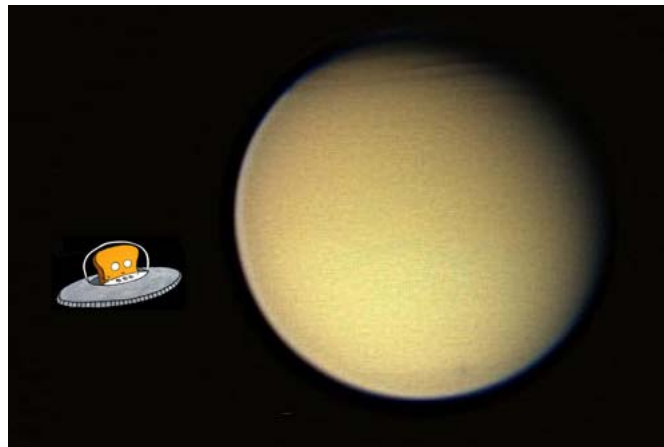




TOST: Integration 109TI (T53) Wrap-Up



September 9, 2008

Kim Steadman, Trina Ray, Jo Pitesky

T53 Segment Basics



Segment times:

BEG: 2009-109T08:18:00

END: 2009-111T10:18:00

Altitude: 3600 km

Time of C/A: 2009-110T00:20:46

Epoch: GMB_E109_Titan53



At least 2 weeks prior to the Kickoff Meeting make sure that all requests are in CIMS

Kickoff Meeting

Present

Master Timeline
Draft Op Modes
Draft Telem Modes
Draft RCS Deadband

Discuss

Timeline
Op Modes
Telem Modes
Deadbands for RCS

Homework

Custom Handoff Attitudes
Unique Op Mode Requirements (SCO)
Turn Assignments
CCRs
High Level Science

Detailed Meeting

Present

Master Timeline
SMT Report
Timeline Graphic
TOL
SPASS
DSN Reports
Dual Playback Science
Draft Data Volume Cuts

Discuss

Data Volume Cuts

Homework

CCRs
High Level Science Objectives

Wrap-up Meeting

Present

Wrap-up Package
Checklist
High Level Science Objectives

Discuss

N/A

Homework

N/A



T53 High-level Science Objectives

- CIRS – Far-infrared vertical temperature and aerosol mapping at low latitudes
- ISS – ISS will ride along with VIMS to image Titan's trailing hemisphere at high southern latitudes and with CIRS to monitor clouds. (illuminated prime observation primarily for photometry.)
- MAG - T53 is another flank-out, post-dusk, high altitude flyby that will be a good complement to T52 in order to characterize the background field for a similar local time with respect to Saturn and different SKR longitudes
- MIMI - Energetic ion and electron energy input to atmosphere--sun obscures ENA.
- RADAR – Radiometry outbound.
- UVIS - UVIS will obtain an image cube of Titan's atmosphere at EUV and FUV wavelengths by sweeping its slit across the disk. These cubes provide spectral and spatial information on nitrogen emissions, H emission and absorption, absorption by simple hydrocarbons, and the scattering properties of haze aerosols. This is one of many such cubes gathered over the course of the mission to provide latitude and seasonal coverage of Titan's middle atmosphere and stratosphere.
- VIMS - VIMS will get information on the composition of Titan's atmosphere during the stellar and the solar occultations before and during closest approach. After closest approach, it will acquire a mosaic of the southern hemisphere between 240-300 west longitudes at a resolution of 20 km/pixel. It will look for changes in the atmosphere.



Master Timeline for T53

T53	3600					
Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2009-109T08:18:00	2009-109T08:58:00	SP Turn to WP	-Y to Titan, -X to Sun	DFPW Normal	S_N_ER_3	
C/A - 15:22:3	C/A - 15:7:3	OD Uncertainty Dead Time				
C/A - 15:7:3	-13:00	CIRS	Template M4	DFPW Normal	S_N_ER_3	
-13:00	-10:00	CIRS	Template N	DFPW Normal	S_N_ER_3	
-10:00	-09:00	ISS	Template N	DFPW Normal	S_N_ER_3	
-09:00	-05:00	VIMS	Template Q	DFPW Normal	S_N_ER_3	
-05:00	-03:00	VIMS	Template Y	DFPW Normal	S_N_ER_3	
begin custom period						
-03:00	-01:35	UVIS	Stellar Occ (Alpha Eri)	DFPW Normal	S_N_ER_3	
-01:35	-00:10	CIRS		RADWU	S_N_ER_5a for 15 min	CIRS turns to UVIS Solar Occ Attitude
-00:10	0	UVIS	Solar Occ	RADWU	S_N_ER_3	
2009-110T00:20:03		CLOSEST APPROACH	UVIS Solar Port to SUN, Neg-X to Co-Rotation RAM(?)	RADWU	S_N_ER_3	
0	+00:26	UVIS	Solar Occ	RADWU	S_N_ER_3	
+00:26	+01:15	CIRS		RADWU	S_N_ER_3	
+01:15	+01:35	Turn to VIMS	Turn time goes to VIMS	RADWU	S_N_ER_3	VIMS needs to add this to their obs time.
+01:35	+02:00	VIMS		RADWU	S_N_ER_3	
end custom period						
+02:00	+06:00	RADAR	Template L*	RADRWA	S_N_ER_8	
+06:00	+08:30	VIMS	Template I	DFPW Normal	S_N_ER_3	
+08:30	+09:00	ISS	Template I	DFPW Normal	S_N_ER_3	
+09:00	+14:00	VIMS	Template V	DFPW Normal	S_N_ER_3	
+14:00	C/A + 22	CIRS	Template A	DFPW Normal	S_N_ER_3	
C/A + 22:2:57	2009-110T22:38:00	OD Uncertainty Dead Time				
2009-110T22:38:00	2009-110T23:18:00	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
2009-110T23:18:00	2009-111T08:18:00	Goldstone 70-m Array		DFPW Normal	RTE_N_SPB	
2009-111T08:18:00	2009-111T10:18:00	C70M		DFPW Normal	RTE_N_SPB	Dual Playback pass

