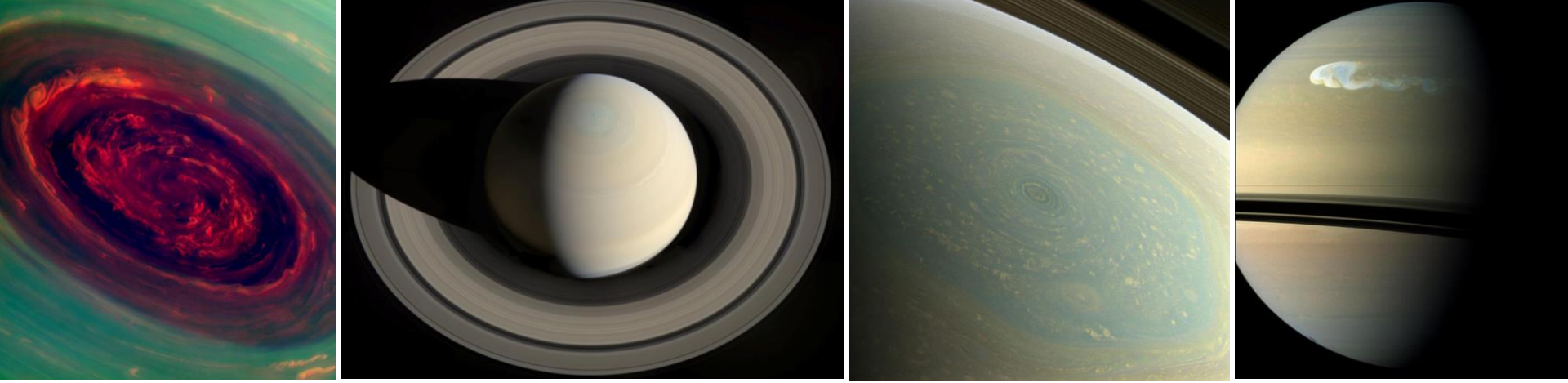

Science Planning & Sequence Team
CASSINI

SATURN TARGET WORKING TEAM

Rev 62_63 Segment Legacy Package

Segment Boundary: March 27, 2008 – March 31, 2008
2008-087T01:20:00 – 2008-091T08:34:00 (SCET)

Integration Began 09/29/2003
Segment Delivered to S39 Sequence 02/23/2004
Lead Integrator was Scott Edgington

Legacy Package Assembled by Shawn Boll

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

Segment Overview and Final Products

Segment Summary

- This was a 4 day long segment, mostly inbound from Rev 63 apoapse, during an inclined orbit. The views of Saturn were distant and at a relatively low phase, moving to be above the north pole.
- Saturn science focused upon north pole movies, led by ISS with the other ORS instruments collaborating.
- Observations of Titan, Enceladus and the rings were also included in the timeline.

