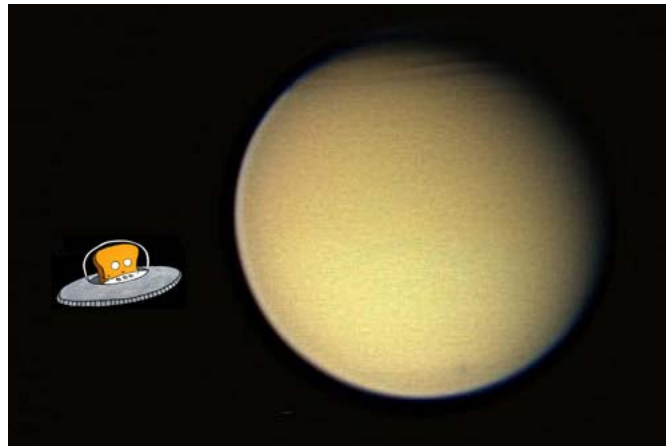


# TOST: Integration 119TI (T62) Wrap-Up



February 12, 2009

Kim Steadman, Trina Ray, Jo Pitesky, Nora Kelly



# Segment Basics

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Segment times:

BEG: 2009-284T13:49:00

END: 2009-286T13:49:00

Altitude: 1300 km

Time of C/A: 2009-285T08:36:24

Epoch: GMB\_E119\_Titan62



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

## Kickoff Meeting

### Present

Master Timeline

### Discuss

Timeline  
Op Modes  
Telem Modes  
Deadbands for RCS

### Homework

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

## Detailed Meeting

### Present

Master Timeline  
SMT Report  
Timeline Graphic  
TOL  
SPASS  
DSN Reports  
High Value Science

### 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



# T62 High-level Science Objectives

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- UVIS – Solar occultations by Titan are the most valuable Titan observations for UVIS because they provide detailed vertical profiles of nitrogen (in the EUV channel during solar occultation) and hydrocarbons, HCN, and aerosols (in the FUV channel during stellar occultations). The experiment is self-calibrating (the information comes from a ratio of signal during occultation to signal of the unocculted sun or star just before or after occultation). These profiles probe altitudes between 300 km and 2400 km which fill the gap between CIRS and INMS measurements. Much of the chemistry and aerosol formation occurs in this vertical region. Observations taken over the course of the mission will collectively provide coverage at many latitudes and local times and these will be used to study meridional and local time gradients in the upper atmosphere. Knowledge of these gradients is important for understanding the meridional circulation and other dynamical and chemical processes. (doy 285)
- CIRS – Temperature, aerosols and composition near 75S. (doy 284 and 285)
- ISS – ISS will acquire a full-disk mosaic of western Senkyo at low phase angles (doy 284) and ride along with VIMS (doy 285 and 286) to monitor clouds.
- VIMS – VIMS will observe the formation, evolution, and decay of clouds, particularly mid-latitude and equatorial clouds. In ridealong mode, a solar occultation will provide information on the vertical structure and composition of Titan's atmosphere and haze layer. VIMS will also obtain a global map of the western region of Senkyo. (doy 285 and 286)
- MAG - T62 is a south polar, post-dusk flyby, with a minimum altitude of 1000 km. MAG measurements will provide a description of the draping and the pileup of the external magnetic field around Titan near the terminator. It will be also a good complement to T52-T61 in order to characterize the background field for a similar local time with respect to Saturn and different SKR longitudes. (doy 284 – 286)
- MIMI - Energetic ion and electron energy input to atmosphere; ENA (some sun obscuration) (doy 284 – 286)
- RPWS – Measure thermal plasmas in Titan's ionosphere and surrounding environment; search for lightning in Titan's atmosphere; investigate the interaction of Titan with Saturn's magnetosphere. (doy 284 – 286)
- INMS - T62 is a UVIS Occ pass where the pointing not likely to be favorable for INMS. However it is the only low altitude in nose side magnetospheric interaction pass in the extended mission. (doy 284 – 286)



# Master Timeline for T62

<b>T62</b>	<b>1300</b>
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Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2009-284T13:49:00	2009-284T14:29:00	SP Turn to WP	Neg_Z to Earth, Neg_Y to Titan	DFPW Normal	S_N_ER_3	
2009-284T14:29:00	C/A - 17:51:04	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
C/A - 17:51:04	C/A - 17:21:04	ISS	Template M3	DFPW Normal	S_N_ER_3	
C/A - 17:21:04	-13:00	CIRS	Template M3	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	
begin custom period						
-09:00	-02:09	UVIS	Template X	DFPW Normal	S_N_ER_3	
-02:09	-01:47	RWA to RCS Transition		ORSRCS	S_N_ER_3	
-01:47	-00:51	UVIS Solar Occ Ingress	Near Equator	ORSRCS	S_N_ER_3	
-00:51	-00:48	Turn to CIRS attitude		ORSRCS	S_N_ER_3	CIRS has this time in CIMS.
-00:48	-00:22	CIRS	Slow limb scan or limb int;	ORSRCS	S_N_ER_3	
-00:22	-00:18	Turn to UVIS attitude		ORSRCS	S_N_ER_3	CIRS has this time in CIMS.
-00:18	0	UVIS Solar Occ Egress	Southern Latitudes	ORSRCS	S_N_ER_3	Occ times correct? UTC from Ref Trajectory: 2009 OCT 12 07:38:46.39 2009 OCT 12 08:19:39.83
2009-285T08:35:04						
0	+00:25	UVIS Solar Occ Egress	Time to stay on Sun point being looked at	ORSRCS	S_N_ER_3	
+00:25	+00:35 (check)	Turn to CIRS attitude	Neg_Y to Titan, Neg_Z to NTP (or 2nd to minimize turn times) Less turn time goes to CIRS	ORSRCS	S_N_ER_3	
+00:35 (check)	+02:15	CIRS		ORSRCS	S_N_ER_3	
end custom period						
+02:15	+02:39	RCS to RWA		DFPW Normal	S_N_ER_3	
+02:39	+05:00	UVIS	Template X	DFPW Normal	S_N_ER_3	
+05:00	+09:00	UVIS	Template X	DFPW Normal	S_N_ER_3	
+09:00	+12:00	CIRS	Template D2	DFPW Normal	S_N_ER_3	
+12:00	+14:00	ISS	Template D2	DFPW Normal	S_N_ER_3	
+14:00	C/A + 19	VIMS	Template B	DFPW Normal	S_N_ER_3	
C/A + 19	2009-286T04:09:00	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
2009-286T04:09:00	2009-286T04:49:00	SP Turn to Earth for downlink			S_N_ER_3	
2009-286T04:49:00	2009-286T13:49:00	70-m Array			RTE_N_SPB	