Dual playback: -10 min to +26 min



T53 Telemetry Mode Report

TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2009-109T08:18:00.000	14:27:46	S_N_ER_3	SP_109NA_G70OBSNON110_NA
GMB_E109_Titan53-000T01:35:00	2009-109T22:45:46.000	00:15:00	S_N_ER_5A	SP_109NA_G70OBSNON110_NA
GMB_E109_Titan53-000T01:20:00	2009-109T23:00:46.000	03:20:00	S_N_ER_3	SP_109NA_G70OBSNON110_NA
GMB_E109_Titan53+000T02:00:00	2009-110T02:20:46.000	04:00:00	S_N_ER_8	SP_109NA_G70OBSNON110_NA
GMB_E109_Titan53+000T06:00:00	2009-110T06:20:46.000	16:57:14	S_N_ER_3	SP_109NA_G70OBSNON110_NA
	2009-110T23:18:00.000	01:15:00	RTE_N_SPB_142200	SP_109EA_G70METNON110_PRIME
	2009-111T00:33:00.000	06:45:00	RTE_N_SPB_165900	SP_109EA_G70METNON110_PRIME
	2009-111T07:18:00.000	01:00:00	RTE_N_SPB_142200	SP_109EA_G70METNON110_PRIME
	2009-111T08:18:00.000	00:45:00	RTE_N_SPB_142200	SP_109EA_C70METNON111_PRIME
	2009-111T09:03:00.000	01:15:00	RTE_N_SPB_165900	SP_109EA_C70METNON111_PRIME

T53 SMT Report



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

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4			P5				RECORDED			PLAYBACK				
			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)	NET_MARGN (%)	CAROVR (Mb)
SP_109EA_G70METNON110_PRIME	110 23:18	111 08:18	0	3385	165	3550	3516	-33	0	932	53	4501	4398	-104	401	7%	103
SP_109EA_C70METNON111_PRIME	111 08:18	111 10:18	103	0	391	494	3516	3022	0	48	12	553	955	401	401	42%	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	109 08:18	110 23:18	270.0	73.6	438.3	32.2	603.0	123.9	129.2	72.0	675.9	268.0	652.0	0.0	31.9	3369.9
OBSERVATION_SI	109 08:18	110 23:18	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_109EA_G70METNON110_PRIME	110 23:18	111 08:18	63.0	17.0	86.4	3.2	0.0	19.4	29.2	0.0	700.5	4.9	0.0	0.0	0.0	923.6
OBSERVATION_NOR	109 08:18	111 08:18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	390.6	390.6
SP_109EA_C70METNON111_PRIME	111 08:18	111 10:18	7.2	3.8	14.4	0.7	0.0	4.3	6.5	0.0	9.4	1.1	0.0	0.0	0.0	47.4
DAILY TOTAL SCIENCE	109 08:18	111 10:18	340.2	94.3	555.1	36.1	603.0	147.6	164.9	72.0	1385.8	274.0	652.0	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)
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TOTAL RECORDED (OPNAV data not included) 340.2 94.3 555.1 36.1 603.0 147.6 164.9 72.0 1385.8 274.0 652.0 0.0



T53 DSN Report

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for 109TI_T53_2008-05-01_v2.apf on 2008-May-01 11:39:08

(+ = pass overlaps with previous pass; * = conflicts with DSN maintenance; o = overlaps occultation)

DOWNLINK PASS					DSN PASS						
NAME	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	DATA_RATES kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	CALS min	LABEL	CNFG
G70METNON110	110T23:18-08:18	111T00:30-09:30	09:00	142,165,142	14	110T23:18-08:18	111T00:30-09:30	09:00	60 /15	TP	N003
+C70METNON111	111T08:18-10:18	111T09:30-11:30	02:00	142,165	43	111T07:58-10:18	111T09:10-11:30	02:20	60 /15	TP	N003

