108.0	8.6	87.2	83.6	51.8	0.0	867.4	2.5	10.0	0.0	62.7	
OBSERVATION_NOR	237 10:06	238 01:06	0.0	14.1	196.8	5.4	32.0	13.3	32.4	0.0	435.3	0.0	410.0	0.0	62.7	1202.0
SP_207EA_C34HEFOTB238_PRIME	238 01:06	238 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	237 10:06	238 10:06	0.0	22.6	283.2	8.6	32.0	21.3	51.8	0.0	464.4	2.5	410.0	0.0	62.7	
OBSERVATION_NOR	238 10:06	240 00:50	0.0	36.5	337.7	13.9	75.6	34.4	83.7	0.0	125.5	322.1	596.7	0.0	161.9	1788.0
SP_207EA_C70METNON240_PRIME	240 00:50	240 06:50	0.0	5.7	54.0	2.2	0.0	5.3	13.0	0.0	19.4	1.6	0.0	0.0	0.0	101.2
DAILY TOTAL SCIENCE	238 10:06	240 06:50	0.0	42.2	391.7	16.1	75.6	39.8	96.6	0.0	144.9	323.7	596.7	0.0	161.9	
OBSERVATION_NOR	240 06:50	241 18:20	0.0	33.5	403.2	12.8	51.2	31.6	76.7	0.0	115.0	28.0	885.0	0.0	148.4	1785.3
SP_207EA_G34HEFNON241_PRIME	241 18:20	242 03:20	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	240 06:50	242 03:20	0.0	42.0	489.6	16.0	51.2	39.6	96.1	0.0	144.2	30.5	885.0	0.0	148.4	
OBSERVATION_NOR	242 03:20	243 18:20	0.0	36.8	0.0	14.0	600.0	34.7	84.2	0.0	126.3	0.1	0.0	0.0	163.0	1059.2
SP_207EA_G70METNON243_PRIME	243 18:20	243 23:00	0.0	4.4	42.3	1.7	0.0	4.1	10.1	0.0	15.1	1.3	0.0	0.0	0.0	79.0
SP_207EA_G34B26NON243_PRIME	243 23:00	244 03:05	0.0	3.9	44.1	1.5	0.0	3.6	8.8	0.0	13.2	1.1	0.0	0.0	0.0	76.2
DAILY TOTAL SCIENCE	242 03:20	244 03:05	0.0	45.0	86.4	17.2	600.0	42.5	103.1	0.0	154.7	2.5	0.0	0.0	163.0	
OBSERVATION_NOR	244 03:05	245 18:05	0.0	36.8	259.2	14.0	50.0	34.7	84.2	0.0	126.3	0.0	300.0	0.0	163.0	1068.3
SP_207EA_G34HEFNON245_PRIME	245 18:05	246 03:05	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	244 03:05	246 03:05	0.0	45.3	345.6	17.3	50.0	42.7	103.7	0.0	155.5	2.5	300.0	0.0	163.0	
OBSERVATION_NOR	246 03:05	247 00:54	0.0	20.6	136.8	7.9	88.5	19.4	47.1	0.0	70.7	290.0	0.0	0.0	91.2	772.1
SP_207EA_C70METNON247_PRIME	247 00:54	247 09:19	0.0	7.9	0.0	3.0	0.0	7.5	18.2	0.0	27.3	2.3	0.0	0.0	0.0	66.2
DAILY TOTAL SCIENCE	246 03:05	247 09:19	0.0	28.5	136.8	10.9	88.5	26.9	65.3	0.0	97.9	292.3	0.0	0.0	91.2	
OBSERVATION_NOR	247 09:19	248 00:19	0.0	14.1	86.4	5.4	0.0	13.3	32.4	0.0	48.6	43.5	360.0	0.0	62.7	666.4
SP_208EA_C34BWGNON248_PRIME	248 00:19	248 09:19	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	247 09:19	248 09:19	0.0	22.6	172.8	8.6	0.0	21.3	51.8	0.0	77.8	45.9	360.0	0.0	62.7	
OBSERVATION_NOR	248 09:19	249 00:19	0.0	14.1	93.6	5.4	38.5	13.3	32.4	0.0	48.6	181.2	10.0	0.0	62.7	499.8
SP_208EA_C34HEFNON249_PRIME	249 00:19	249 09:19	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	248 09:19	249 09:19	0.0	22.6	180.0	8.6	38.5	21.3	51.8	0.0	77.8	183.6	10.0	0.0	62.7	

Final Sequenced SMT and Data Volume (3 of 3)

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

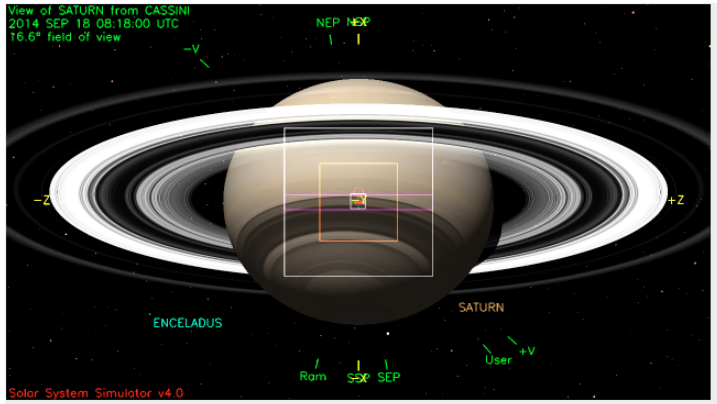
Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	249 09:19	250 00:19	0.0	14.1	98.4	5.4	50.0	13.3	32.4	0.0	48.6	247.6	0.0	0.0	62.7	572.5
SP_208EA_G34BWGOTP250_PRIME	250 00:19	250 01:59	0.0	1.6	7.2	0.6	0.0	1.5	3.6	0.0	5.4	0.5	0.0	0.0	0.0	20.3
SP_208EA_C34HEFOTP250_PRIME	250 01:59	250 09:19	0.0	6.9	79.2	2.6	0.0	6.5	15.8	0.0	23.8	2.0	0.0	0.0	0.0	136.9
DAILY TOTAL SCIENCE	249 09:19	250 09:19	0.0	22.6	184.8	8.6	50.0	21.3	51.8	0.0	77.8	250.0	0.0	0.0	62.7	
RVATION_NOR	250 09:19	251 00:39	0.0	14.5	194.4	5.5	38.5	13.6	33.1	0.0	49.7	43.6	370.0	0.0	64.1	827.0
SP_208EA_C70METOTB251_PRIME	251 00:39	251 09:19	0.0	8.2	86.4	3.1	0.0	7.7	18.7	0.0	28.1	2.4	0.0	0.0	0.0	154.6
DAILY TOTAL SCIENCE	250 09:19	251 09:19	0.0	22.6	280.8	8.6	38.5	21.3	51.8	0.0	77.8	45.9	370.0	0.0	64.1	
OBSERVATION_NOR	251 09:19	252 17:34	0.0	30.4	36.0	11.6	788.0	28.7	69.7	0.0	104.5	156.2	0.0	0.0	134.8	1359.8
SP_208EA_G70METNON252_PRIME	252 17:34	252 22:19	0.0	4.5	40.5	1.7	0.0	4.2	10.3	0.0	15.4	1.3	0.0	0.0	0.0	77.9
DAILY TOTAL SCIENCE	251 09:19	252 22:19	0.0	34.9	76.5	13.3	788.0	32.9	79.9	0.0	119.9	157.5	0.0	0.0	134.8	
OBSERVATION_NOR	252 22:19	254 18:49	0.0	42.0	261.0	16.0	520.0	46.7	96.1	0.0	144.2	97.5	210.0	0.0	186.0	1619.5
SP_208EA_G70METNON254_PRIME	254 18:49	254 22:29	0.0	3.5	39.6	1.3	0.0	3.3	7.9	0.0	11.9	1.0	0.0	0.0	0.0	68.4
SP_208EA_G34HEFNON254_PRIME	254 22:29	255 02:34	0.0	3.9	44.1	1.5	0.0	3.6	8.8	0.0	13.2	1.1	0.0	0.0	0.0	76.2
DAILY TOTAL SCIENCE	252 22:19	255 02:34	0.0	49.3	344.7	18.8	520.0	53.6	112.9	0.0	169.3	99.6	210.0	0.0	186.0	
OBSERVATION_NOR	255 02:34	256 17:18	0.0	36.5	21.6	13.9	134.0	34.4	83.7	0.0	125.5	394.2	110.0	0.0	161.9	1115.7
SP_208EA_G34HEFNON256_PRIME	256 17:18	257 02:18	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	255 02:34	257 02:18	0.0	45.0	108.0	17.2	134.0	42.4	103.1	0.0	154.6	396.6	110.0	0.0	161.9	
OBSERVATION_NOR	257 02:18	258 17:33	0.0	37.0	248.4	14.1	215.0	34.9	84.8	0.0	127.2	0.1	750.0	0.0	164.0	1675.5
SP_208EA_G34BWGNON258_PRIME	258 17:33	259 02:18	0.0	8.3	86.4	3.2	0.0	7.8	18.9	0.0	28.3	2.4	0.0	0.0	0.0	155.2
DAILY TOTAL SCIENCE	257 02:18	259 02:18	0.0	45.3	334.8	17.3	215.0	42.7	103.7	0.0	155.5	2.5	750.0	0.0	164.0	
OBSERVATION_NOR	259 02:18	260 04:33	0.0	29.5	186.6	9.5	201.0	23.3	56.7	0.0	85.0	113.4	245.0	0.0	109.7	1059.7
SP_208EA_C70METNON259_PRIME	260 04:33	260 08:33	0.0	7.5	43.2	1.4	0.0	3.6	8.6	0.0	13.0	1.1	0.0	0.0	0.0	78.4
DAILY TOTAL SCIENCE	259 02:18	260 08:33	0.0	37.0	229.8	10.9	201.0	26.9	65.3	0.0	98.0	114.5	245.0	0.0	109.7	
OBSERVATION_NOR	260 08:33	260 23:38	0.0	28.5	0.0	5.4	0.0	13.4	32.6	0.0	48.9	278.9	0.0	0.0	63.0	470.7
SP_208EA_C70METNON260_PRIME	260 23:38	261 07:33	0.0	14.9	78.3	2.9	0.0	7.0	17.1	0.0	25.6	2.2	0.0	0.0	0.0	148.0
DAILY TOTAL SCIENCE	260 08:33	261 07:33	0.0	43.4	78.3	8.3	0.0	20.5	49.7	0.0	74.5	281.1	0.0	0.0	63.0	