Final Sequenced SPASS

	Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
	Sequence S039, length = 27 ...		2008-083T01:50:00	E062_SEQUENCE_0	027T05:28:00	2008-110T07:18:00			
	SATURN revs 62/63 Segment		2008-087T01:20:00		004T07:14:00	2008-091T08:34:00			
	SP_062TI_WAYPTTURN087_PRIME	C, M	2008-087T01:20:00		000T00:30:00	2008-087T01:50:00	ISS_NAC to Titan (0.0,-15.0,0.0 deg. offset)	POS_Z to NSP	
	NEW WAYPOINT		**2008-087T01:50:00**		**001T07:30:00**	**2008-088T09:20:00**	**ISS_NAC to Titan (0.0,-15.0,0.0 deg. offset)**	**POS_Z to NSP**	
Gap 1	CIRS_062TI_COMPMAP019_PRIME	I, M, U	2008-087T01:50:00		000T21:30:00	2008-087T23:20:00	CIRS_FPB to Titan (0.0,-15.002,0.0 deg. offset)	POS_Z to NSP	
	SP_062EA_DLTURN087_PRIME	C, M	2008-087T23:20:00		000T00:30:00	2008-087T23:50:00	XBAND to Earth	POS_X to NEP	25.7 min. Turn
	SP_062EA_G34BWGNON087_PRIME	C, M, R	2008-087T23:50:00		000T09:00:00	2008-088T08:50:00	XBAND to Earth	Rolling	
	Apoapse Per = 9.6 d, inc =...		2008-088T01:23:04		000T00:00:01	2008-088T01:23:05			
	SP_063SA_WAYPTTURN088_PRIME	C, M	2008-088T08:50:00		000T00:30:00	2008-088T09:20:00	ISS_NAC to Saturn	NEG_Z to NSP	22.9 min. Turn
	NEW WAYPOINT		**2008-088T09:20:00**		**002T23:45:00**	**2008-091T09:05:00**	**ISS_NAC to Saturn**	**NEG_Z to NSP**	
Gap 2	ISS_063TI_1X1PT90001_PRIME	M, V	2008-088T09:20:00		000T01:00:00	2008-088T10:20:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
	ISS_063OT_SATELLORB001_PRIME	C, M	2008-088T10:20:00		000T00:45:00	2008-088T11:05:00	ISS_NAC to Satellites	NEG_Z to NSP	
	CAPS_063SA_SURVEYPTG001_PRIME	C, M	2008-088T11:05:00		000T02:00:00	2008-088T13:05:00	NEG_Y to Saturn (0.0,0.0,-54.0 deg. offset)	NEG_Z to NSP	Offset to be added by CAPS before 2 NOV 07
	UVIS_063EN_ICYATM016_PRIME	M	2008-088T13:05:00		000T01:30:00	2008-088T14:35:00	UVIS_FUV to Enceladus	NEG_Z to NSP	
	CIRS_063RI_SUBMU28LP001_PRIME	C, M	2008-088T14:35:00		000T08:00:00	2008-088T22:35:00	CIRS_FP1 to Rings	NEG_Z to NSP	
	ISS_063OT_SATELLORB002_PRIME	C, M	2008-088T22:35:00		000T00:45:00	2008-088T23:20:00	ISS_NAC to Satellites	NEG_Z to NSP	
	SP_063EA_DLTURN088_PRIME	M	2008-088T23:20:00		000T00:30:00	2008-088T23:50:00	XBAND to Earth	POS_X to NEP	
	SP_063EA_G34BWGNON088_PRIME	C, M	2008-088T23:50:00		000T09:00:00	2008-089T08:50:00	XBAND to Earth	Rolling/SRU	
	SP_063SA_WAYPTTURN089_PRIME	M	2008-089T08:50:00		000T00:30:00	2008-089T09:20:00	ISS_NAC to Saturn	NEG_Z to NSP	23.2 min. Turn
	ISS_063SA_POLRMOV01001_PRIME	C, M, U, V	2008-089T09:20:00		000T14:00:00	2008-089T23:20:00	ISS_NAC to Saturn	NEG_Z to NSP	Must satisfy needs of VIMS, CIRS, UVIS
	SP_063EA_DLTURN089_PRIME	M	2008-089T23:20:00		000T00:30:00	2008-089T23:50:00	XBAND to Earth	POS_X to NEP	23.3 min. Turn
	SP_063EA_G34BWGNON089_PRIME	C, M	2008-089T23:50:00		000T09:00:00	2008-090T08:50:00	XBAND to Earth	Rolling	
	SP_063SA_WAYPTTURN090_PRIME	M	2008-090T08:50:00		000T00:30:00	2008-090T09:20:00	ISS_NAC to Saturn	NEG_Z to NSP	23.3 min. Turn
	ISS_063SA_POLRMOV02001_PRIME	C, M, U, V	2008-090T09:20:00		000T08:25:00	2008-090T17:45:00	ISS_NAC to Saturn	NEG_Z to NSP	Must satisfy needs of VIMS, CIRS, UVIS.
Gap 3	ISS_063OT_SATELLORB006_PRIME	C	2008-090T17:45:00		000T00:49:00	2008-090T18:34:00	ISS_NAC to Satellites	NEG_Z to NSP	
	CIRS_063RI_TEMPU49MP001_PRIME	C	2008-090T18:34:00		000T04:30:00	2008-090T23:04:00	CIRS_FP1 to Rings	NEG_Z to NSP	
	SP_063EA_DLTURN090_PRIME	C	2008-090T23:04:00		000T00:30:00	2008-090T23:34:00	XBAND to Earth	POS_X to NEP	22.9 min. Turn
	SP_063EA_G70METNON090_PRIME	C	2008-090T23:34:00		000T09:00:00	2008-091T08:34:00	XBAND to Earth	Rolling/SRU	