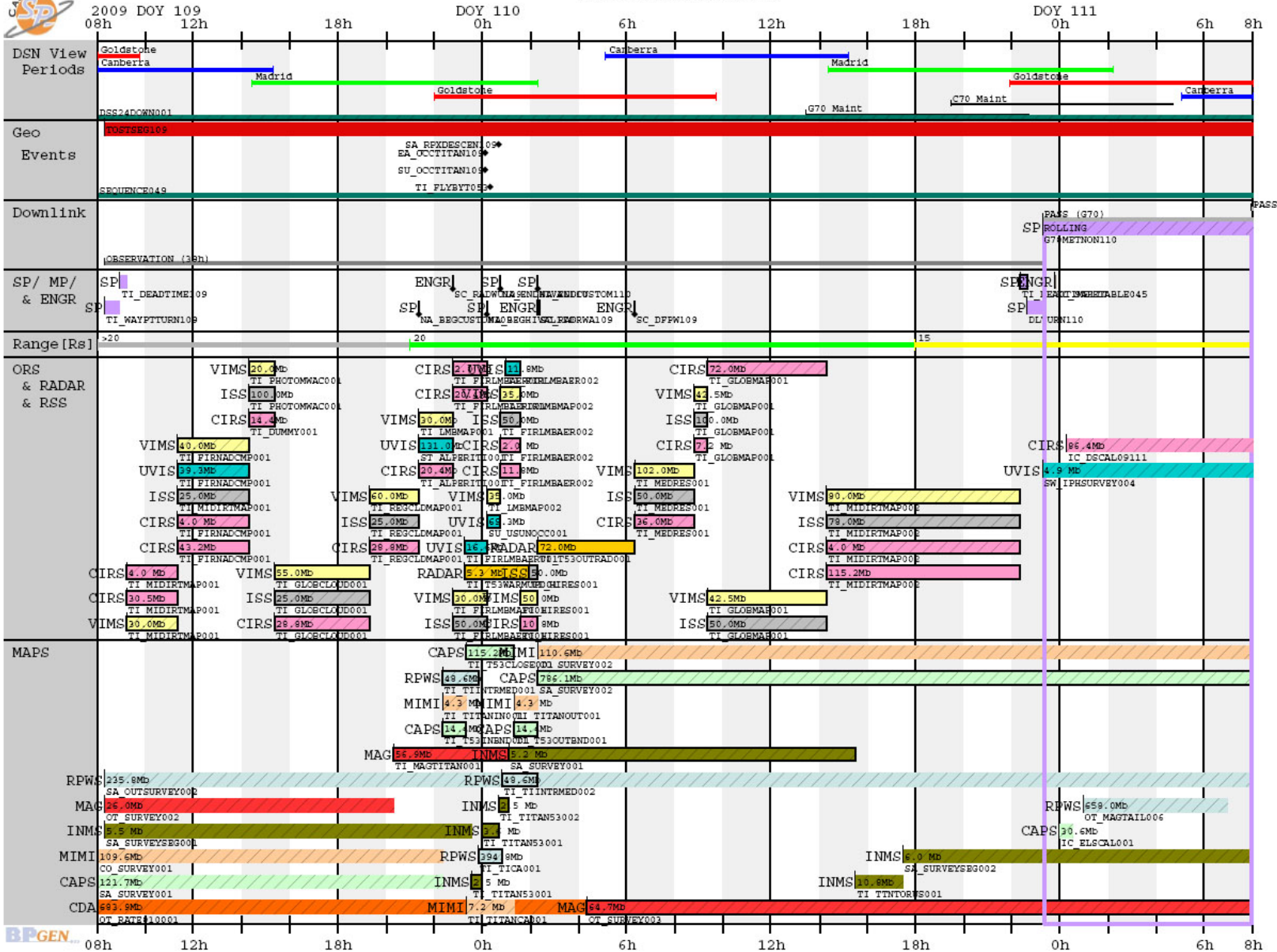
T53 SPASS



Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S49, length = 40 days		2009-085T10:05:00		039T21:11:00	2009-125T07:16:00			
Titan Flyby T53 Segment		2009-109T08:18:00		002T02:00:00	2009-111T10:18:00			
SP_109TI_WAYPTTURN109_PRIME		2009-109T08:18:00		000T00:40:00	2009-109T08:58:00	NEG_Y to Titan	NEG_X to Sun	
NEW WAYPOINT		2009-109T08:58:00		002T01:20:00	2009-111T10:18:00	NEG_Y to Titan	NEG_X to Sun	
SP_109TI_DEADTIME109_PRIME	V	2009-109T08:58:00		000T00:15:43	2009-109T09:13:43	NEG_Y to Titan	NEG_X to Sun	
CIRS_109TI_MIDIRTMAP001_PRIME	C, V	2009-109T09:13:43	GMB_E109_Titan53-000T15:07:03	000T02:07:03	2009-109T11:20:46	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_109TI_FIRNADCMP001_PRIME	C, I, U, V	2009-109T11:20:46	GMB_E109_Titan53-000T13:00:00	000T03:00:00	2009-109T14:20:46	CIRS_FP1 to Titan	PIC	
ISS_109TI_PHOTOMWAC001_PRIME	C, V	2009-109T14:20:46	GMB_E109_Titan53-000T10:00:00	000T01:00:00	2009-109T15:20:46	ISS_NAC to Titan	NEG_X to Sun	
VIMS_109TI_GLOBCLOUD001_PRIME	C, I	2009-109T15:20:46	GMB_E109_Titan53-000T09:00:00	000T04:00:00	2009-109T19:20:46	VIMS_IR to Titan	NEG_X to Sun	
VIMS_109TI_REGCLDMAP001_PRIME	C, I	2009-109T19:20:46	GMB_E109_Titan53-000T05:00:00	000T02:00:00	2009-109T21:20:46	VIMS_IR to Titan	NEG_X to Sun	
Begin Custom Period		2009-109T21:20:46	GMB_E109_Titan53-000T03:00:00	000T00:00:01	2009-109T21:20:47	NEG_Y to Titan	NEG_Z to Sun	
UVIS_109ST_ALPERITI001_PRIME	C, M, V	2009-109T21:20:46	GMB_E109_Titan53-000T03:00:00	000T01:25:00	2009-109T22:45:46	UVIS_FUV to 24.429/-57.237 (0.25 deg offset), NEG_X to Sun		Pick up at NEG_Y to Titan, NEG_X to Sun; Hand off at UVIS_FUV to 24.429/-57.237 (0.258,0.0,0.0 deg. offset), NEG_X to Sun.
CIRS_109TI_FIRLIMBAER001_PRIME	C, I, M, R, L	2009-109T22:45:46	GMB_E109_Titan53-000T01:35:00	000T01:25:00	2009-110T00:10:46	CIRS_FP1 to Titan	PIC	Pick up at UVIS_FUV to 24.429/-57.237 (0.258,0.0,0.0 deg. offset), NEG_X to Sun; Hand off at ISS_NAC to Sun (-20.0,0.0,0.0 deg. offset), POS_X to Titan.
Begin Dual Playback Science		2009-110T00:10:46	GMB_E109_Titan53-000T00:10:00	000T00:00:01	2009-110T00:10:47			
UVIS_109SU_USUNOCC001_PRIME	M, R, V	2009-110T00:10:46	GMB_E109_Titan53-000T00:10:00	000T00:36:00	2009-110T00:46:46	ISS_NAC to Sun (-20.0,0.0,0.0 deg offset), POS_X to Titan		Pick up at ISS_NAC to Sun (-20.0,0.0,0.0 deg. offset), POS_X to Titan; Hand off at CIRS_FP1 to Titan, PIC. Handoff agreement: Primary: CIRS_FP1 to LAT_VIEW (-30, 90, RHS 0 km), Secondary: POS_Z to FOV_LIMB (same)