Deadband: 0.5, 0.5, 0.5

Dual playback: No Dual Playback for this Segment



# T62 Telemetry Mode Report

## TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2009-284T13:49:00.000	001T15:00:00	S_N_ER_3	SP_119NA_M70OBSNON286_NA
	2009-286T04:49:00.000	01:15:00	RTE_N_SPB_82950	SP_119EA_M70METNON286_PRIME
	2009-286T06:04:00.000	01:15:00	RTE_N_SPB_110600	SP_119EA_M70METNON286_PRIME
	2009-286T07:19:00.000	03:45:00	RTE_N_SPB_124425	SP_119EA_M70METNON286_PRIME
	2009-286T11:04:00.000	01:30:00	RTE_N_SPB_110600	SP_119EA_M70METNON286_PRIME
	2009-286T12:34:00.000	01:15:00	RTE_N_SPB_82950	SP_119EA_M70METNON286_PRIME

# T62 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)	MARGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	CAROVR (%)	
SP_119EA_M70METNON286_PRIME	286 04:49	286 13:49	0	2500	193	2693	3516	822	0	442	53	3188	2961	-228	0	0%	227

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	284 13:49	286 04:49	273.3	73.6	285.4	17.4	415.0	99.3	129.6	0.0	417.3	432.4	328.0	0.0	60.5	2531.8
OBSERVATION_SI	284 13:49	286 04:49	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0
SP_119EA_M70METNON286_PRIME	286 04:49	286 13:49	129.6	116.9	86.4	1.6	0.0	32.0	29.2	0.0	42.1	0.0	0.0	0.0	0.0	437.8
DAILY TOTAL SCIENCE	284 13:49	286 13:49	402.9	190.5	377.8	19.1	415.0	131.3	158.8	0.0	459.5	432.4	328.0	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)	402.9	190.5	377.8	19.1	415.0	131.3	158.8	0.0	459.5	432.4	328.0	0.0

# T62 DSN Report



CASSINI DOWNLINK/DSN COVERAGE SUMMARY for 119TI\_T62\_081112.apf on 2008-Nov-12 10:19:33  
(+ = 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
M70METNON286	286T04:49-13:49	286T06:15-15:15	09:00	82,110,124,110,82	63	286T04:49-13:49	286T06:14-15:14	09:00	60 /15	TP	N003

No overlap with maintenance.