Segment Geometry (1 of 2)



BODY	S/C OCC?	SAT OCC?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGLR_DIAMETER (deg	mrad)	SUB_S/C LON	SUB_S/C LAT	ΔLON (deg)	VREL (km/s)	Z_HGHT (km)	ANGLE_FROM SATRN	ANGLE_FROM EARTH	ANGLE_FROM RAM
SATURN	--	--	1566897	26.00	1507027	25.01	139.9	4.41	76.95	189	15	0	5.4	0	0.0	41.0	131.3
MIMAS	--	--	1497476	24.85	1497278	24.84	136.8	0.02	0.28	112	17	64	12.0	-123	6.3	44.8	128.8
ENCELADUS	--	--	1787725	29.66	1787470	29.66	140.9	0.02	0.29	20	13	161	15.8	32	3.1	40.5	128.4
TETHYS	--	--	1749698	29.03	1749162	29.02	138.4	0.04	0.62	47	13	126	12.8	5119	8.0	43.6	125.8
DIONE	--	--	1354493	22.47	1353932	22.47	132.5	0.05	0.83	119	18	48	7.3	-172	12.3	49.7	127.1
RHEA	--	--	2070684	34.36	2069917	34.35	144.5	0.04	0.74	354	12	-168	12.8	3191	4.9	36.2	129.2
TITAN	--	--	582411	9.66	579836	9.62	107.1	0.51	8.84	231	46	-12	5.5	-7077	44.2	70.0	172.1
HYPERION	--	--	1723483	28.60	1723326	28.59	103.8	0.01	0.19	166	20	68	5.0	4254	53.7	80.8	99.2
IAPETUS	--	--	4480600	74.34	4479853	74.33	136.9	0.02	0.33	349	8	-121	7.5	-307783	41.3	38.2	134.9
PHOEBE	--	--	12079639	200.43	12079525	200.43	100.7	0.00	0.02	336	-0	-90	5.7	-3096654	78.4	73.2	129.4
SATURN	--	--	1566897	26.00	1507027	25.01	139.9	4.41	76.95	189	15	0	5.4	0	0.0	41.0	131.3

Apo inbound



BODY	S/C OCC?	SAT OCC?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGLR_DIAMETER (deg	mrad)	SUB_S/C LON	SUB_S/C LAT	ΔLON (deg)	VREL (km/s)	Z_HGHT (km)	ANGLE_FROM SATRN	ANGLE_FROM EARTH	ANGLE_FROM RAM
SATURN	--	--	1077032	17.87	1017217	16.88	41.3	6.42	111.97	106	-16	0	7.1	0	0.0	137.8	56.4
MIMAS	--	--	1118353	18.56	1118155	18.55	44.6	0.02	0.37	70	-17	99	20.0	-503	9.4	133.6	54.2
ENCELADUS	--	--	1284576	21.31	1284321	21.31	40.7	0.02	0.40	27	-14	152	19.2	-44	5.6	137.8	52.8
TETHYS	--	--	1231992	20.44	1231457	20.43	37.4	0.05	0.88	310	-14	-116	12.0	4008	12.5	143.2	58.9
DIONE	--	--	900030	14.93	899469	14.92	43.3	0.07	1.25	251	-20	-51	5.2	121	19.5	138.2	66.8
RHEA	--	--	781776	12.97	781013	12.96	61.1	0.11	1.96	114	-23	40	10.3	2460	27.5	116.3	62.5
TITAN	--	--	1497582	24.85	1495007	24.81	55.7	0.20	3.44	313	-12	-79	5.1	6932	55.5	128.6	84.1
HYPERION	--	--	2667785	44.27	2667659	44.26	34.8	0.01	0.12	154	-56	169	11.0	-29343	12.5	143.0	44.8
IAPETUS	--	--	3413647	56.64	3412900	56.63	93.9	0.03	0.44	345	-8	-65	4.7	938591	91.3	90.6	121.0
PHOEBE	--	--	11653347	193.36	11653237	193.36	69.0	0.00	0.02	99	6	112	5.4	-4368344	71.7	105.9	44.4
SATURN	--	--	1077032	17.87	1017217	16.88	41.3	6.42	111.97	106	-16	0	7.1	0	0.0	137.8	56.4