109TI (t) T53 TITAN Inbou...		2009-110T00:20:46		000T00:00:01	2009-110T00:20:47			
End Dual Playback Science		2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:00:01	2009-110T00:46:47			
CIRS_109TI_FIRLIMBAER002_PRIME	C, I, M, R, L	2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:49:00	2009-110T01:35:46	CIRS_FP1 to Titan	PIC	Pick up at CIRS_FP1 to Titan, PIC; Hand off at CIRS_FP1 to Titan, PIC. Primary: CIRS_FP1 to LAT_VIEW (-30, 90, RHS 0 km), Secondary: POS_Z to FOV_LIMB (same)
VIMS_109TI_HIRES001_PRIME	C, I, M, R	2009-110T01:35:46	GMB_E109_Titan53+000T01:15:00	000T00:45:00	2009-110T02:20:46	VIMS_IR to Titan	NEG_X to Sun	Pick up at CIRS_FP1 to Titan, PIC; Hand off at NEG_Y to Titan, NEG_X to Sun.
End Custom Period		2009-110T02:20:46	GMB_E109_Titan53+000T02:00:00	000T00:00:01	2009-110T02:20:47	NEG_Y to Titan	NEG_Z to Sun	
RADAR_109TI_T53OUTRAD001_PRIME		2009-110T02:20:46	GMB_E109_Titan53+000T02:00:00	000T04:00:00	2009-110T06:20:46	NEG_Z to Titan	POS_Y to NTP	Use +Y_NTP and -X_NTP for 2ndary axis for polarizations.
VIMS_109TI_MEDRES001_PRIME	C, I	2009-110T06:20:46	GMB_E109_Titan53+000T06:00:00	000T02:30:00	2009-110T08:50:46	VIMS_IR to Titan	NEG_X to Sun	
ISS_109TI_GLOBMAP001_PRIME	C, V	2009-110T08:50:46	GMB_E109_Titan53+000T08:30:00	000T00:30:00	2009-110T09:20:46	ISS_NAC to Titan	NEG_X to Sun	
VIMS_109TI_GLOBMAP001_PRIME	C, I	2009-110T09:20:46	GMB_E109_Titan53+000T09:00:00	000T05:00:00	2009-110T14:20:46	VIMS_IR to Titan	NEG_X to Sun	
CIRS_109TI_MIDIRTMAP002_PRIME	C, I, V	2009-110T14:20:46	GMB_E109_Titan53+000T14:00:00	000T08:00:00	2009-110T22:20:46	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
SP_109TI_DEADTIME110_PRIME		2009-110T22:20:46	GMB_E109_Titan53+000T22:00:00	000T00:17:14	2009-110T22:38:00	NEG_Y to Titan	NEG_X to Sun	
SP_109EA_DLTURN110_PRIME		2009-110T22:38:00		000T00:40:00	2009-110T23:18:00	XBAND to Earth	POS_X to NEP	
SP_109EA_G70METNON110_PRIME	C	2009-110T23:18:00		000T09:00:00	2009-111T08:18:00	XBAND to Earth	Rolling	POS_X to NEP
Pointer Reset in preparatio...		2009-111T08:18:00		000T00:00:01	2009-111T08:18:01			
SP_109EA_C70METNON111_PRIME	C	2009-111T08:18:00		000T02:00:00	2009-111T10:18:00	XBAND to Earth	Rolling	POS_X to NEP