Final Sequenced SMT and Data Volume

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

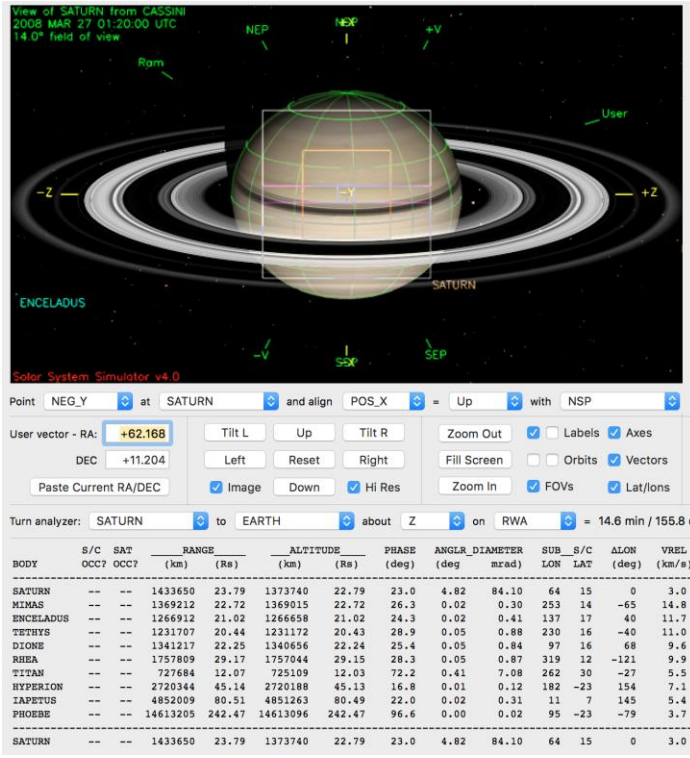
			OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4						P5	RECORDED		PLAYBACK					
DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MRGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	(%)	CAROVR (Mb)
SP_062EA_G34BWGNON087_PRIME	087 23:50	088 08:50	0	910	265	1176	3498	2322	0	274	53	1503	929	-575	-5	0%	574
SP_063EA_G34BWGNON088_PRIME	088 23:50	089 08:50	574	767	63	1404	3498	2094	0	243	53	1700	929	-772	-5	0%	772
SP_063EA_G34BWGNON089_PRIME	089 23:50	090 08:50	772	1702	63	2538	3498	960	0	243	53	2834	927	-1907	-5	0%	1907
SP_063EA_G70METNON090_PRIME	090 23:34	091 08:34	1907	1535	62	3504	3498	-5	0	840	53	4391	4489	98	35	0%	0

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	087 01:20	087 23:50	81.0	42.4	324.0	4.1	120.9	48.6	97.2	0.0	106.1	77.9	0.0	0.0	188.7	1090.9
SP_062EA_G34BWGNON087_PRIME	087 23:50	088 08:50	63.1	17.0	86.4	1.6	0.0	19.4	39.0	0.0	42.4	2.5	0.0	0.0	0.0	271.5
DAILY TOTAL SCIENCE	087 01:20	088 08:50	144.1	59.4	410.4	5.7	120.9	68.0	136.2	0.0	148.6	80.4	0.0	0.0		
OBSERVATION_NOR	088 08:50	088 23:50	137.0	28.3	172.8	2.7	177.4	32.4	65.1	0.0	70.7	27.2	30.0	0.0	12.3	755.9
OBSERVATION_SI	088 08:50	088 23:50	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0
SP_063EA_G34BWGNON088_PRIME	088 23:50	089 08:50	32.4	17.0	86.4	1.6	0.0	19.4	39.1	0.0	42.4	2.5	0.0	0.0	0.0	240.8
DAILY TOTAL SCIENCE	088 08:50	089 08:50	169.4	45.3	275.2	4.3	177.4	51.8	104.2	0.0	113.2	29.6	30.0	0.0		
OBSERVATION_NOR	089 08:50	089 23:50	115.4	28.3	201.6	2.7	280.0	32.4	65.1	0.0	70.7	50.7	840.0	0.0	12.3	1699.3
SP_063EA_G34BWGNON089_PRIME	089 23:50	090 08:50	32.4	17.0	86.4	1.6	0.0	19.4	39.1	0.0	42.4	2.5	0.0	0.0	0.0	240.8
DAILY TOTAL SCIENCE	089 08:50	090 08:50	147.8	45.3	288.0	4.3	280.0	51.8	104.2	0.0	113.2	53.2	840.0	0.0		
OBSERVATION_NOR	090 08:50	090 23:34	114.5	27.8	205.0	2.7	208.9	31.8	90.6	0.0	296.1	30.5	505.0	0.0	12.0	1524.8
OBSERVATION_SI	090 08:50	090 23:34	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
SP_063EA_G70METNON090_PRIME	090 23:34	091 08:34	216.7	17.0	86.4	1.6	0.0	19.4	58.3	0.0	429.9	2.5	0.0	0.0	0.0	831.9
DAILY TOTAL SCIENCE	090 08:50	091 08:34	331.2	44.8	299.4	4.3	208.9	51.3	148.9	0.0	726.1	33.0	505.0	0.0		