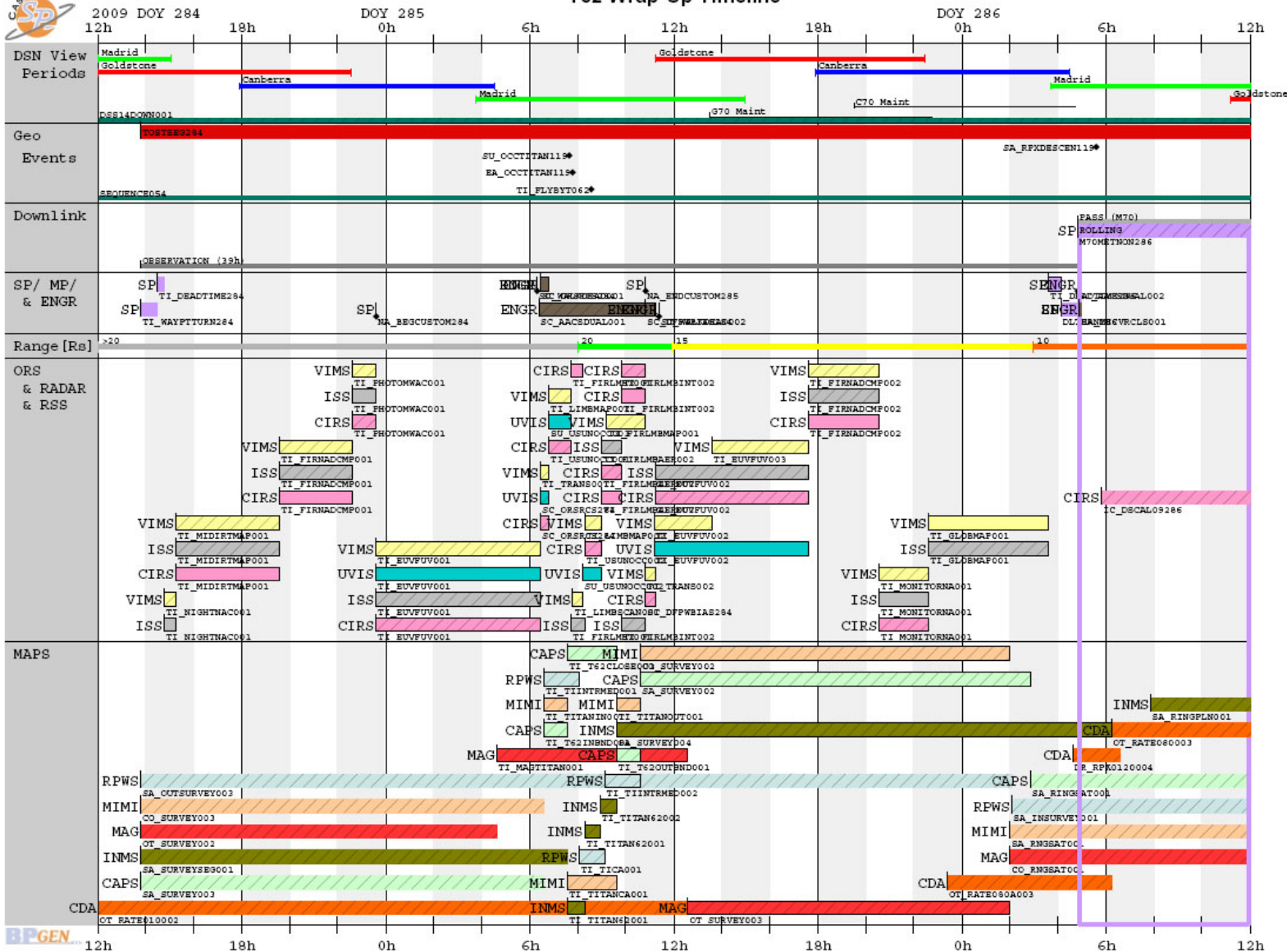
# T62 SPASS



Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S54, length = 40 days		2009-278T04:03:00		039T15:18:00	2009-317T19:21:00			
Titan Flyby T62 Segment		2009-284T13:49:00		002T00:00:00	2009-286T13:49:00			
SP_119TI_WAYPTTURN284_PRIME		2009-284T13:49:00		000T00:40:00	2009-284T14:29:00	NEG_Z to Earth	NEG_Y to Titan	
<b>NEW WAYPOINT</b>		<b>2009-284T14:29:00</b>		<b>001T23:20:00</b>	<b>2009-286T13:49:00</b>	<b>NEG_Z to Earth</b>	<b>NEG_Y to Titan</b>	
<b>SP_119TI_DEADTIME284_PRIME</b>		<b>2009-284T14:29:00</b>		<b>000T00:16:21</b>	<b>2009-284T14:45:21</b>	<b>NEG_Z to Earth</b>	<b>NEG_Y to Titan</b>	
ISS_119TI_NIGHTNAC001_PRIME	V	2009-284T14:45:21	GMB_E119_Titan62-000T17:51:04	000T00:30:00	2009-284T15:15:21	ISS_NAC to Titan (0.0,0.0,1.5 deg.	NEG_X to Sun	
CIRS_119TI_MIDIRTMAP001_PRIME	I, V	2009-284T15:15:21	GMB_E119_Titan62-000T17:21:04	000T04:21:04	2009-284T19:36:25	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_119TI_FIRNADCMP001_PRIME	I, V	2009-284T19:36:25	GMB_E119_Titan62-000T13:00:00	000T03:00:00	2009-284T22:36:25	CIRS_FP1 to Titan	PIC	
ISS_119TI_PHOTOMWAC001_PRIME	C, V	2009-284T22:36:25	GMB_E119_Titan62-000T10:00:00	000T01:00:00	2009-284T23:36:25	ISS_NAC to Titan (0.0,0.0,1.5 deg.	NEG_X to Sun	
<b>Begin Custom Period</b>		<b>2009-284T23:36:25</b>	<b>GMB_E119_Titan62-000T09:00:00</b>	<b>000T00:00:01</b>	<b>2009-284T23:36:26</b>	<b>NEG_Z to Earth</b>	<b>NEG_Y to Titan</b>	
UVIS_119TI_EUVFUV001_PRIME	C, I, V	2009-284T23:36:25	GMB_E119_Titan62-000T09:00:00	000T06:51:00	2009-285T06:27:25	UVIS_FUV to Titan	NEG_X to Sun	Pick up at NEG_Z to Earth, NEG_Y to Titan; Hand off at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 349.88/-0.2.
ENGR_119SC_ORSRCS284_PPS	C, M, U, V	2009-285T06:27:25	GMB_E119_Titan62-000T02:09:00	000T00:20:51	2009-285T06:48:16			Pick up at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 349.88/-0.2; Hand off at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 349.88/-0.2. (0.5,0.5,0.5)
UVIS_119SU_USUNOCC001_PRIME	C, M, V	2009-285T06:48:16	GMB_E119_Titan62-000T01:48:09	000T00:57:09	2009-285T07:45:25	ISS_NAC to Sun (-20.0,0.0,-0.11 de	NEG_X to 349.88/-0.2	Pick up at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 349.88/-0.2; Hand off at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 349.8/-0.2.