T53 Handoff Timeline



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T53 TOL page 1



Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type
MP_106NA_SEQUENCE049_NA	MILESTONE	2009-085T10:05:00		039T21:11:00	2009-125T07:16:00	0	0	SPASS Note
MP_107NA_DSS24DOWN001_NA	MILESTONE	2009-088T22:49:39		062T23:52:11	2009-151T22:41:50	0	0	Non-SPASS
CDA_109OT_RATE010001_RIDER	CDA_524	2009-106T23:05:00		015T02:32:00	2009-122T01:37:00	524	683.883	Non-SPASS
CAPS_109SA_SURVEY001_PRIME	CAPS_16000	2009-108T12:32:00		001T09:48:46	2009-109T22:20:46	1000	121.726	Non-SPASS
MIMI_109CO_SURVEY001_RIDER	MIMI_8000	2009-108T12:32:00		001T09:48:46	2009-109T22:20:46	900	109.553	Non-SPASS
INMS_109SA_SURVEYSEG001_INMS	INMS_1498	2009-109T08:18:00		000T15:14:46	2009-109T23:32:46	100	5.489	Non-SPASS
MAG_109OT_SURVEY002_PRIME	MAG_1976	2009-109T08:18:00		000T12:02:46	2009-109T20:20:46	600	26.02	Non-SPASS
RPWS_109SA_OUTSURVEY002_PRIME	RPWS_30464	2009-109T08:18:00		002T02:00:00	2009-111T10:18:00	1310	235.802	Non-SPASS
SP_109NA_G70OBSNON110_NA	OBSERVATION	2009-109T08:18:00		001T15:00:00	2009-110T23:18:00	0	0	Non-SPASS
SP_109NA_TOSTSEG109_NA	MILESTONE	2009-109T08:18:00		002T02:00:00	2009-111T10:18:00	0	0	SPASS Note
SP_109TI_WAYPTTURN109_PRIME	MILESTONE	2009-109T08:18:00		000T00:40:00	2009-109T08:58:00	0	0	New Waypoint
SP_109TI_DEADTIME109_PRIME	MILESTONE	2009-109T08:58:00		000T00:15:43	2009-109T09:13:43	0	0	Prime
VIMS_109TI_MIDIRTMAP001_CIRS	VIMS_18432	2009-109T09:13:00	GMB_E109_Titan53-000T15:07:46	000T02:07:46	2009-109T11:20:46	3913	30	SPASS Rider
CIRS_109TI_MIDIRTMAP001_PRIME	CIRS_4000	2009-109T09:13:43	GMB_E109_Titan53-000T15:07:03	000T02:07:03	2009-109T11:20:46	4000	30.492	Prime
CIRS_109TI_MIDIRTMAP001_SI	ISS_SUPPORT	2009-109T09:13:43	GMB_E109_Titan53-000T15:07:03	000T02:07:03	2009-109T11:20:46	0	4	SPASS Rider
CIRS_109TI_FIRNADCMP001_PRIME	CIRS_4000	2009-109T11:20:46	GMB_E109_Titan53-000T13:00:00	000T03:00:00	2009-109T14:20:46	4000	43.2	Prime
CIRS_109TI_FIRNADCMP001_SI	ISS_SUPPORT	2009-109T11:20:46	GMB_E109_Titan53-000T13:00:00	000T03:00:00	2009-109T14:20:46	0	4	SPASS Rider
ISS_109TI_MIDIRTMAP001_CIRS	ISS_Phot_1 by	2009-109T11:20:46	GMB_E109_Titan53-000T13:00:00	000T03:00:00	2009-109T14:20:46	0	25	SPASS Rider
UVIS_109TI_FIRNADCMP001_CIRS	UVIS_5032	2009-109T11:20:46	GMB_E109_Titan53-000T13:00:00	000T03:00:00	2009-109T14:20:46	3643	39.346	SPASS Rider
VIMS_109TI_FIRNADCMP001_CIRS	VIMS_18432	2009-109T11:20:46	GMB_E109_Titan53-000T13:00:00	000T03:00:00	2009-109T14:20:46	3704	40	SPASS Rider
CIRS_109TI_DUMMY001_ISS	CIRS_4000	2009-109T14:20:46	GMB_E109_Titan53-000T10:00:00	000T01:00:00	2009-109T15:20:46	4000	14.4	SPASS Rider
ISS_109TI_PHOTOMWAC001_PRIME	ISS_Phot_1 by	2009-109T14:20:46	GMB_E109_Titan53-000T10:00:00	000T01:00:00	2009-109T15:20:46	0	100	Prime
VIMS_109TI_PHOTOMWAC001_ISS	VIMS_18432	2009-109T14:20:46	GMB_E109_Titan53-000T10:00:00	000T01:00:00	2009-109T15:20:46	5556	20	SPASS Rider
CIRS_109TI_GLOBCLOUD001_VIMS	CIRS_4000	2009-109T15:20:46	GMB_E109_Titan53-000T09:00:00	000T04:00:00	2009-109T19:20:46	2000	28.8	SPASS Rider
ISS_109TI_GLOBCLOUD001_VIMS	ISS_Phot_1 by	2009-109T15:20:46	GMB_E109_Titan53-000T09:00:00	000T04:00:00	2009-109T19:20:46	0	25	SPASS Rider
VIMS_109TI_GLOBCLOUD001_PRIME	VIMS_18432	2009-109T15:20:46	GMB_E109_Titan53-000T09:00:00	000T04:00:00	2009-109T19:20:46	3819	55	Prime
CIRS_109TI_REGCLDMP001_VIMS	CIRS_4000	2009-109T19:20:46	GMB_E109_Titan53-000T05:00:00	000T02:00:00	2009-109T21:20:46	4000	28.8	SPASS Rider