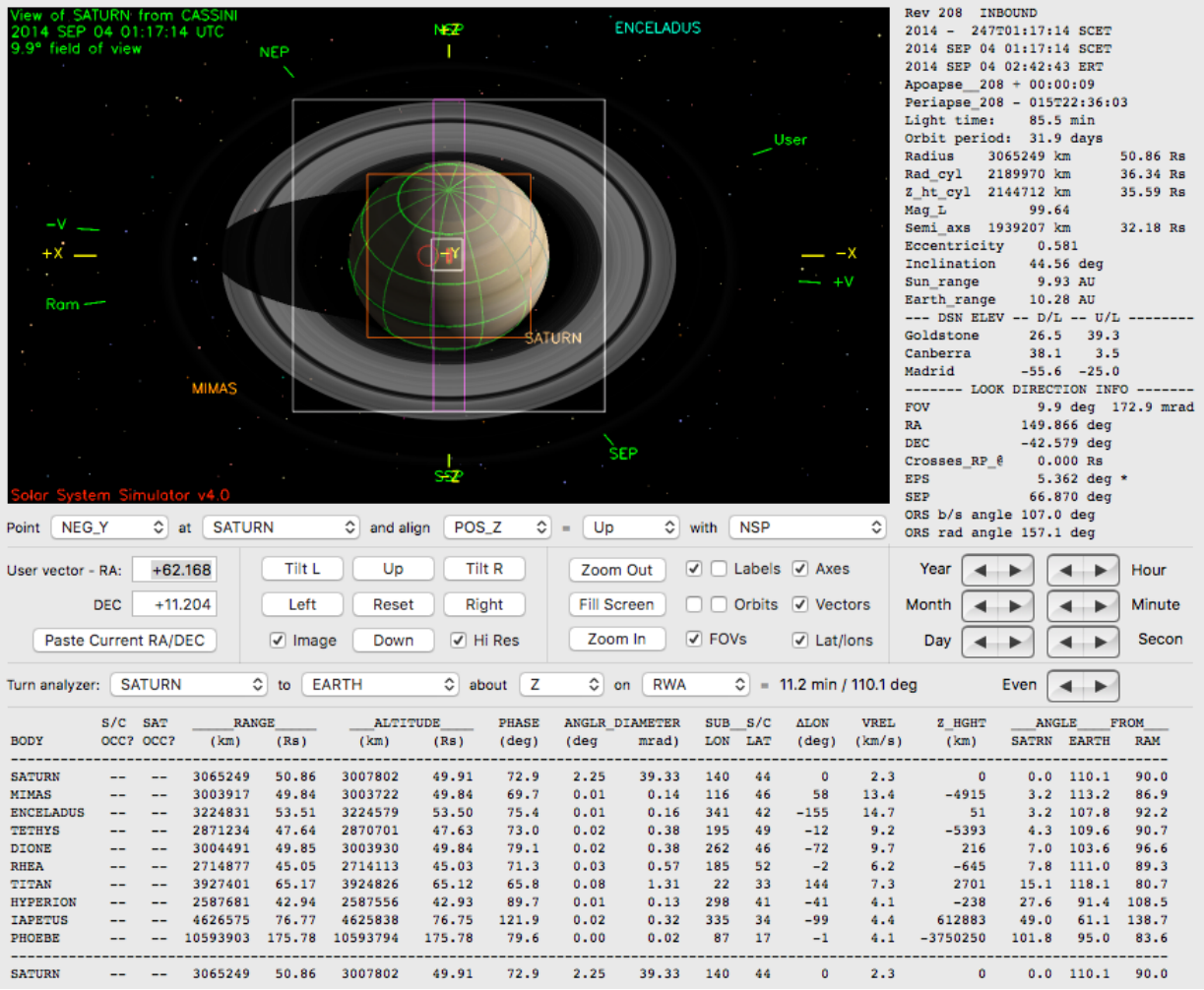
Apo outbound

	Saturn Range	Phase Angle	Sub-S/C Lat.
Segment Start	26 R_{Sat}	139.9°	15° N
Apoapse	50.86 R_{Sat}	72.9°	44° S
Segment End	17.87 R_{Sat}	41.4°	16° S

Movie:

Segment Geometry (2 of 2)

Apoapse: 2014-247T01:17:14



BODY	S/C OCC?	SAT OCC?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGLR_DIAMETER (deg	mrad)	SUB_S/C LON	SUB_S/C LAT	ALON (deg)	VREL (km/s)	Z_HGHT (km)	ANGLE FROM SATRN	ANGLE FROM EARTH	ANGLE FROM RAM
SATURN	--	--	3065249	50.86	3007802	49.91	72.9	2.25	39.33	140	44	0	2.3	0	0.0	110.1	90.0
MIMAS	--	--	3003917	49.84	3003722	49.84	69.7	0.01	0.14	116	46	58	13.4	-4915	3.2	113.2	86.9
ENCELADUS	--	--	3224831	53.51	3224579	53.50	75.4	0.01	0.16	341	42	-155	14.7	51	3.2	107.8	92.2
TETHYS	--	--	2871234	47.64	2870701	47.63	73.0	0.02	0.38	195	49	-12	9.2	-5393	4.3	109.6	90.7
DIONE	--	--	3004491	49.85	3003930	49.84	79.1	0.02	0.38	262	46	-72	9.7	216	7.0	103.6	96.6
RHEA	--	--	2714877	45.05	2714113	45.03	71.3	0.03	0.57	185	52	-2	6.2	-645	7.8	111.0	89.3
TITAN	--	--	3927401	65.17	3924826	65.12	65.8	0.08	1.31	22	33	144	7.3	2701	15.1	118.1	80.7
HYPERION	--	--	2587681	42.94	2587556	42.93	89.7	0.01	0.13	298	41	-41	4.1	-238	27.6	91.4	108.5
IAPETUS	--	--	4626575	76.77	4625838	76.75	121.9	0.02	0.32	335	34	-99	4.4	612883	49.0	61.1	138.7
PHOEBE	--	--	10593903	175.78	10593794	175.78	79.6	0.00	0.02	87	17	-1	4.1	-3750250	101.8	95.0	83.6
SATURN	--	--	3065249	50.86	3007802	49.91	72.9	2.25	39.33	140	44	0	2.3	0	0.0	110.1	90.0

Solar Geometry – ORS Boresight Concerns

No ORS Boresight Solar Constraints on Science Pointing Noted.

Daily Science Highlights (1 of 2)

DOY 234 (August 22): The Saturn 207-208 segment was a 27-day-long Saturn CAKE. First up was a nearly 9-hour VIMS mapping mosaic of Saturn's northern hemisphere. CIRS and ISS rode along.

DOY 235 (August 23): UVIS began the normal Saturn CAKE template with an EUVFUV, which was one slow scan across Saturn's illuminated hemisphere to form spectral images. CIRS and ISS rode along.

DOY 236 (August 24): ISS did their first Titan Cloud Monitor of the segment, this one a haze observation with the usual riders VIMS and CIRS. Then there was an Opnav and MAG did an extended calibration roll for 10 hours.

DOY 237 (August 25): CIRS preformed a 13.5-hour mid-range IR map to determine upper troposphere and tropopause temperature with ISS and VIMS riding.

DOY 238 (August 26): CIRS preformed another mid-range IR temperature map for 11 hours, again with ISS and VIMS riding. After the map, CIRS occupied the remainder of the day doing a COMPSIT, another CAKE template observation, sitting at one location and staring to derive composition. Hence the name. UVIS and VIMS joined via riders.

DOY 239 (August 27): UVIS performed a full (optimal) 16-hour EUVFUV observation with CIRS and ISS riding.

DOY 240 (August 28): CIRS performed their full (optimal) 22-hour mid-range IR map, again with ISS and VIMS riding.

DOY 241 (August 29): Another short (8-hour) COMPSIT for CIRS with UVIS and VIMS before the downlink.

DOY 242 (August 30): ISS began a long 37-hour imaging set of Thrymr, an irregular moon of Saturn. UVIS rode along.

DOY 243 (August 31): The Thrymr observation set continued

DOY 244 (September 1): Once ISS finished with Thrymr, VIMS began a 36-hour Saturn movie of the northern hemisphere.

DOY 245 (September 2): Conclusion of VIMS 36-hour movie.

DOY 246 (September 3): ISS returned for another Titan Cloud Monitor, then UVIS performed another 16-hour EUVFUV, with riders.

DOY 247 (September 4): CIRS did another COMPSIT with UVIS and VIMS riding.

DOY 248 (September 5): A downlink and another Titan Cloud Observation for ISS, followed by UVIS executing rapid slews across the northern auroral oval to image the auroral zone, while CIRS rode along. During the downlink here, RSS/DSN performed a Monopulse Calibration.

DOY 249 (September 6): UVIS spent the day with another EUVFUV observation, accompanied by CIRS and ISS.

DOY 250 (September 7): ISS performed yet another Titan Cloud Observation, followed by another CIRS COMPSIT as part of the CAKE. template.

Daily Science Highlights (2 of 2)

DOY 251 (September 8): ISS started a 24-hour-lomg observation of the irregular moon Kiviuq.

DOY 252 (September 9): UVIS squeezed in a mini (5-hr) EUVFUV, with ISS and CIRS riding along, followed by a downlink.

DOY 253 (September 10): At first, Cassini remained Earth pointed so MAG could get in another calibration roll before turning to perform a Titan Cloud Monitor. ISS then took a 26.5-hour NAC/WAC tracking movie of the Northern Polar Vortex of Saturn. Supporting rider observations were obtained by CIRS, UVIS and VIMS.

DOY 254 (September 11): Conclusion of the ISS North Pole Vortex movie.

DOY 255 (September 12): Another Titan Cloud Monitor, followed by a full 16-hour UVIS EUVFUV with the usual riders. Then, VIMS obtained a North Pole Auroral Repeat Imaging Stare observation for several hours, using a high-res mode for sharper photos. CIRS, ISS, and UVIS rode along.