CIRS_119TI_FIRLMBT001_PRIME	I, M, V	2009-285T07:45:25	GMB_E119_Titan62-000T00:51:00	000T00:30:00	2009-285T08:15:25	CIRS_FP1 to Titan	PIC	Pick up at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 349.8/-0.2; Hand off at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 1.8/17.45. Pick up at -Y to Titan, -X to Sun, -8 deg about Y.
UVIS_119SU_USUNOCC002_PRIME	C, I, M, V	2009-285T08:15:25	GMB_E119_Titan62-000T00:21:00	000T00:46:00	2009-285T09:01:25	ISS_NAC to Sun (-20.0,0.0,-0.11 de	NEG_X to 1.8/17.45	Pick up at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 1.8/17.45; Hand off at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 1.8/17.45.
119TI (t) T62 TITAN Inbou...		2009-285T08:36:24		000T00:00:01	2009-285T08:36:25			
CIRS_119TI_FIRLMBASER002_PRIME	C, I, M, V	2009-285T09:01:25	GMB_E119_Titan62+000T00:25:00	000T00:50:00	2009-285T09:51:25	CIRS_FP1 to Titan	PIC	Pick up at ISS_NAC to Sun (-20.0,0.0,-0.11 deg. offset), NEG_X to 1.8/17.45; Hand off at CIRS_FP1 to Titan, PIC.
CIRS_119TI_FIRLMBINT002_PRIME	C, I, M, V	2009-285T09:51:25	GMB_E119_Titan62+000T01:15:00	000T01:00:00	2009-285T10:51:25	CIRS_FP1 to Titan	PIC	Pick up at CIRS_FP1 to Titan, PIC; Hand off at NEG_Z to Earth, NEG_Y to Titan.
<b>End Custom Period</b>		<b>2009-285T10:51:25</b>	<b>GMB_E119_Titan62+000T02:15:00</b>	<b>000T00:00:01</b>	<b>2009-285T10:51:26</b>	<b>NEG_Z to Earth</b>	<b>NEG_Y to Titan</b>	
ENGR_119SC_DFPWBAS284_PPS	C, V	2009-285T10:51:25	GMB_E119_Titan62+000T02:15:00	000T00:21:05	2009-285T11:12:30			(2,2,2) default
UVIS_119TI_EUVFUV002_PRIME	C, I, V	2009-285T11:12:30	GMB_E119_Titan62+000T02:36:05	000T06:23:55	2009-285T17:36:25	UVIS_FUV to Titan	NEG_X to Sun	
CIRS_119TI_FIRNADCMP002_PRIME	I, V	2009-285T17:36:25	GMB_E119_Titan62+000T09:00:00	000T03:00:00	2009-285T20:36:25	CIRS_FP1 to Titan	PIC	
ISS_119TI_MONITORNA001_PRIME	C, V	2009-285T20:36:25	GMB_E119_Titan62+000T12:00:00	000T02:00:00	2009-285T22:36:25	ISS_NAC to Titan (0.0,0.0,1.5 deg.	NEG_X to Sun	
VIMS_119TI_GLOBMAP001_PRIME	I, M	2009-285T22:36:25	GMB_E119_Titan62+000T14:00:00	000T05:00:00	2009-286T03:36:25	VIMS_IR to Titan	NEG_X to Sun	
<b>SP_119TI_DEADTIME286_PRIME</b>	<b>M</b>	<b>2009-286T03:36:25</b>	<b>GMB_E119_Titan62+000T19:00:00</b>	<b>000T00:32:35</b>	<b>2009-286T04:09:00</b>	<b>NEG_Z to Earth</b>	<b>NEG_Y to Titan</b>	
SP_119EA_DLTURN286_PRIME	M	2009-286T04:09:00		000T00:40:00	2009-286T04:49:00	XBAND to Earth	POS_X to NEP	
SP_119EA_M70METNON286_PRIME	C, E, M	2009-286T04:49:00		000T09:00:00	2009-286T13:49:00	XBAND to Earth	Rolling	POS_X to NEP