ISS_109TI_REGCLDMP001_VIMS	ISS_Phot_1 by	2009-109T19:20:46	GMB_E109_Titan53-000T05:00:00	000T02:00:00	2009-109T21:20:46	0	25	SPASS Rider
VIMS_109TI_REGCLDMP001_PRIME	VIMS_18432	2009-109T19:20:46	GMB_E109_Titan53-000T05:00:00	000T02:00:00	2009-109T21:20:46	8333	60	Prime
MAG_109TI_MAGTITAN001_PRIME	MAG_1976	2009-109T20:20:46	GMB_E109_Titan53-000T04:00:00	000T08:00:00	2009-110T04:20:46	1976	56.909	Non-SPASS
CIRS_109TI_ALPERITI001_UVIS	CIRS_4000	2009-109T21:20:46	GMB_E109_Titan53-000T03:00:00	000T01:25:00	2009-109T22:45:46	4000	20.4	SPASS Rider
SP_109NA_BEGCUSTOM109_NA	MILESTONE	2009-109T21:20:46	GMB_E109_Titan53-000T03:00:00	000T00:00:01	2009-109T21:20:47	0	0	SPASS Note
UVIS_109ST_ALPERITI001_PRIME	UVIS_32096	2009-109T21:20:46	GMB_E109_Titan53-000T03:00:00	000T01:25:00	2009-109T22:45:46	25677	130.952	Prime
VIMS_109TI_LMBMAP001_UVIS	VIMS_18432	2009-109T21:20:46	GMB_E109_Titan53-000T03:00:00	000T01:25:00	2009-109T22:45:46	5882	30	SPASS Rider
CAPS_109TI_T53INBND001_PRIME	CAPS_16000	2009-109T22:20:46	GMB_E109_Titan53-000T02:00:00	000T01:00:00	2009-109T23:20:46	4000	14.4	SPASS Rider
MIMI_109TI_TITANIN001_RIDER	MIMI_8000	2009-109T22:20:46		000T01:00:00	2009-109T23:20:46	1200	4.32	SPASS Rider
RPWS_109TI_TINTRMED001_PRIME	RPWS_30464	2009-109T22:20:46	GMB_E109_Titan53-000T02:00:00	000T01:30:00	2009-109T23:50:46	9000	48.6	Non-SPASS
CIRS_109TI_FIRLMBAR001_PRIME	CIRS_4000	2009-109T22:45:46	GMB_E109_Titan53-000T01:35:00	000T01:25:00	2009-110T00:10:46	4000	20.4	Prime
CIRS_109TI_FIRLMBAR001_SI	ISS_SUPPORT	2009-109T22:45:46	GMB_E109_Titan53-000T01:35:00	000T01:25:00	2009-110T00:10:46	0	2	SPASS Rider
ENGR_109SC_RADWU109_PPS	OpMode	2009-109T22:45:46	GMB_E109_Titan53-000T01:35:00	000T00:00:07	2009-109T22:45:53	0	0	Non-SPASS
ISS_109TI_FIRLMBAR001_CIRS	ISS_Phot_1 by	2009-109T22:45:46	GMB_E109_Titan53-000T01:35:00	000T01:25:00	2009-110T00:10:46	0	50	SPASS Rider
VIMS_109TI_FIRLMBMAP001_CIRS	VIMS_18432	2009-109T22:45:46	GMB_E109_Titan53-000T01:35:00	000T01:25:00	2009-110T00:10:46	5882	30	SPASS Rider
RADAR_109TI_T53WARMUP001_RIDER	RADAR_36480	2009-109T23:15:46	GMB_E109_Titan53-000T01:05:00	000T03:05:00	2009-110T02:20:46	474.2	5.264	SPASS Rider
UVIS_109TI_FIRLMBAR001_CIRS	UVIS_5032	2009-109T23:15:46	GMB_E109_Titan53-000T01:05:00	000T00:55:00	2009-110T00:10:46	5032	16.606	SPASS Rider
CAPS_109TI_T53CLOSE001_PRIME	CAPS_16000	2009-109T23:20:46	GMB_E109_Titan53-000T01:00:00	000T02:00:00	2009-110T01:20:46	16000	115.2	SPASS Rider
MIMI_109TI_TITANCA001_RIDER	MIMI_8000	2009-109T23:20:46		000T02:00:00	2009-110T01:20:46	1000	7.2	SPASS Rider
INMS_109TI_TITAN53001_INMS	INMS_1498	2009-109T23:32:46	GMB_E109_Titan53-000T00:48:00	000T00:28:00	2009-110T00:00:46	1498	2.517	Non-SPASS
RPWS_109TI_TICA001_PRIME	RPWS_182784	2009-109T23:50:46	GMB_E109_Titan53-000T00:30:00	000T01:00:00	2009-110T00:50:46	1E+05	394.813	Non-SPASS
INMS_109TI_TITAN53001_RIDER	INMS_1498	2009-110T00:00:46	GMB_E109_Titan53-000T00:20:00	000T00:40:00	2009-110T00:40:46	1498	3.595	Non-SPASS
MP_109EA_OCCTITAN109_NA	MILESTONE	2009-110T00:07:23		000T00:00:01	2009-110T00:07:24	0	0	Non-SPASS
MP_109SU_OCCTITAN109_NA	MILESTONE	2009-110T00:09:27		000T00:00:01	2009-110T00:09:28	0	0	Non-SPASS
SP_109NA_BEGHIVAL110_NA	MILESTONE	2009-110T00:10:46	GMB_E109_Titan53-000T00:10:00	000T00:00:01	2009-110T00:10:47	0	0	SPASS Note
UVIS_109SU_USUNOCC001_PRIME	UVIS_32096	2009-110T00:10:46	GMB_E109_Titan53-000T00:10:00	000T00:36:00	2009-110T00:46:46	32096	69.327	Prime