DOY 256 (September 13): UVIS performed a second series of rapid slews of the Northern Auroral zone, with CIRS as a rider.

DOY 257 (September 14): ISS opened with a Titan Cloud Monitor, followed by a VIMS 34.5-hour-long Northern hemisphere regional movie of Saturn over three rotation, with CIRS and ISS riding along.

DOY 258 (September 15): After the VIMS movie concluded**,** a DSN downlink *with* a second Monopulse Calibration was performed.

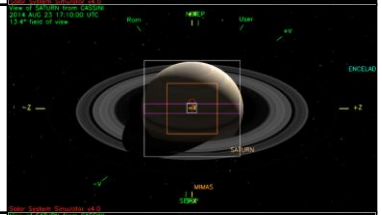
DOY 259 (September 16): ISS performed a Titan Cloud Monitor. UVIS followed with an EUVFUV observation. Then ISS performed a Northern hemisphere movie, with CIRS and VIMS riding along.

DOY 260 (September 17): Finishing up the CAKE was the first-of-its-kind UVIS Thermosphere scan (formerly known as System Scan). Requiring a specific geometry from Saturn, these UVIS observations will be used tom estimate the tumble density altitude to aid in proximal orbit planning.

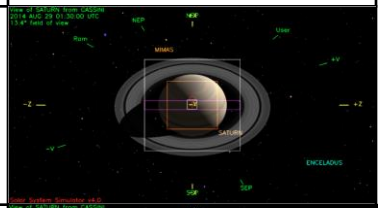
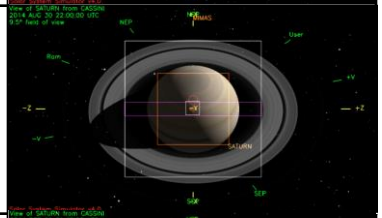
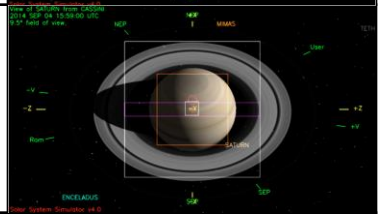
DOY 261 (September 18): The CAKE concluded with a downlink.

Segment Integration Planning

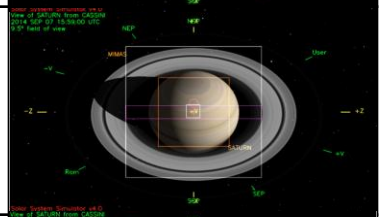
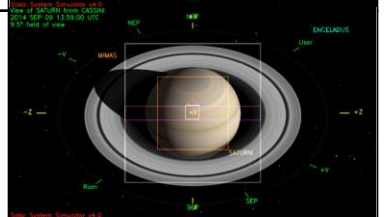
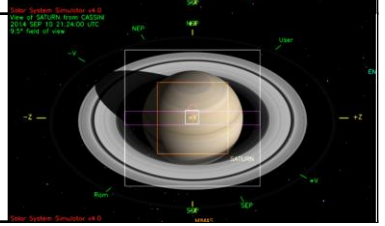
Timeline Gaps and Suggested Observations (1 of 4)

Obs	Start	End	Duration	Range (R_S)	Phase Angle	SSC latitude	Snapshot (mid-gap)
1	234T14:01:00	234T22:56:00	000T08:55:00	26-27.6	139.9-135.6	15-19	
2	235T10:46:00	235T22:56:00	000T12:10:00	29.6-31.5	130.4-125.6	22-26	
3	236T13:46:00	237T00:26:00	000T10:40:00	33.8-35.3	120.5-117.2	29-31	
4	237T10:46:00	238T00:26:00	000T13:40:00	36.7-38.4	114.3-110.7	33-35	
5	238T10:46:00	239T22:40:00	001T11:54:00	39.6-43.3	108.1-100.3	36-40	

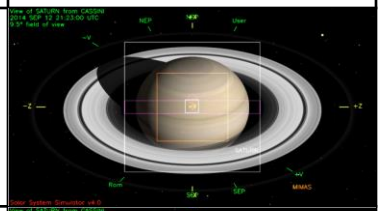
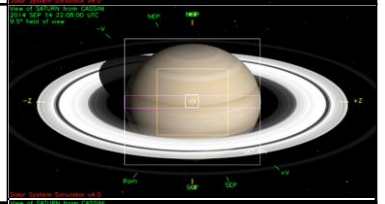
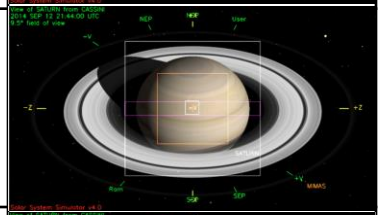
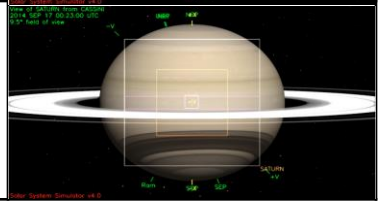
Timeline Gaps and Suggested Observations (2 of 4)

Obs	Start	End	Duration	Range (R_S)	Phase Angle	SSC latitude	Snapshot (mid-gap)
6	240T10:30:00	241T16:10:00	001T05:40:00	44.3-46.6	98.0-92.6	40-42	
7	242T04:00:00	243T15:55:00	001T11:55:00	47.4-49.2	90.0-84.9	43-44	
8	244T03:45:00	245T15:55:00	001T12:10:00	49.6-50.6	83.1-77.7	44-45	
9	246T05:15:00	246T22:09:00	000T16:54:00	50.8-50.9	75.8-73.3	45-44	
10	247T09:59:00	247T22:09:00	000T12:10:00	50.8	71.6-69.9	44	

Timeline Gaps and Suggested Observations (3 of 4)

Obs	Start	End	Duration	Range (R_S)	Phase Angle	SSC latitude	Snapshot (mid-gap)
11	248T11:29:00	248T22:09:00	00T10:50:00	50.5	68-66.4	44	
12	249T09:59:00	249T23:39:00	000T13:40:00	50.1-49.6	64.7-62.7	43	
13	250T09:59:00	250T23:39:00	000T12:10:00	49.2-48.7	61.1-59.2	42	
14	251T09:59:00	252T15:24:00	001T05:25:00	47.3-46.2	55.3-52.6	40-39	
15	253T04:44:00	254T15:24:00	001T10:40:00	45.3-42.2	50.3-43.9	38-35	

Timeline Gaps and Suggested Observations (4 of 4)

Obs	Start	End	Duration	Range (R_S)	Phase Angle	SSC latitude	Snapshot (mid-gap)
16	255T04:44:00	256T15:08:00	001T10:24:00	40.8-36.7	41.3-33.7	33-28	
17	257T04:28:00	258T15:08:00	001T10:40:00	34.9-29.7	30.4-21.9	26-17	
18	259T04:28:00	259T21:23:00	001T16:55:00	27.4-24.4	19.6-19.9	13-6	
19	250T09:59:00	250T23:39:00	000T12:10:00	49.2-48.7	61.1-59.2	42	

Initial SMT and Data Volume (1 of 4)