# T62 Wrap-Up Timeline



printed on 2/12/2009

# T62 TOL page 1



Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MP_119NA_DSS14DOWN001_NA	MILESTONE	2009-275T22:33:19		212T00:12:49	2010-122T22:46:08	0	0	Non-SPASS		
CDA_119OT_RATE010002_RIDER	CDA_524	2009-278T04:03:00		007T19:18:58	2009-285T23:21:58	524	353.353	Non-SPASS		
MP_119NA_SEQUENCE054_NA	MILESTONE	2009-278T04:03:00		039T15:18:00	2009-317T19:21:00	0	0	SPASS Note		
CAPS_119SA_SURVEY003_PRIME	CAPS_16000	2009-284T13:49:00		000T16:47:25	2009-285T06:36:25	700	42.312	Non-SPASS		
INMS_119SA_SURVEYSEG001_INMS	INMS_1498	2009-284T13:49:00		000T17:47:25	2009-285T07:36:25	50	3.202	Non-SPASS		
MAG_119OT_SURVEY002_PRIME	MAG_1976	2009-284T13:49:00		000T14:47:25	2009-285T04:36:25	600	31.947	Non-SPASS		
MIMI_119CO_SURVEY003_RIDER	MIMI_8000	2009-284T13:49:00		000T16:47:25	2009-285T06:36:25	900	54.401	Non-SPASS		
RPWS_119SA_OUTSURVEY003_PRIME	RPWS_30464	2009-284T13:49:00		001T12:14:00	2009-286T02:03:00	1310	170.878	Non-SPASS		
SP_119NA_M70OBSNON286_NA	OBSERVATION	2009-284T13:49:00		001T15:00:00	2009-286T04:49:00	0	0	Non-SPASS		
SP_119NA_TOSTSEG284_NA	MILESTONE	2009-284T13:49:00		002T00:00:00	2009-286T13:49:00	0	0	SPASS Note		
SP_119TI_WAYPTTURN284_PRIME	MILESTONE	2009-284T13:49:00		000T00:40:00	2009-284T14:29:00	0	0	New Waypoint	NEG_Z to Earth	NEG_Y to Titan
SP_119TI_DEADTIME284_PRIME	MILESTONE	2009-284T14:29:00		000T00:16:21	2009-284T14:45:21	0	0	Prime	NEG_Z to Earth	NEG_Y to Titan
ISS_119TI_NIGHTNAC001_PRIME	ISS_Phot_1 by	2009-284T14:45:21	GMB_E119_Titan62-000T17:51:04	000T00:30:00	2009-284T15:15:21	0	50	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_119TI_NIGHTNAC001_ISS	VIMS_18432	2009-284T14:45:21	GMB_E119_Titan62-000T17:51:04	000T00:30:00	2009-284T15:15:21	5555.6	10	SPASS Rider		
CIRS_119TI_MIDIRTMAP001_PRIME	CIRS_4000	2009-284T15:15:21	GMB_E119_Titan62-000T17:21:04	000T04:21:04	2009-284T19:36:25	2000	31.328	Prime	CIRS_FP to Titan	POS_X to North_Pole Dir
ISS_119TI_MIDIRTMAP001_CIRS	ISS_Phot_1 by	2009-284T15:15:21	GMB_E119_Titan62-000T17:21:04	000T04:21:04	2009-284T19:36:25	0	5	SPASS Rider		
VIMS_119TI_MIDIRTMAP001_CIRS	VIMS_18432	2009-284T15:15:21	GMB_E119_Titan62-000T17:21:04	000T04:21:04	2009-284T19:36:25	957.6	15	SPASS Rider		
CIRS_119TI_FIRNADCMP001_PRIME	CIRS_4000	2009-284T19:36:25	GMB_E119_Titan62-000T13:00:00	000T03:00:00	2009-284T22:36:25	4000	43.2	Prime	CIRS_FP1 to Titan	PIC
ISS_119TI_FIRNADCMP001_CIRS	ISS_Phot_1 by	2009-284T19:36:25	GMB_E119_Titan62-000T13:00:00	000T03:00:00	2009-284T22:36:25	0	5	SPASS Rider		
VIMS_119TI_FIRNADCMP001_CIRS	VIMS_18432	2009-284T19:36:25	GMB_E119_Titan62-000T13:00:00	000T03:00:00	2009-284T22:36:25	1388.9	15	SPASS Rider		
CIRS_119TI_PHOTOMWAC001_ISS	CIRS_4000	2009-284T22:36:25	GMB_E119_Titan62-000T10:00:00	000T01:00:00	2009-284T23:36:25	2000	7.2	SPASS Rider		
ISS_119TI_PHOTOMWAC001_PRIME	ISS_Phot_1 by	2009-284T22:36:25	GMB_E119_Titan62-000T10:00:00	000T01:00:00	2009-284T23:36:25	0	100	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_119TI_PHOTOMWAC001_ISS	VIMS_18432	2009-284T22:36:25	GMB_E119_Titan62-000T10:00:00	000T01:00:00	2009-284T23:36:25	4166.7	15	SPASS Rider		
CIRS_119TI_EUVFUV001_UVIS	CIRS_4000	2009-284T23:36:25	GMB_E119_Titan62-000T09:00:00	000T06:51:00	2009-285T06:27:25	2000	49.32	SPASS Rider		
ISS_119TI_EUVFUV001_UVIS	ISS_Phot_1 by	2009-284T23:36:25	GMB_E119_Titan62-000T09:00:00	000T06:51:00	2009-285T06:27:25	0	5	SPASS Rider		
SP_119NA_BEGCUSTOM284_NA	MILESTONE	2009-284T23:36:25	GMB_E119_Titan62-000T09:00:00	000T00:00:01	2009-284T23:36:26	0	0	SPASS Note		
UVIS_119TI_EUVFUV001_PRIME	UVIS_5032	2009-284T23:36:25	GMB_E119_Titan62-000T09:00:00	000T06:51:00	2009-285T06:27:25	5032	124.089	Prime	UVIS_FUV to Titan	NEG_X to Sun
VIMS_119TI_EUVFUV001_UVIS	VIMS_18432	2009-284T23:36:25	GMB_E119_Titan62-000T09:00:00	000T06:51:00	2009-285T06:27:25	608.3	15	SPASS Rider		
MAG_119TI_MAGTITAN001_PRIME	MAG_1976	2009-285T04:36:25	GMB_E119_Titan62-000T04:00:00	000T08:00:00	2009-285T12:36:25	988	28.454	Non-SPASS		
ENGR_119SC_WALKDEAD001_AACS	MILESTONE	2009-285T06:17:25	GMB_E119_Titan62-000T02:19:00	000T00:00:02	2009-285T06:17:27	0	0	Non-SPASS		
ENGR_119SC_AACSDUAL001_CDS	ENGR_1638	2009-285T06:24:25	GMB_E119_Titan62-000T02:12:00	000T04:51:00	2009-285T11:15:25	1638	28.599	Non-SPASS		
CIRS_119SC_ORSRCS284_ENGR	CIRS_4000	2009-285T06:27:25	GMB_E119_Titan62-000T02:09:00	000T00:20:51	2009-285T06:48:16	2000	2.502	SPASS Rider		
ENGR_119SC_ORSRCS284_PPS	OpMode	2009-285T06:27:25	GMB_E119_Titan62-000T02:09:00	000T00:20:51	2009-285T06:48:16	0	0	Prime		
UVIS_119SC_ORSRCS284_ENGR	UVIS_32096	2009-285T06:27:25	GMB_E119_Titan62-000T02:09:00	000T00:20:51	2009-285T06:48:16	0	0	SPASS Rider		
VIMS_119TI_TRANS001_ENGR	VIMS_18432	2009-285T06:27:25	GMB_E119_Titan62-000T02:09:00	000T00:22:00	2009-285T06:49:25	6818.2	9	SPASS Rider		
CAPS_119TI_T62INBDN001_PRIME	CAPS_16000	2009-285T06:36:25	GMB_E119_Titan62-000T02:00:00	000T01:00:00	2009-285T07:36:25	4000	14.4	SPASS Rider		
MIMI_119TI_TITANIN001_RIDER	MIMI_8000	2009-285T06:36:25	GMB_E119_Titan62-000T02:00:00	000T01:00:00	2009-285T07:36:25	900	3.24	SPASS Rider		
RPWS_119TI_TIINTRMED001_PRIME	RPWS_30464	2009-285T06:36:25	GMB_E119_Titan62-000T02:00:00	000T01:30:00	2009-285T08:06:25	1310	7.074	Non-SPASS		