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

Segment Geometry

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Rev 062 OUTBOUND
2008 -  087T01:20:00 SCET
2008 MAR 27 01:20:00 SCET
2008 MAR 27 02:30:10 ERT
Apoapse__062 + 008T20:46:13
Periapse_062 + 003T13:09:19
Light time:     70.2 min
Orbit period:  9.6 days
Radius     1433650 km      23.79 Rs
Rad_cyl    1387655 km      23.02 Rs
Z_ht_cyl    360228 km       5.98 Rs
Mag_L         25.39
Semi_axs    869705 km      14.43 Rs
Eccentricity    0.701
Inclination    63.09 deg
Sun_range       9.28 AU
Earth_range     8.44 AU
--- DSN ELEV -- D/L -- U/L --------
Goldstone      39.4   10.9
Canberra      -50.2  -66.8
Madrid         28.6   52.9
------- LOOK DIRECTION INFO -------
FOV            14.0 deg  244.5 mrad
RA            155.325 deg
DEC           -11.916 deg
Crosses_RP_@    0.000 Rs
EPS             3.445 deg
SEP           146.021 deg
ORS b/s angle 157.0 deg
ORS rad angle 112.2 deg
```

Point NEG_Y at SATURN and align POS_X = Up with NSP

User vector - RA: +62.168 DEC +11.204 Paste Current RA/DEC

Tilt L Up Tilt R Left Reset Right Image Down Hi Res

Zoom Out Fill Screen Zoom In

Labels Axes Orbits Vectors FOVs Lat/lons

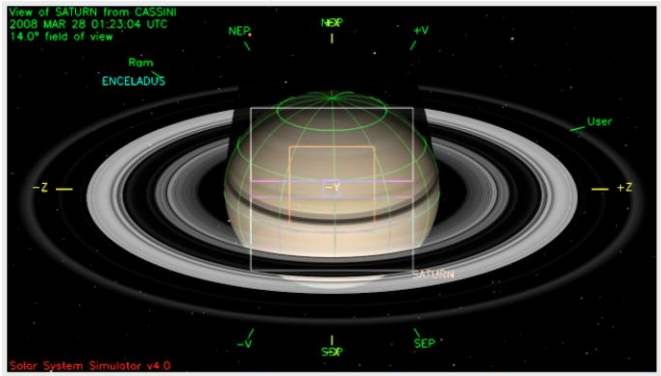
Year Month Day Hour Minute Secon

Turn analyzer: SATURN to EARTH about Z on RWA = 14.6 min / 155.8 deg Even

BODY	S/C OCC?	SAT OCC?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGLR_DIAMETER (deg	ANGLR_DIAMETER 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	--	--	1433650	23.79	1373740	22.79	23.0	4.82	84.10	64	15	0	3.0	0	0.0	155.8	103.2
MIMAS	--	--	1369212	22.72	1369015	22.72	26.3	0.02	0.30	253	14	-65	14.8	-3262	7.0	153.3	109.4
ENCELADUS	--	--	1266912	21.02	1266658	21.02	24.3	0.02	0.41	137	17	40	11.7	5	7.2	153.6	98.5
TETHYS	--	--	1231707	20.44	1231172	20.43	28.9	0.05	0.88	230	16	-40	11.0	-3487	9.3	150.9	112.1
DIONE	--	--	1341217	22.25	1340656	22.24	25.4	0.05	0.84	97	16	68	9.6	110	15.1	151.8	91.4
RHEA	--	--	1757809	29.17	1757044	29.15	28.3	0.05	0.87	319	12	-121	9.9	2808	15.1	152.4	114.0
TITAN	--	--	727684	12.07	725109	12.03	72.2	0.41	7.08	262	30	-27	5.5	-2502	55.9	109.2	158.1
HYPERION	--	--	2720344	45.14	2720188	45.13	16.8	0.01	0.12	182	-23	154	7.1	6313	14.4	160.2	88.9
IAPETUS	--	--	4852009	80.51	4851263	80.49	22.0	0.02	0.31	11	7	145	5.4	262529	28.8	154.5	74.6
PHOEBE	--	--	14613205	242.47	14613096	242.47	96.6	0.00	0.02	95	-23	-79	3.7	5487322	99.8	86.2	123.2
SATURN	--	--	1433650	23.79	1373740	22.79	23.0	4.82	84.10	64	15	0	3.0	0	0.0	155.8	103.2

Seg Start (Left)

Apoapse (below)