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type
VIMS_109TI_LMBMAP002_UVIS	VIMS_18432	2009-110T00:10:46	GMB_E109_Titan53-000T00:10:00	000T00:36:00	2009-110T00:46:46	16204	35	SPASS Rider
MP_109TI_FLVBYT053_NA	MILESTONE	2009-110T00:20:46		000T00:00:01	2009-110T00:20:47	0	0	SPASS Note
INMS_109TI_TITAN53002_INMS	INMS_1498	2009-110T00:40:46	GMB_E109_Titan53+000T00:20:00	000T00:28:00	2009-110T01:08:46	1498	2.517	Non-SPASS
MP_109SA_RPXDESCEN109_NA	MILESTONE	2009-110T00:41:14		000T00:00:01	2009-110T00:41:15	0	0	Non-SPASS
CIRS_109TI_FIRLMBAR002_PRIME	CIRS_4000	2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:49:00	2009-110T01:35:46	4000	11.76	Prime
CIRS_109TI_FIRLMBAR002_SI	ISS_SUPPOR	2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:49:00	2009-110T01:35:46	0	2	SPASS Rider
ISS_109TI_FIRLMBAR002_CIRS	ISS_Phot_1_by	2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:49:00	2009-110T01:35:46	0	50	SPASS Rider
SP_109NA_ENDHIVAL110_NA	MILESTONE	2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:00:01	2009-110T00:46:47	0	0	SPASS Note
VIMS_109TI_FIRLMBMAP002_CIRS	VIMS_18432	2009-110T00:46:46	GMB_E109_Titan53+000T00:26:00	000T00:49:00	2009-110T01:35:46	11905	35	SPASS Rider
RPWS_109TI_TIINTRMED002_PRIME	RPWS_30464	2009-110T00:50:46	GMB_E109_Titan53+000T00:30:00	000T01:30:00	2009-110T02:20:46	9000	48.6	Non-SPASS
UVIS_109TI_FIRLMBAR002_CIRS	UVIS_5032	2009-110T00:56:46	GMB_E109_Titan53+000T00:36:00	000T00:39:00	2009-110T01:35:46	5032	11.775	SPASS Rider
INMS_109SA_SURVEY001_INMS	INMS_1498	2009-110T01:08:46	GMB_E109_Titan53+000T00:48:00	000T14:21:14	2009-110T15:30:00	100	5.167	Non-SPASS
CAPS_109TI_T53OUTBND001_PRIME	CAPS_16000	2009-110T01:20:46	GMB_E109_Titan53+000T01:00:00	000T01:00:00	2009-110T02:20:46	4000	14.4	SPASS Rider
MIMI_109TI_TITANOUT001_RIDER	MIMI_8000	2009-110T01:20:46		000T01:00:00	2009-110T02:20:46	1200	4.32	SPASS Rider
CIRS_109TI_HIRES001_VIMS	CIRS_4000	2009-110T01:35:46	GMB_E109_Titan53+000T01:15:00	000T00:45:00	2009-110T02:20:46	4000	10.8	SPASS Rider
VIMS_109TI_HIRES001_PRIME	VIMS_18432	2009-110T01:35:46	GMB_E109_Titan53+000T01:15:00	000T00:45:00	2009-110T02:20:46	18519	50	Prime
ISS_109TI_HIRES001_VIMS	ISS_Phot_1_by	2009-110T01:55:46	GMB_E109_Titan53+000T01:35:00	000T00:25:00	2009-110T02:20:46	0	50	SPASS Rider
CAPS_109SA_SURVEY002_PRIME	CAPS_16000	2009-110T02:20:46	GMB_E109_Titan53+000T02:00:00	009T02:21:14	2009-119T04:42:00	1000	786.074	Non-SPASS
ENGR_109SC_RADRWA109_PPS	OpMode	2009-110T02:20:46	GMB_E109_Titan53+000T02:00:00	000T00:00:44	2009-110T02:21:30	0	0	Non-SPASS
MIMI_109CO_SURVEY002_RIDER	MIMI_8000	2009-110T02:20:46		001T10:07:40	2009-111T12:28:26	900	110.574	Non-SPASS
RADAR_109TI_T53OUTRAD001_PRIME	RADAR_36480	2009-110T02:20:46	GMB_E109_Titan53+000T02:00:00	000T04:00:00	2009-110T06:20:46	5001	72.02	Prime
SP_109NA_ENDCUSTOM110_NA	MILESTONE	2009-110T02:20:46	GMB_E109_Titan53+000T02:00:00	000T00:00:01	2009-110T02:20:47	0	0	SPASS Note
MAG_109OT_SURVEY003_PRIME	MAG_1976	2009-110T04:20:46	GMB_E109_Titan53+000T04:00:00	001T05:57:14	2009-111T10:18:00	600	64.7	Non-SPASS
ENGR_109SC_DFPW109_PPS	OpMode	2009-110T06:20:09	GMB_E109_Titan53+000T05:59:23	000T00:00:37	2009-110T06:20:46	0	0	Non-SPASS
CIRS_109TI_MEDRES001_VIMS	CIRS_4000	2009-110T06:20:46	GMB_E109_Titan53+000T06:00:00	000T02:30:00	2009-110T08:50:46	4000	36	SPASS Rider
ISS_109TI_MEDRES001_VIMS	ISS_Phot_1_by	2009-110T06:20:46	GMB_E109_Titan53+000T06:00:00	000T02:30:00	2009-110T08:50:46	0	50	SPASS Rider
VIMS_109TI_MEDRES001_PRIME	VIMS_18432	2009-110T06:20:46	GMB_E109_Titan53+000T06:00:00	000T02:30:00	2009-110T08:50:46	11333	102	Prime