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
CIRS_119TI_USUNOCC001_UVIS	CIRS_4000	2009-285T06:48:16	GMB E119 Titan62-000T01:48:09	000T00:57:09	2009-285T07:45:25	2000	6.858	SPASS Rider		
UVIS_119SU_USUNOCC001_PRIME	UVIS_32096	2009-285T06:48:16	GMB E119 Titan62-000T01:48:09	000T00:57:09	2009-285T07:45:25	32096	110.057	Prime	ISS_NAC to Sun	NEG_X to 349.88/-0.2
VIMS_119TI_LIMBMAP001_UVIS	VIMS_18432	2009-285T06:49:25	GMB E119 Titan62-000T01:47:00	000T00:56:00	2009-285T07:45:25	2976.2	10	SPASS Rider		
CAPS_119TI_T62CLOSE001_PRIME	CAPS_16000	2009-285T07:36:25	GMB E119 Titan62-000T01:00:00	000T02:00:00	2009-285T09:36:25	16000	115.2	SPASS Rider		
INMS_119TI_TITAN62001_INMS	INMS_1498	2009-285T07:36:25	GMB E119 Titan62-000T01:00:00	000T00:40:00	2009-285T08:16:25	1498	3.595	Non-SPASS		
MIMI_119TI_TITANCA001_RIDER	MIMI_8000	2009-285T07:36:25	GMB E119 Titan62-000T01:00:00	000T02:00:00	2009-285T09:36:25	1200	8.64	SPASS Rider		
MP_119SU_OCCTITAN119_NA	MILESTONE	2009-285T07:38:51		000T00:00:01	2009-285T07:38:52	0	0	Non-SPASS		
CIRS_119TI_FIRLMBT001_PRIME	CIRS_4000	2009-285T07:45:25	GMB E119 Titan62-000T00:51:00	000T00:30:00	2009-285T08:15:25	4000	7.2	Prime	CIRS_FP1 to Titan	PIC
ISS_119TI_FIRLMBT001_CIRS	ISS Phot 1 by	2009-285T07:45:25	GMB E119 Titan62-000T00:51:00	000T00:33:00	2009-285T08:18:25	0	5	SPASS Rider		
MP_119EA_OCCTITAN119_NA	MILESTONE	2009-285T07:46:02		000T00:00:01	2009-285T07:46:03	0	0	Non-SPASS		
VIMS_119TI_LIMBSCAN001_CIRS	VIMS_18432	2009-285T07:48:25	GMB E119 Titan62-000T00:48:00	000T00:26:00	2009-285T08:14:25	9615.4	15	SPASS Rider		
RPWS_119TI_TICA001_PRIME	RPWS_182784	2009-285T08:06:25	GMB E119 Titan62-000T00:30:00	000T01:00:00	2009-285T09:06:25	60935	219.365	Non-SPASS		
UVIS_119SU_USUNOCC002_PRIME	UVIS_32096	2009-285T08:15:25	GMB E119 Titan62-000T00:21:00	000T00:46:00	2009-285T09:01:25	29849	82.384	Prime	ISS_NAC to Sun	NEG_X to 1.8/17.45
INMS_119TI_TITAN62001_RIDER	INMS_1498	2009-285T08:16:25	GMB E119 Titan62-000T00:20:00	000T00:40:00	2009-285T08:56:25	1498	3.595	Non-SPASS		
CIRS_119TI_USUNOCC002_UVIS	CIRS_4000	2009-285T08:18:25	GMB E119 Titan62-000T00:18:00	000T00:43:00	2009-285T09:01:25	2000	5.16	SPASS Rider		
VIMS_119TI_LIMBMAP002_UVIS	VIMS_18432	2009-285T08:18:25	GMB E119 Titan62-000T00:18:00	000T00:43:00	2009-285T09:01:25	5814	15	SPASS Rider		
MP_119TI_FLYBYT062_NA	MILESTONE	2009-285T08:36:24		000T00:00:01	2009-285T08:36:25	0	0	SPASS Note		
INMS_119TI_TITAN62002_INMS	INMS_1498	2009-285T08:56:25	GMB E119 Titan62+000T00:20:00	000T00:40:00	2009-285T09:36:25	1498	3.595	Non-SPASS		
CIRS_119TI_FIRLMBEAER002_PRIME	CIRS_4000	2009-285T09:01:25	GMB E119 Titan62+000T00:25:00	000T00:50:00	2009-285T09:51:25	4000	12	Prime	CIRS_FP1 to Titan	PIC
CIRS_119TI_FIRLMBEAER002_SI	ISS SUPPORT	2009-285T09:01:25	GMB E119 Titan62+000T00:25:00	000T00:50:00	2009-285T09:51:25	0	3	SPASS Rider		