```
Rev 063  INBOUND
2008 -  088T01:23:04 SCET
2008 MAR 28 01:23:04 SCET
2008 MAR 28 02:33:18 ERT
Apoapse__063 + 00:00:17
Periapse_063 - 004T18:53:37
Light time:     70.2 min
Orbit period:  9.6 days
Radius     1479591 km      24.55 Rs
Rad_cyl    1363257 km      22.62 Rs
Z_ht_cyl    575080 km       9.54 Rs
Mag_L         28.92
Semi_axs    869678 km      14.43 Rs
Eccentricity    0.701
Inclination    63.08 deg
Sun_range       9.28 AU
Earth_range     8.45 AU
--- DSN ELEV -- D/L -- U/L --------
Goldstone      40.9   12.4
Canberra      -48.8  -66.7
Madrid         27.2   51.9
------- LOOK DIRECTION INFO -------
FOV            14.0 deg  244.5 mrad
RA            160.929 deg
DEC           -19.711 deg
Crosses_RP_@    0.000 Rs
EPS             3.540 deg
SEP           144.963 deg
ORS b/s angle 149.4 deg
ORS rad angle 120.6 deg
```

Point NEG_Y at SATURN and align POS_X = Up with NSP

User vector - RA: +62.168 DEC +11.204 Paste Current RA/DEC

Tilt L Up Tilt R Left Reset Right Image Down Hi Res

Zoom Out Fill Screen Zoom In

Labels Axes Orbits Vectors FOVs Lat/lons

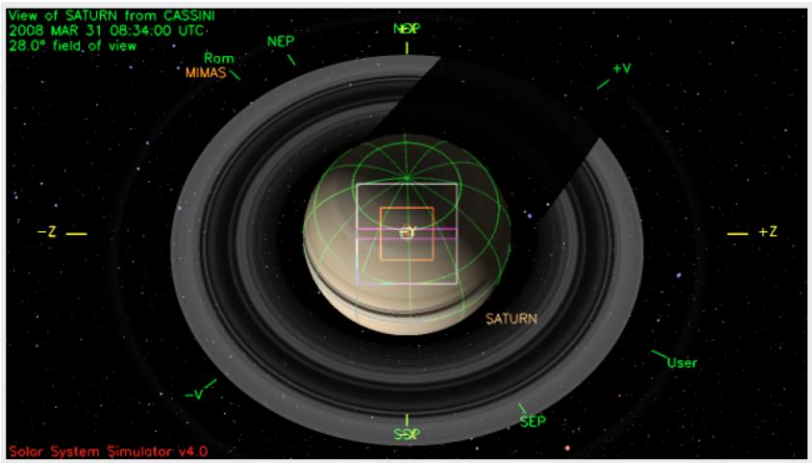
Year Month Day Hour Minute Secon

Turn analyzer: SATURN to EARTH about Z on RWA = 14.0 min / 147.5 deg Even

BODY	S/C OCC?	SAT OCC?	RANGE (km)	RANGE (Rs)	ALTITUDE (km)	ALTITUDE (Rs)	PHASE (deg)	ANGLR_DIAMETER (deg	ANGLR_DIAMETER 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	--	--	1479591	24.55	1420183	23.56	30.6	4.67	81.49	152	23	0	2.8	0	0.0	147.5	90.0
MIMAS	--	--	1473682	24.45	1473486	24.45	32.0	0.02	0.28	272	22	-84	13.8	-4529	7.1	146.9	96.2
ENCELADUS	--	--	1659966	27.54	1659712	27.54	28.3	0.02	0.31	37	20	142	14.5	-22	5.6	149.3	84.4
TETHYS	--	--	1681583	27.90	1681048	27.89	28.4	0.04	0.64	39	19	134	13.1	4276	7.8	149.0	82.4
DIONE	--	--	1344431	22.31	1343870	22.30	36.7	0.05	0.84	255	25	-59	8.8	-110	14.4	142.8	103.5
RHEA	--	--	1961179	32.54	1960412	32.53	25.0	0.04	0.78	14	17	164	10.3	2232	7.2	152.7	83.2
TITAN	--	--	1161923	19.28	1159348	19.24	67.9	0.25	4.43	280	30	-46	4.6	636	52.2	113.4	140.5
HYPERION	--	--	2616007	43.41	2615875	43.40	28.1	0.01	0.13	241	-29	139	7.5	-2273	21.7	148.4	68.5
IAPETUS	--	--	4855449	80.56	4854703	80.55	27.4	0.02	0.31	11	10	145	5.6	190867	30.7	148.9	59.3
PHOEBE	--	--	14413577	239.16	14413466	239.16	97.4	0.00	0.02	310	-22	-74	3.9	5445456	106.9	85.5	130.0
SATURN	--	--	1479591	24.55	1420183	23.56	30.6	4.67	81.49	152	23	0	2.8	0	0.0	147.5	90.0

	Saturn Range	Phase Angle	Sub-S/C Lat.
Segment Start	23.79	23.0	15
Apoapse	24.55	30.6	23
Segment End	15.47	69.0	55

Segment Geometry