CIRS_109TI_GLOBMAP001_ISS	CIRS_4000	2009-110T08:50:46	GMB_E109_Titan53+000T08:30:00	000T00:30:00	2009-110T09:20:46	4000	7.2	SPASS Rider
ISS_109TI_GLOBMAP001_PRIME	ISS_Phot_1_by	2009-110T08:50:46	GMB_E109_Titan53+000T08:30:00	000T00:30:00	2009-110T09:20:46	0	100	Prime
VIMS_109TI_GLOBMAP001_ISS	VIMS_18432	2009-110T08:50:46	GMB_E109_Titan53+000T08:30:00	000T00:30:00	2009-110T09:20:46	23611	42.5	SPASS Rider
CIRS_109TI_GLOBMAP001_VIMS	CIRS_4000	2009-110T09:20:46	GMB_E109_Titan53+000T09:00:00	000T05:00:00	2009-110T14:20:46	4000	72	SPASS Rider
ISS_109TI_GLOBMAP001_VIMS	ISS_Phot_1_by	2009-110T09:20:46	GMB_E109_Titan53+000T09:00:00	000T05:00:00	2009-110T14:20:46	0	50	SPASS Rider
VIMS_109TI_GLOBMAP001_PRIME	VIMS_18432	2009-110T09:20:46	GMB_E109_Titan53+000T09:00:00	000T05:00:00	2009-110T14:20:46	2361	42.5	Prime
CIRS_109TI_MIDIRTMAP002_PRIME	CIRS_4000	2009-110T14:20:46	GMB_E109_Titan53+000T14:00:00	000T08:00:00	2009-110T22:20:46	4000	115.2	Prime
CIRS_109TI_MIDIRTMAP002_SI	ISS_SUPPOR	2009-110T14:20:46	GMB_E109_Titan53+000T14:00:00	000T08:00:00	2009-110T22:20:46	0	4	SPASS Rider
ISS_109TI_MIDIRTMAP002_CIRS	ISS_Phot_1_by	2009-110T14:20:46	GMB_E109_Titan53+000T14:00:00	000T08:00:00	2009-110T22:20:46	0	78	SPASS Rider
VIMS_109TI_MIDIRTMAP002_CIRS	VIMS_18432	2009-110T14:20:46	GMB_E109_Titan53+000T14:00:00	000T08:00:00	2009-110T22:20:46	2778	80	SPASS Rider
INMS_109TI_TTNTORUS001_INMS	INMS_1498	2009-110T15:30:00		000T02:00:00	2009-110T17:30:00	1498	10.786	Non-SPASS
INMS_109SA_SURVEYSE002_INMS	INMS_1498	2009-110T17:30:00		000T16:48:00	2009-111T10:18:00	100	6.048	Non-SPASS
SP_109TI_DEADTIME110_PRIME	MILESTONE	2009-110T22:20:46	GMB_E109_Titan53+000T22:00:00	000T00:17:14	2009-110T22:38:00	0	0	Prime
SP_109EA_DLTRN110_PRIME	MILESTONE	2009-110T22:38:00		000T00:40:00	2009-110T23:18:00	0	0	Prime
SP_109EA_G70METNON110_PRIME	DOWNLINK P	2009-110T23:18:00		000T09:00:00	2009-111T08:18:00	0	0	Prime
SP_109NA_G70METNON110_SP	DSN_PASS	2009-110T23:18:00		000T09:00:00	2009-111T08:18:00	0	0	Non-SPASS
UVIS_109SW_IPHSURVEY004_RIDER	UVIS_5032	2009-110T23:18:00		000T09:00:00	2009-111T08:18:00	152.5	4.94	Non-SPASS
ENGR_109SC_SAFETABLE045_AACS	MILESTONE	2009-110T23:48:00		000T00:01:00	2009-110T23:49:00	0	0	Non-SPASS
CAPS_109IC_ELSCAL001_PRIME	CAPS_16000	2009-111T00:00:00		000T00:34:00	2009-111T00:34:00	15000	30.6	Non-SPASS
CIRS_109IC_DSCAL09111_SP	CIRS_4000	2009-111T00:18:00		000T08:00:00	2009-111T08:18:00	3000	86.4	SPASS Rider
RPWS_109OT_MAGTAL006_CAPS	RPWS_30464	2009-111T01:00:00		000T06:00:00	2009-111T07:00:00	30464	658.022	Non-SPASS
SP_109NA_C70METNON111_SP	DSN_PASS	2009-111T07:58:00		000T02:20:00	2009-111T10:18:00	0	0	Non-SPASS
ENGR_109NA_DUALPB110_SP	ENGR_1638	2009-111T08:18:00		000T00:00:01	2009-111T08:18:01	4E+08	390.59	SPASS Note
SP_109EA_C70METNON111_PRIME	DOWNLINK P	2009-111T08:18:00		000T02:00:00	2009-111T10:18:00	0	0	Prime
UVIS_109SW_IPHSURVEY005_RIDER	UVIS_5032	2009-111T08:18:00		000T02:00:00	2009-111T10:18:00	152.5	1.098	Non-SPASS
CIRS_109IC_DSCAL09511_SP	CIRS_4000	2009-111T09:18:00		000T01:00:00	2009-111T10:18:00	4000	14.4	SPASS Rider



T53 Liens and Open Issues

- There is a telemetry mode change during an ISS observation for RADAR warm-up. ISS is ok with this.
- CIRS is using PIC as a secondary during a custom period. CIMS fields don't give CIRS the freedom to state their pointing well enough so they are using PIC. They have specified in exact pointing in the agreement field. Trina and Brian both said this was ok and has been done before.