ISS_119TI_FIRLMBEAER002_CIRS	ISS Phot 1 by	2009-285T09:01:25	GMB E119 Titan62+000T00:25:00	000T00:50:00	2009-285T09:51:25	0	5	SPASS Rider		
RPWS_119TI_TIINTRMED002_PRIME	RPWS_30464	2009-285T09:06:25	GMB E119 Titan62+000T00:30:00	000T01:30:00	2009-285T10:36:25	1310	7.074	Non-SPASS		
VIMS_119TI_FIRLMBMAP001_CIRS	VIMS_18432	2009-285T09:11:25	GMB E119 Titan62+000T00:35:00	000T01:40:00	2009-285T10:51:25	8333.3	50	SPASS Rider		
CAPS_119TI_T62OUTBND001_PRIME	CAPS_16000	2009-285T09:36:25	GMB E119 Titan62+000T01:00:00	000T01:00:00	2009-285T10:36:25	4000	14.4	SPASS Rider		
INMS_119SA_SURVEY004_INMS	INMS_1498	2009-285T09:36:25	GMB E119 Titan62+000T01:00:00	000T22:14:46	2009-286T07:51:11	50	4.004	Non-SPASS		
MIMI_119TI_TITANOUT001_RIDER	MIMI_8000	2009-285T09:36:25	GMB E119 Titan62+000T01:00:00	000T01:00:00	2009-285T10:36:25	1200	4.32	SPASS Rider		
CIRS_119TI_FIRLMBINT002_PRIME	CIRS_4000	2009-285T09:51:25	GMB E119 Titan62+000T01:15:00	000T01:00:00	2009-285T10:51:25	4000	14.4	Prime	CIRS_FP1 to Titan	PIC
CIRS_119TI_FIRLMBINT002_SI	ISS SUPPORT	2009-285T09:51:25	GMB E119 Titan62+000T01:15:00	000T01:00:00	2009-285T10:51:25	0	3	SPASS Rider		
ISS_119TI_FIRLMBINT002_CIRS	ISS Phot 1 by	2009-285T09:51:25	GMB E119 Titan62+000T01:15:00	000T01:00:00	2009-285T10:51:25	0	5	SPASS Rider		
CAPS_119SA_SURVEY002_PRIME	CAPS_16000	2009-285T10:36:25	GMB E119 Titan62+000T02:00:00	000T16:13:35	2009-286T02:50:00	1000	58.415	Non-SPASS		
MIMI_119CO_SURVEY002_RIDER	MIMI_8000	2009-285T10:36:25	GMB E119 Titan62+000T02:00:00	000T15:25:35	2009-286T02:02:00	900	49.981	Non-SPASS		
CIRS_119SC_DFPWBIAS284_ENGR	CIRS_4000	2009-285T10:51:25	GMB E119 Titan62+000T02:15:00	000T00:24:00	2009-285T11:15:25	2000	2.88	SPASS Rider		
ENGR_119SC_DFPWBIAS284_PPS	OpMode	2009-285T10:51:25	GMB E119 Titan62+000T02:15:00	000T00:21:05	2009-285T11:12:30	0	0	Prime		
SP_119NA_ENDCUSTOM285_NA	MILESTONE	2009-285T10:51:25	GMB E119 Titan62+000T02:15:00	000T00:00:01	2009-285T10:51:26	0	0	SPASS Note		
VIMS_119TI_TRANS002_ENGR	VIMS_18432	2009-285T10:51:25	GMB E119 Titan62+000T02:15:00	000T00:24:00	2009-285T11:15:25	6250	9	SPASS Rider		
UVIS_119TI_EUVFUV002_PRIME	UVIS_5032	2009-285T11:12:30	GMB E119 Titan62+000T02:36:05	000T06:23:55	2009-285T17:36:25	5032	115.912	Prime	UVIS_FUV to Titan	NEG_X to Sun
VIMS_119TI_EUVFUV002_UVIS	VIMS_18432	2009-285T11:12:30	GMB E119 Titan62+000T02:36:05	000T02:23:54	2009-285T13:36:24	3474.6	30	SPASS Rider		
CIRS_119TI_EUVFUV002_UVIS	CIRS_4000	2009-285T11:15:25	GMB E119 Titan62+000T02:39:00	000T06:21:00	2009-285T17:36:25	2000	45.72	SPASS Rider		
ISS_119TI_EUVFUV002_UVIS	ISS Phot 1 by	2009-285T11:15:25	GMB E119 Titan62+000T02:39:00	000T06:21:00	2009-285T17:36:25	0	5	SPASS Rider		
ENGR_119SC_WALKDEAD002_AACS	MILESTONE	2009-285T11:22:30	GMB E119 Titan62+000T02:46:05	000T00:00:02	2009-285T11:22:32	0	0	Non-SPASS		