```
Rev 063  INBOUND
2008 -  091T08:34:00 SCET
2008 MAR 31 08:34:00 SCET
2008 MAR 31 09:44:34 ERT
Apoapse__063 + 003T07:11:13
Periapse_063 - 001T11:42:41
Light time:    70.6 min
Orbit period:  9.6 days
Radius      932457 km      15.47 Rs
Rad_cyl     530768 km       8.81 Rs
Z_ht_cyl    766656 km      12.72 Rs
Mag_L          47.75
Semi_axs    869649 km      14.43 Rs
Eccentricity    0.701
Inclination    63.09 deg
Sun_range       9.29 AU
Earth_range     8.48 AU
--- DSN ELEV -- D/L -- U/L --------
Goldstone      28.9   55.9
Canberra       34.0   11.3
Madrid        -37.1  -25.8
------- LOOK DIRECTION INFO -------
FOV            28.0 deg  489.0 mrad
RA           -162.893 deg
DEC           -49.456 deg
Crosses_RP_@    0.000 Rs
EPS             3.839 deg
SEP           141.513 deg
ORS b/s angle 111.0 deg
ORS rad angle 138.8 deg
```

Point NEG_Y at SATURN and align POS_X = Up with NSP

User vector - RA: +62.168 DEC +11.204 Paste Current RA/DEC

Tilt L | Up | Tilt R | Left | Reset | Right | Image | Down | Hi Res

Zoom Out | Fill Screen | Zoom In | Labels | Axes | Orbits | Vectors | FOVs | Lat/lons

Year Month Day Hour Minute Secon

Turn analyzer: SATURN to EARTH about Z on RWA = 11.0 min / 108.0 deg Even

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	--	--	932457	15.47	876129	14.54	69.0	7.41	129.36	272	55	0	6.1	0	0.0	108.0	42.4
MIMAS	--	--	1015981	16.86	1015785	16.85	69.2	0.02	0.41	39	49	132	19.9	4795	10.0	107.4	32.5
ENCELADUS	--	--	839787	13.93	839538	13.93	83.2	0.04	0.61	135	66	29	13.3	21	14.3	93.8	46.3
TETHYS	--	--	1009542	16.75	1009011	16.74	57.8	0.06	1.07	308	49	-101	8.8	-3631	16.9	119.9	54.3
DIONE	--	--	1034526	17.17	1033965	17.16	55.5	0.06	1.09	311	48	-98	7.5	-79	21.4	122.4	58.1
RHEA	--	--	949952	15.76	949189	15.75	64.4	0.09	1.62	304	54	-64	3.7	2165	32.5	114.5	73.4
TITAN	--	--	1517916	25.19	1515341	25.14	51.2	0.19	3.39	331	30	-86	3.7	7873	54.6	129.4	89.8
HYPERION	--	--	1802489	29.91	1802349	29.91	91.4	0.01	0.18	41	-32	108	11.3	-23837	48.6	84.7	21.0
IAPETUS	--	--	4255188	70.60	4254442	70.59	49.1	0.02	0.35	3	10	166	8.5	-50586	45.2	126.9	21.4
PHOEBE	--	--	14218846	235.93	14218733	235.93	103.1	0.00	0.02	150	-23	-37	7.3	5304318	133.1	80.1	173.3
SATURN	--	--	932457	15.47	876129	14.54	69.0	7.41	129.36	272	55	0	6.1	0	0.0	108.0	42.4

← Seg End

Solar Geometry – ORS Boresight Concerns

No ORS Boresight Solar Constraints on Science Pointing.

Daily Science Highlights

Thursday, March 27 (DOY 087):
Prior to apoapse, CIRS led a joint ORS campaign to observe Titan, with CIRS obtaining measurements of nitriles, hydrocarbons, an oxygen compound and CO_2 as a function of latitude and emission angle at the equator. Meanwhile, the MAPS teams conducted their ongoing campaign to image the dynamics of Saturn's inner magnetosphere.