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_207EA_C34HEFNON235_PRIME	235 01:06	235 10:06	0	480	50	530	3322	2792	0	457	53	1040	770	-270	1771	14% 270
SP_207EA_C34HEFNON236_PRIME	236 01:06	236 10:06	270	613	63	946	3322	2376	0	457	53	1457	765	-692	1771	12% 692
SP_207EA_C70METOTP237_PRIME	237 01:06	237 10:06	692	796	63	1551	3322	1771	0	457	53	2062	2795	733	3162	21% 0
SP_207EA_C34HEFOTB238_PRIME	238 01:06	238 10:06	0	613	63	676	3322	2646	0	457	53	1187	756	-431	2429	19% 431
SP_207EA_C70METNON240_PRIME	240 00:50	240 09:50	431	299	164	893	3322	2429	0	159	53	1104	3307	2202	5063	41% 0
SP_207EA_G34B26NON241_PRIME	241 18:20	242 03:20	0	249	137	386	3322	2936	0	159	53	598	597	-2	2860	29% 1
SP_207EA_G70METNON243_PRIME	243 18:05	244 03:05	1	297	164	462	3322	2860	0	159	53	673	2725	2051	4910	41% 0
SP_207EA_G34HEFNON245_PRIME	245 18:05	246 03:05	0	299	165	464	3322	2858	0	159	53	675	629	-47	2953	30% 46
SP_207EA_C70METNON247_PRIME	247 00:19	247 09:19	46	233	90	369	3322	2953	0	71	53	494	3273	2779	5923	50% 0
SP_208EA_C34BWGNON248_PRIME	248 00:19	248 09:19	0	115	63	178	3322	3144	0	159	53	390	681	291	3364	37% 0
SP_208EA_C34HEFNON249_PRIME	249 00:19	249 09:19	0	186	63	249	3322	3073	0	159	53	461	699	237	3382	38% 0
SP_208EA_C34BWGOTP250_PRIME	250 00:19	250 09:19	0	115	63	178	3322	3144	0	159	53	390	572	182	3255	28% 0
SP_208EA_C34HEFOTB251_PRIME	251 00:19	251 09:19	0	186	63	249	3322	3073	0	159	53	461	699	237	3177	29% 0
SP_208EA_G70METNON252_PRIME	252 17:34	253 02:34	0	247	136	383	3322	2939	0	159	53	595	2640	2045	4603	45% 0
SP_208EA_G34B26NON254_PRIME	254 17:34	255 02:34	0	420	165	585	3322	2737	0	159	53	796	563	-234	2558	34% 233
SP_208EA_G70METNON256_PRIME	256 17:18	257 02:18	233	368	164	765	3322	2558	0	159	53	976	2616	1639	4374	62% 0
SP_208EA_G34B26NON258_PRIME	258 17:18	259 02:18	0	359	165	524	3322	2798	0	159	53	736	541	-195	2735	62% 195
SP_208EA_C34HEFNON259_PRIME	259 23:33	260 08:33	195	229	90	513	3322	2809	0	167	53	733	686	-48	2735	71% 48
SP_208EA_C70METNON260_PRIME	260 23:18	261 08:18	48	127	62	237	3322	3085	0	167	53	457	3192	2734	2735	86% 0

This is a “baseline” SMT:

- MAPS is not all at minimal, but mostly
- only TCMs (with riders), MAPS, MAG Calrolls and OPNAV are included

Initial SMT and Data Volume (2 of 4)

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_207NA_OBSERV234_NA	234 13:21	235 01:06	0.0	262.0	100.0	247.0	600.0	10039.1	0.0
SP_207EA_C34HEFNON235_PRIME	235 01:06	235 10:06	0.0	262.0	100.0	247.0	600.0	10039.1	76.0
SP_207NA_OBSERV235_NA	235 10:06	236 01:06	0.0	262.0	100.0	247.0	600.0	10039.1	0.0
SP_207EA_C34HEFNON236_PRIME	236 01:06	236 10:06	0.0	262.0	100.0	247.0	600.0	10039.1	76.0
SP_207NA_OBSERV236_NA	236 10:06	237 01:06	0.0	262.0	100.0	1399.7	600.0	10039.1	0.0
SP_207EA_C70METOTP237_PRIME	237 01:06	237 10:06	0.0	262.0	100.0	247.0	600.0	10039.1	76.0
SP_207NA_OBSERV237_NA	237 10:06	238 01:06	0.0	262.0	100.0	247.0	600.0	10039.1	0.0
SP_207EA_C34HEFOTB238_PRIME	238 01:06	238 10:06	0.0	262.0	100.0	247.0	600.0	10039.1	76.0
SP_207NA_OBSERV238_NA	238 10:06	240 00:50	0.0	262.0	100.0	247.0	600.0	912.3	0.0
SP_207EA_C70METNON240_PRIME	240 00:50	240 09:50	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_207NA_OBSERV240_NA	240 09:50	241 18:20	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_207EA_G34B26NON241_PRIME	241 18:20	242 03:20	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_207NA_OBSERV242_NA	242 03:20	243 18:05	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_207EA_G70METNON243_PRIME	243 18:05	244 03:05	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_207NA_OBSERV244_NA	244 03:05	245 18:05	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_207EA_G34HEFNON245_PRIME	245 18:05	246 03:05	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_207NA_OBSERV246_NA	246 03:05	247 00:19	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_207EA_C70METNON247_PRIME	247 00:19	247 09:19	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV247_NA	247 09:19	248 00:19	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_C34BWGNON248_PRIME	248 00:19	248 09:19	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV248_NA	248 09:19	249 00:19	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_C34HEFNON249_PRIME	249 00:19	249 09:19	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV249_NA	249 09:19	250 00:19	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_C34BWGOTP250_PRIME	250 00:19	250 09:19	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV250_NA	250 09:19	251 00:19	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_C34HEFOTB251_PRIME	251 00:19	251 09:19	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV251_NA	251 09:19	252 17:34	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_G70METNON252_PRIME	252 17:34	253 02:34	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV253_NA	253 02:34	254 17:34	0.0	262.0	100.0	601.7	600.0	899.9	0.0
SP_208EA_G34B26NON254_PRIME	254 17:34	255 02:34	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV255_NA	255 02:34	256 17:18	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_G70METNON256_PRIME	256 17:18	257 02:18	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV257_NA	257 02:18	258 17:18	0.0	262.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_G34B26NON258_PRIME	258 17:18	259 02:18	0.0	262.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV259_NA	259 02:18	259 23:33	0.0	330.4	100.0	247.0	600.0	899.9	0.0
SP_208EA_C34HEFNON259_PRIME	259 23:33	260 08:33	0.0	524.0	100.0	247.0	600.0	899.9	76.0
SP_208NA_OBSERV260_NA	260 08:33	260 23:18	0.0	524.0	100.0	247.0	600.0	899.9	0.0
SP_208EA_C70METNON260_PRIME	260 23:18	261 08:18	0.0	518.2	100.0	247.0	600.0	899.9	76.0

Initial SMT and Data Volume (3 of 4)