Friday, March 28 (DOY 088):
ISS and VIMS kicked off the day's science collection with images of Titan. ISS collected some images of the smaller rocks. CAPS used a period of rare pointing control to survey the Saturn system before UVIS pointed the spacecraft at Enceladus to map volatiles in the immediate neighborhood and test the connection of volatile changes to plume eruptions. CIRS wrapped up the major events of the day with a look at the rings.

Saturday, March 29 (DOY 089):
The whole day was dedicated to looking at Saturn's north pole. ISS led the effort with the other ORS teams riding along. MAPS continued their inner magnetosphere campaign.

Sunday, March 30 (DOY 090):
The ORS teams continued their northern hemisphere viewing. ISS snapped a few more small moon images and CIRS wrapped up the day with a radial scan of the rings, obtaining temperature as a function of solar elevation and phase angle on the lit and unlit sides.

Segment Integration Planning

Timeline Gaps and Suggested Observations

Activity	Start	Duration	Pointing	Notes	TLM
Segment Start/SPTurn to Waypoint	2008-087T01:20:00	00:30:00			
New Waypoint	**2008-087T01:50:00**				
OPEN **Gap 1**	2008-087T01:50:00	21:30:00			
SP Turn to Downlink	2008-087T23:20:00	00:30:00			
Downlink	2008-087T23:50:00	09:00:00	XBAND to Earth;	Goldstone 34 HEF	
Rev 63 Apoapsis	**2008-088T01:36:26**				
SP Turn to Waypoint	2008-088T08:50:00	00:30:00			
OPEN **Gap 2**	2008-088T09:20:00	14:00:00			
SP Turn to Downlink	2008-088T23:20:00	00:30:00	XBAND to Earth;		
Downlink	2008-088T23:50:00	09:00:00	XBAND to Earth;	Goldstone 34 HEF	
SP Turn to Waypoint	2008-089T08:50:00	00:30:00			
ISS Polar Movie	2008-089T09:20:00	14:00:00			
SP Turn to Downlink	2008-089T23:20:00	00:30:00	XBAND to Earth;		
Downlink	2008-089T23:50:00	09:00:00	XBAND to Earth;	Goldstone 34 HEF	
SP Turn to Waypoint	2008-090T08:50:00	00:30:00			
ISS Polar Movie	2008-090T09:20:00	06:40:00			
OPEN **Gap 3**	2008-090T16:00:00	07:04:00			
SP Turn to Downlink	2008-090T23:04:00	00:30:00			

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)	(%)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGIN (Mb)	(%)	CAROVR (Mb)
SP_062EA_G34HEFNON087_PRIME	087 23:50	088 08:50	0	673	78	751	3568	2817	79%	0	228	53	1033	1191	159	13%	0
SP_063EA_G34HEFNON088_PRIME	088 23:50	089 08:50	0	758	52	810	3534	2724	77%	17	229	53	1109	1187	78	7%	0
SP_063EA_G34HEFNON089_PRIME	089 23:50	090 08:50	0	1605	52	1657	3568	1911	54%	0	417	53	2128	1192	-936	-79%	936