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	234 13:21	235 01:06	0.0	11.1	0.0	4.2	0.0	10.4	25.4	0.0	424.7	0.0	0.0	0.0	49.1	524.9
SP_207EA_C34HEFNON235_PRIME	235 01:06	235 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	325.3	2.5	0.0	0.0	0.0	453.3
DAILY TOTAL SCIENCE	234 13:21	235 10:06	0.0	19.6	86.4	7.5	0.0	18.5	44.8	0.0	749.9	2.5	0.0	0.0	49.1	
OBSERVATION_NOR	235 10:06	236 01:06	0.0	14.1	0.0	5.4	0.0	13.3	32.4	0.0	542.1	0.0	0.0	0.0	62.7	670.1
SP_207EA_C34HEFNON236_PRIME	236 01:06	236 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	325.3	2.5	0.0	0.0	0.0	453.3
DAILY TOTAL SCIENCE	235 10:06	236 10:06	0.0	22.6	86.4	8.6	0.0	21.3	51.8	0.0	867.4	2.5	0.0	0.0	62.7	
OBSERVATION_NOR	236 10:06	237 01:06	0.0	14.1	21.6	5.4	35.0	75.6	32.4	0.0	542.1	0.0	10.0	0.0	62.7	798.9
OBSERVATION_SI	236 10:06	237 01:06	0.0	0.0	0.0	0.0	52.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.2
SP_207EA_C70METOTP237_PRIME	237 01:06	237 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	325.3	2.5	0.0	0.0	0.0	453.3
DAILY TOTAL SCIENCE	236 10:06	237 10:06	0.0	22.6	108.0	8.6	87.2	83.6	51.8	0.0	867.4	2.5	10.0	0.0	62.7	
OBSERVATION_NOR	237 10:06	238 01:06	0.0	14.1	0.0	5.4	0.0	13.3	32.4	0.0	542.1	0.0	0.0	0.0	62.7	670.1
SP_207EA_C34HEFOTB238_PRIME	238 01:06	238 10:06	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	325.3	2.5	0.0	0.0	0.0	453.3
DAILY TOTAL SCIENCE	237 10:06	238 10:06	0.0	22.6	86.4	8.6	0.0	21.3	51.8	0.0	867.4	2.5	0.0	0.0	62.7	
OBSERVATION_NOR	238 10:06	240 00:50	0.0	36.5	0.0	13.9	0.0	34.4	83.7	0.0	127.2	0.0	0.0	0.0	161.9	457.7
SP_207EA_C70METNON240_PRIME	240 00:50	240 09:50	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	238 10:06	240 09:50	0.0	45.0	86.4	17.2	0.0	42.4	103.1	0.0	156.4	2.5	0.0	0.0	161.9	
OBSERVATION_NOR	240 09:50	241 18:20	0.0	30.7	0.0	11.7	0.0	28.9	70.2	0.0	105.3	0.0	0.0	0.0	135.8	382.6
SP_207EA_G34B26NON241_PRIME	241 18:20	242 03:20	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	240 09:50	242 03:20	0.0	39.1	86.4	14.9	0.0	36.9	89.6	0.0	134.4	2.5	0.0	0.0	135.8	
OBSERVATION_NOR	242 03:20	243 18:05	0.0	36.5	0.0	14.0	0.0	34.5	83.7	0.0	125.5	0.0	0.0	0.0	162.0	456.1
SP_207EA_G70METNON243_PRIME	243 18:05	244 03:05	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	242 03:20	244 03:05	0.0	45.0	86.4	17.2	0.0	42.5	103.1	0.0	154.7	2.5	0.0	0.0	162.0	
OBSERVATION_NOR	244 03:05	245 18:05	0.0	36.8	0.0	14.0	0.0	34.7	84.2	0.0	126.3	0.0	0.0	0.0	163.0	459.1
SP_207EA_G34HEFNON245_PRIME	245 18:05	246 03:05	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	244 03:05	246 03:05	0.0	45.3	86.4	17.3	0.0	42.7	103.7	0.0	155.5	2.5	0.0	0.0	163.0	
OBSERVATION_NOR	246 03:05	247 00:19	0.0	20.0	21.6	7.6	38.5	18.9	45.9	0.0	68.8	0.0	10.0	0.0	88.7	320.0
SP_207EA_C70METNON247_PRIME	247 00:19	247 09:19	0.0	8.5	0.0	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	70.8
DAILY TOTAL SCIENCE	246 03:05	247 09:19	0.0	28.5	21.6	10.9	38.5	26.9	65.3	0.0	97.9	2.5	10.0	0.0	88.7	
OBSERVATION_NOR	247 09:19	248 00:19	0.0	14.1	0.0	5.4	0.0	13.3	32.4	0.0	48.6	0.0	0.0	0.0	62.7	176.6
SP_208EA_C34BWGNON248_PRIME	248 00:19	248 09:19	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	247 09:19	248 09:19	0.0	22.6	86.4	8.6	0.0	21.3	51.8	0.0	77.8	2.5	0.0	0.0	62.7	
OBSERVATION_NOR	248 09:19	249 00:19	0.0	14.1	21.6	5.4	38.5	13.3	32.4	0.0	48.6	0.0	10.0	0.0	62.7	246.7
SP_208EA_C34HEFNON249_PRIME	249 00:19	249 09:19	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	248 09:19	249 09:19	0.0	22.6	108.0	8.6	38.5	21.3	51.8	0.0	77.8	2.5	10.0	0.0	62.7	

Initial SMT and Data Volume (4 of 4)

OBSERVATION_NOR	249 09:19	250 00:19	0.0	14.1	0.0	5.4	0.0	13.3	32.4	0.0	48.6	0.0	0.0	0.0	62.7	176.6
SP_208EA_C34BWGOTP250_PRIME	250 00:19	250 09:19	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	249 09:19	250 09:19	0.0	22.6	86.4	8.6	0.0	21.3	51.8	0.0	77.8	2.5	0.0	0.0	62.7	
OBSERVATION_NOR	250 09:19	251 00:19	0.0	14.1	21.6	5.4	38.5	13.3	32.4	0.0	48.6	0.0	10.0	0.0	62.7	246.7
SP_208EA_C34HEFOTB251_PRIME	251 00:19	251 09:19	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	250 09:19	251 09:19	0.0	22.6	108.0	8.6	38.5	21.3	51.8	0.0	77.8	2.5	10.0	0.0	62.7	
OBSERVATION_NOR	251 09:19	252 17:34	0.0	30.4	0.0	11.6	0.0	28.7	69.7	0.0	104.5	0.0	0.0	0.0	134.8	379.6
SP_208EA_G70METNON252_PRIME	252 17:34	253 02:34	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	251 09:19	253 02:34	0.0	38.9	86.4	14.9	0.0	36.7	89.1	0.0	133.6	2.5	0.0	0.0	134.8	
OBSERVATION_NOR	253 02:34	254 17:34	0.0	36.8	21.6	14.0	38.5	84.5	84.2	0.0	126.3	0.0	10.0	0.0	163.0	579.0
SP_208EA_G34B26NON254_PRIME	254 17:34	255 02:34	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	253 02:34	255 02:34	0.0	45.3	108.0	17.3	38.5	92.5	103.7	0.0	155.5	2.5	10.0	0.0	163.0	
OBSERVATION_NOR	255 02:34	256 17:18	0.0	36.5	21.6	13.9	38.5	34.4	83.7	0.0	125.5	0.0	10.0	0.0	161.9	526.0
SP_208EA_G70METNON256_PRIME	256 17:18	257 02:18	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	255 02:34	257 02:18	0.0	45.0	108.0	17.2	38.5	42.4	103.1	0.0	154.6	2.5	10.0	0.0	161.9	
OBSERVATION_NOR	257 02:18	258 17:18	0.0	36.8	21.6	14.0	38.5	34.7	84.2	0.0	126.3	0.0	0.0	0.0	163.0	519.2
SP_208EA_G34B26NON258_PRIME	258 17:18	259 02:18	0.0	8.5	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	157.2
DAILY TOTAL SCIENCE	257 02:18	259 02:18	0.0	45.3	108.0	17.3	38.5	42.7	103.7	0.0	155.5	2.5	0.0	0.0	163.0	
OBSERVATION_NOR	259 02:18	259 23:33	0.0	25.3	21.6	7.7	38.5	18.9	45.9	0.0	68.8	0.0	0.0	0.0	88.8	315.5
SP_208EA_C34HEFNON259_PRIME	259 23:33	260 08:33	0.0	17.0	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	165.7
DAILY TOTAL SCIENCE	259 02:18	260 08:33	0.0	42.3	108.0	10.9	38.5	26.9	65.3	0.0	98.0	2.5	0.0	0.0	88.8	
OBSERVATION_NOR	260 08:33	260 23:18	0.0	27.8	0.0	5.3	0.0	13.1	31.9	0.0	47.8	0.0	0.0	0.0	61.6	187.5
SP_208EA_C70METNON260_PRIME	260 23:18	261 08:18	0.0	16.8	86.4	3.2	0.0	8.0	19.4	0.0	29.2	2.5	0.0	0.0	0.0	165.5
DAILY TOTAL SCIENCE	260 08:33	261 08:18	0.0	44.6	86.4	8.6	0.0	21.1	51.3	0.0	76.9	2.5	0.0	0.0	61.6	

	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)
TOTAL RECORDED (OPNAV data not included)	0.0	642.4	1728.0	231.5	356.7	683.8	1388.8	0.0	5136.2	46.8	60.0	0.0

Waypoint Selection (1 of 3)

RBOT – Friendly as per CTV:

OBS_NAME	START	END	POS_X_NSP	POS_X_NEP	NEG_X_NSP	NEG_X_NEP	POS_Z_NSP	POS_Z_NEP	NEG_Z_NSP	NEG_Z_NEP	NEG_X_SUN	NEG_Z_EARTH
SP_207NA_OBSERV234_NA	2014-234T13:21:00	2014-235T01:06:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV235_NA	2014-235T10:06:00	2014-236T01:06:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV236_NA	2014-236T10:06:00	2014-237T01:06:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV237_NA	2014-237T10:06:00	2014-238T01:06:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV238_NA	2014-238T10:06:00	2014-240T00:50:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV240_NA	2014-240T09:50:00	2014-241T18:20:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV242_NA	2014-242T03:20:00	2014-243T18:05:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV244_NA	2014-244T03:05:00	2014-245T18:05:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_207NA_OBSERV246_NA	2014-246T03:05:00	2014-247T00:19:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV247_NA	2014-247T09:19:00	2014-248T00:19:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV248_NA	2014-248T09:19:00	2014-249T00:19:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV249_NA	2014-249T09:19:00	2014-250T00:19:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV250_NA	2014-250T09:19:00	2014-251T00:19:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV251_NA	2014-251T09:19:00	2014-252T17:34:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV253_NA	2014-253T02:34:00	2014-254T17:34:00	OK	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV255_NA	2014-255T02:34:00	2014-256T17:18:00	OK	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV257_NA	2014-257T02:18:00	2014-258T17:18:00	**BAD**	OK	OK	**BAD**	OK	OK	**BAD**	**BAD**	OK	OK
SP_208NA_OBSERV259_NA	2014-259T02:18:00	2014-259T23:33:00	**BAD**	**BAD**	OK	OK	OK	OK	**BAD**	**BAD**	OK	**BAD**
SP_208NA_OBSERV260_NA	2014-260T08:33:00	2014-260T23:18:00	**BAD**	**BAD**	OK	OK	**BAD**	OK	**BAD**	**BAD**	OK	**BAD**

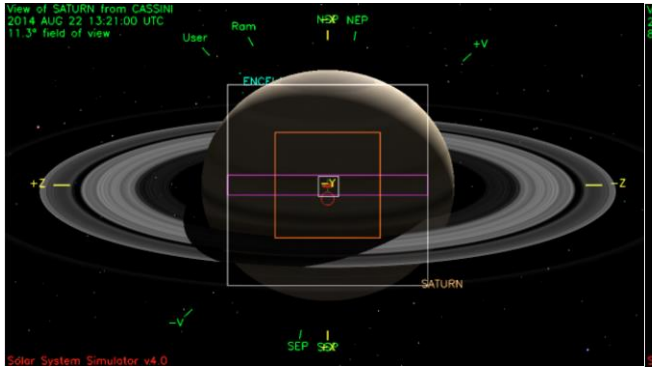
NEG_X to 131.4/45.9, **NEG_X to Sun** or **POS_Z to NEP** works through the entire segment.

NEG_X to NSP goes to 88.5 degrees NEG_X to Sun for DOY253T22:30-255T22:30

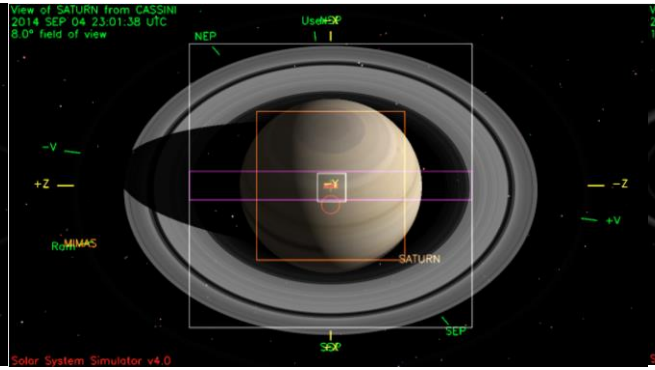
Waypoint Selection (2 of 3)

NEG_X to NSP:

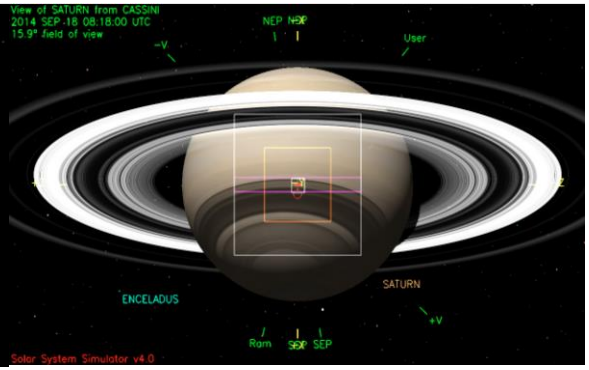
Beginning



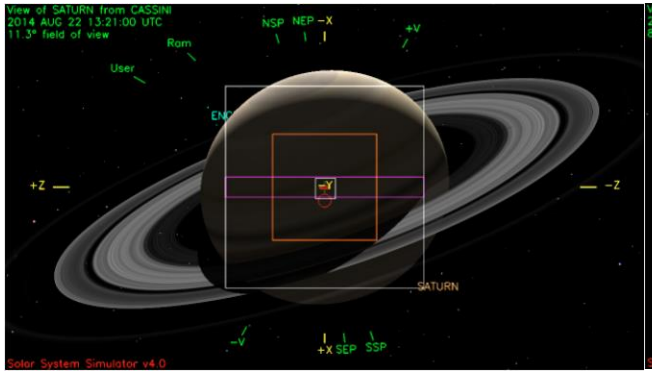
Middle

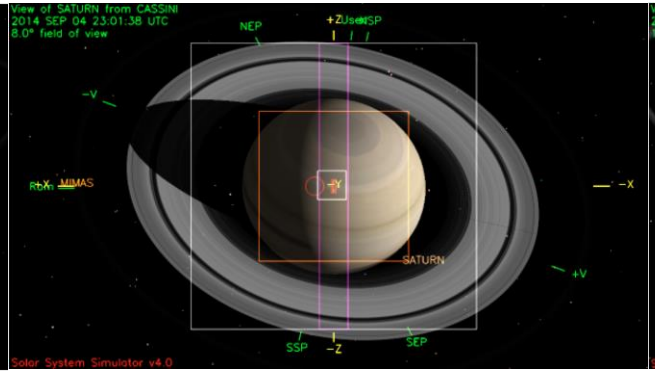


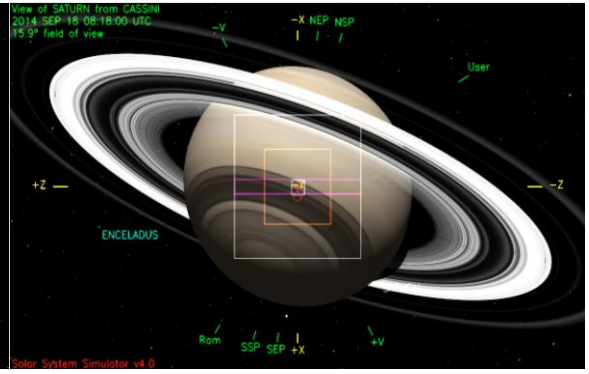
End



NEG_X to Sun:



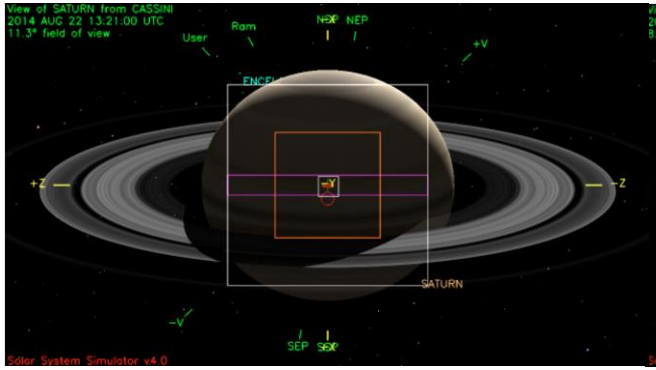




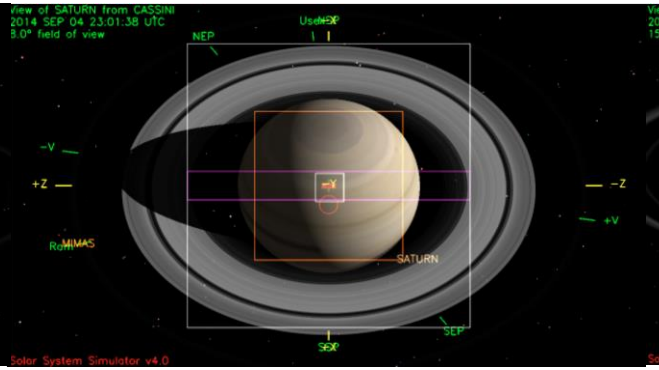
Waypoint Selection (3 of 3)

POS_Z to NEP:

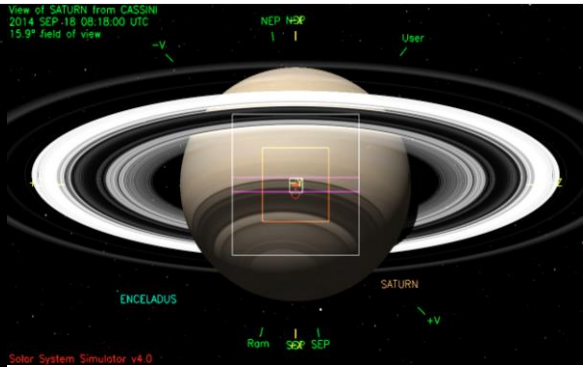
Beginning



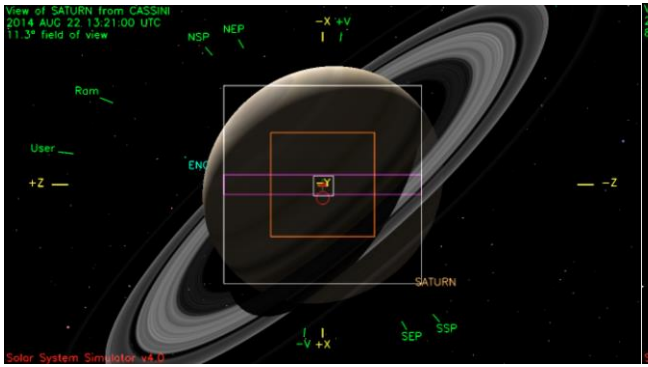
Middle

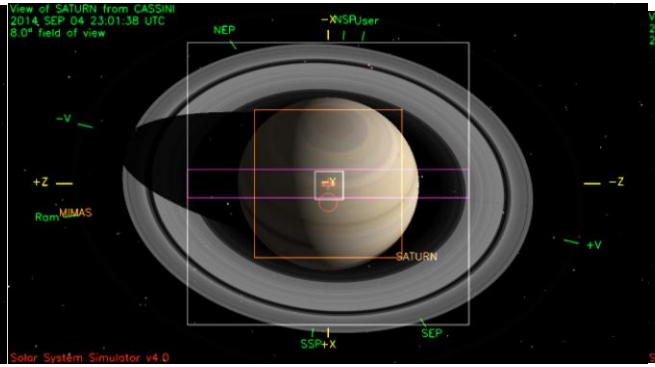


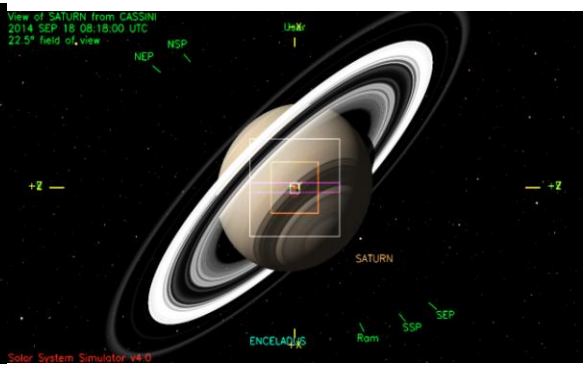
End



NEG_X to 131.4/ 45.9:

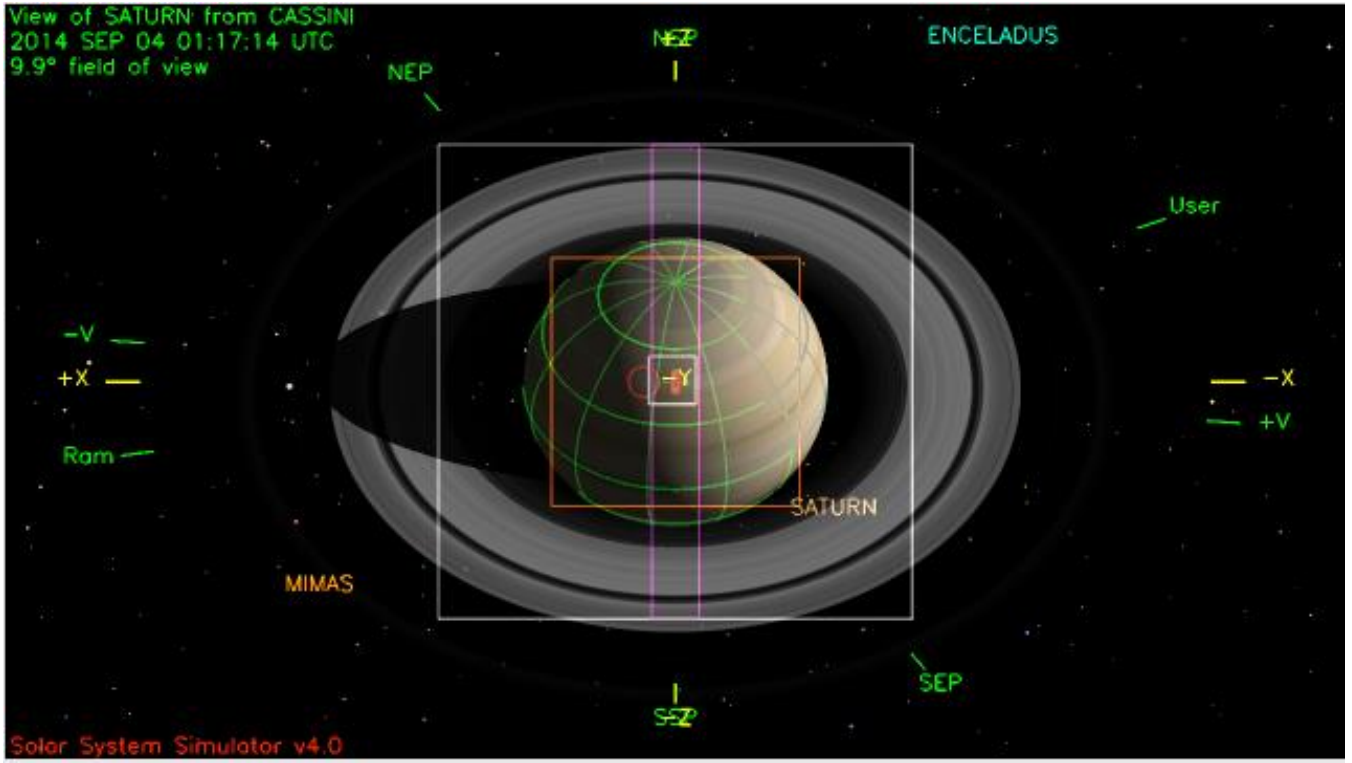






Waypoints Chosen

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



Notes & Liens (1 of 2)

- Pointing:
  - All downlink attitudes are from the DLWG and favor MIMI for the secondary. Many have SID suspend requirements and cause CIRS heating. All secondaries have been changed to RA/DECs.
  - According to target_motion_spass, nothing is being tracked more than a few degrees.
- RBOT:
  - RBOT friendly secondaries were used for all waypoints.
  - All downlink have YGAPs. No YGAPS are overlapping.
  - 2-of-3 rule observed to the best of our abilities. There are 2 MAG calrolls, both placed close to OTPs
- DSN:
  - 8 of 19 downlinks are on 70m.
  - No split passes.
- Data Volume:
  - MAPS instruments went to minimal rates, which is standard for a CAKE. However, for the first 36 hours RPWS remains high for a special Magnetotail campaign.
  - There are a large number of data-heavy long observations with large riders and data volume was squeezed dry during the last quarter of the segment. Days 248 and 258 are RSS calibrations requiring 34m and we did not want to ask for 2 stations.
  - TOST asked to carryover ~112Mb into Saturn 207_208 segment, which was approved.
- Liens:
  - No liens, no SPAM items, no SPLAT items, SMT warnings or Resource Checker items.
  - All gaps in SPASS are intended.
- Hydrazine Usage:
  - None

Notes & Liens (2 of 2)

- Jettison activity:
  - ISS_207OT_THRROT027_PRIME, 2014-242T03:20 – 243T16:35
- Special Activities:
  - No PIEs or Level 3 observations.
  - One Opnav DOY 236.
  - No SFAD or Kodak Moments.
- Opmodes used:
  - DFPW
  - DFPW-TCM
  - RSSKRWAP-FULL for two RSS Monopulse Calibrations on DOY 248 and DOY 258