SP_063EA_G34HEFNON090_PRIME	090 23:34	091 08:34	936	1163	51	2151	3569	1418	40%	0	220	53	2424	1182	-1242	-105%	1242

DATA VOLUME REPORT

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	087 01:20	087 23:50	81.0	12.1	324.0	4.1	0.0	48.6	97.2	0.0	106.1	0.0	0.0	0.0	0.0	673.1
SP_062EA_G34HEFNON087_PRIME	087 23:50	088 08:50	32.4	4.6	86.4	1.6	0.0	19.4	39.0	0.0	42.4	2.5	0.0	0.0	0.0	228.4
DAILY TOTAL SCIENCE	087 01:20	088 08:50	113.4	16.7	410.4	5.7	0.0	68.0	136.2	0.0	148.6	2.5	0.0	0.0		
OBSERVATION_NOR	088 08:50	088 23:50	54.0	8.1	201.6	2.7	206.4	32.4	65.1	0.0	70.7	70.7	30.0	0.0	0.0	741.7
OBSERVATION_OPN	088 08:50	088 23:50	0.0	0.0	0.0	0.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4
OBSERVATION_SI	088 08:50	088 23:50	0.0	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.0
SP_063EA_G34HEFNON088_PRIME	088 23:50	089 08:50	32.4	4.9	86.4	1.6	0.0	19.4	39.1	0.0	42.4	2.5	0.0	0.0	0.0	228.7
DAILY TOTAL SCIENCE	088 08:50	089 08:50	86.4	12.9	304.0	4.3	206.4	51.8	104.2	0.0	113.2	73.2	30.0	0.0		
OBSERVATION_NOR	089 08:50	089 23:50	54.0	8.1	201.6	2.7	280.0	32.4	65.1	0.0	70.7	50.7	840.0	0.0	0.0	1605.4
SP_063EA_G34HEFNON089_PRIME	089 23:50	090 08:50	32.4	4.9	86.4	1.6	0.0	19.4	39.1	0.0	42.4	191.0	0.0	0.0	0.0	417.3
DAILY TOTAL SCIENCE	089 08:50	090 08:50	86.4	12.9	288.0	4.3	280.0	51.8	104.2	0.0	113.2	241.8	840.0	0.0		
OBSERVATION_NOR	090 08:50	090 23:34	53.0	8.2	205.0	2.7	199.4	31.8	50.3	0.0	69.5	30.5	505.0	0.0	0.0	1155.3
OBSERVATION_SI	090 08:50	090 23:34	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.0
SP_063EA_G34HEFNON090_PRIME	090 23:34	091 08:34	32.4	6.5	86.4	1.6	0.0	19.4	29.2	0.0	42.4	2.5	0.0	0.0	0.0	220.4
DAILY TOTAL SCIENCE	090 08:50	091 08:34	85.4	14.7	299.4	4.3	199.4	51.3	79.4	0.0	111.9	33.0	505.0	0.0		

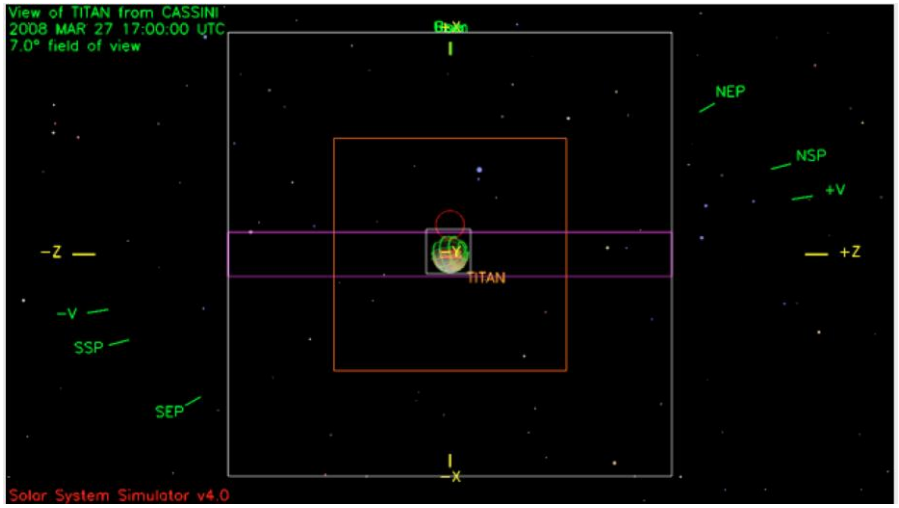
	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)
TOTAL RECORDED (OPNAV data not included)	371.6	57.3	1301.8	18.6	685.8	223.0	424.1	0.0	486.9	350.3	1375.0	0.0

Waypoint Selection

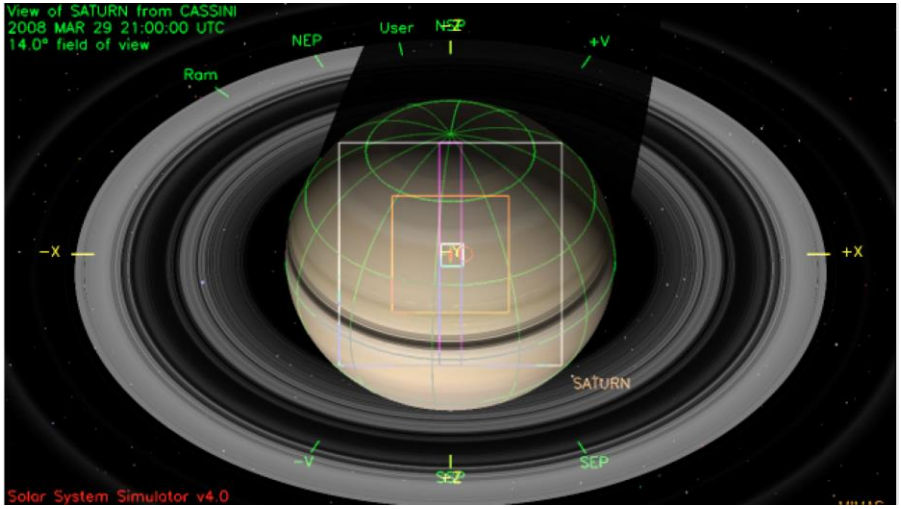
No Waypoint Selection Info Available.

Waypoints Chosen

Waypoint 1 (2008-087T01:50:00 – 2008-088T09:20:00): ISS_NAC to Titan (0.0,-15.0,0.0 deg. offset); POS_Z to NSP



Waypoint 2 (2008-088T09:20:00 – 2008-091T08:34:00): ISS_NAC to Saturn NEG_Z to NSP



Notes & Liens

- **Pointing Issues**
  - None
- **Data Volume Issues**
  - The version of SMT used does not apply the latest margin policy. We'll deal when implemented.
- **Telemetry Mode Issues**
  - None
- **CIMS Issues**
  - None
- **Power/OPMODE Issues**
  - None
- **Flight Rule/Mission Planning Guideline and Constraint Issues**
  - Not checked
- **Other Issues**
  - None