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing
MAG_119OT_SURVEY003_PRIME	MAG_1976	2009-285T12:36:25	GMB_E119_Titan62+000T04:00:00	000T13:25:35	2009-286T02:02:00	600	29.001	Non-SPASS	
VIMS_119TI_EUVFUV003_UVIS	VIMS_18432	2009-285T13:36:25	GMB_E119_Titan62+000T05:00:00	000T04:00:00	2009-285T17:36:25	2083.3	30	SPASS Rider	
CIRS_119TI_FIRNADCMP002_PRIME	CIRS_4000	2009-285T17:36:25	GMB_E119_Titan62+000T09:00:00	000T03:00:00	2009-285T20:36:25	4000	43.2	Prime	CIRS_FP1 to Titan
ISS_119TI_FIRNADCMP002_CIRS	ISS_Phot_1_by	2009-285T17:36:25	GMB_E119_Titan62+000T09:00:00	000T03:00:00	2009-285T20:36:25	0	5	SPASS Rider	
VIMS_119TI_FIRNADCMP002_CIRS	VIMS_18432	2009-285T17:36:25	GMB_E119_Titan62+000T09:00:00	000T03:00:00	2009-285T20:36:25	2777.8	30	SPASS Rider	
CIRS_119TI_MONITORNA001_ISS	CIRS_4000	2009-285T20:36:25	GMB_E119_Titan62+000T12:00:00	000T02:00:00	2009-285T22:36:25	2000	14.4	SPASS Rider	
ISS_119TI_MONITORNA001_PRIME	ISS_Phot_1_by	2009-285T20:36:25	GMB_E119_Titan62+000T12:00:00	000T02:00:00	2009-285T22:36:25	0	200	Prime	ISS_NAC to Titan
VIMS_119TI_MONITORNA001_ISS	VIMS_18432	2009-285T20:36:25	GMB_E119_Titan62+000T12:00:00	000T02:00:00	2009-285T22:36:25	2777.8	20	SPASS Rider	
ISS_119TI_GLOBMAP001_VIMS	ISS_Phot_1_by	2009-285T22:36:25	GMB_E119_Titan62+000T14:00:00	000T05:00:00	2009-286T03:36:25	0	25	SPASS Rider	
VIMS_119TI_GLOBMAP001_PRIME	VIMS_18432	2009-285T22:36:25	GMB_E119_Titan62+000T14:00:00	000T05:00:00	2009-286T03:36:25	2222.2	40	Prime	VIMS_IR to Titan
CDA_119OT_RATE080A003_RIDER	CDA_524	2009-285T23:21:58		000T06:53:02	2009-286T06:15:00	524	12.986	Non-SPASS	
MAG_119CO_RNGSAT001_MAPS	MAG_1976	2009-286T02:02:00		000T11:47:00	2009-286T13:49:00	988	41.911	Non-SPASS	
MIMI_119SA_RNGSAT001_RIDER	MIMI_8000	2009-286T02:02:00		000T11:47:00	2009-286T13:49:00	900	38.178	SPASS Rider	
RPWS_119SA_INSURVEY001_PRIME	RPWS_30464	2009-286T02:03:00		000T11:46:00	2009-286T13:49:00	1300	55.068	Non-SPASS	
CAPS_119SA_RINGSAT001_PRIME	CAPS_16000	2009-286T02:50:00		000T10:59:00	2009-286T13:49:00	4000	158.16	SPASS Rider	
SP_119TI_DEADTIME286_PRIME	MILESTONE	2009-286T03:36:25	GMB_E119_Titan62+000T19:00:00	000T00:32:35	2009-286T04:09:00	0	0	Prime	NEG_Z to Earth
SP_119EA_DLTURN286_PRIME	MILESTONE	2009-286T04:09:00		000T00:40:00	2009-286T04:49:00	0	0	Prime	XBAND to Earth
CDA_119DR_RPX0120004_PRIME	CDA_524	2009-286T04:36:58		000T02:00:00	2009-286T06:36:58	0	0	SPASS Rider	
ENGR_119SC_AACSDUAL002_CDS	MILESTONE	2009-286T04:48:47		000T00:00:02	2009-286T04:48:49	0	0	Non-SPASS	
SP_119EA_M70METNON286_PRIME	DOWNLINK_PA	2009-286T04:49:00		000T09:00:00	2009-286T13:49:00	0	0	Prime	XBAND to Earth
SP_119NA_M70METNON286_SP	DSN_PASS	2009-286T04:49:00		000T09:00:00	2009-286T13:49:00	0	0	Non-SPASS	
ENGR_119EA_MEVRCLS001_THERM	MILESTONE	2009-286T04:54:00		000T00:06:10	2009-286T05:00:10	0	0	SPASS Rider	
MP_119SA_RPXDESCEN119_NA	MILESTONE	2009-286T05:35:36		000T00:00:01	2009-286T05:35:37	0	0	Non-SPASS	
CIRS_119IC_DSCAL09286_SP	CIRS_4000	2009-286T05:49:00		000T08:00:00	2009-286T13:49:00	3000	86.4	SPASS Rider	
CDA_119OT_RATE080003_RIDER	CDA_524	2009-286T06:15:00		000T07:34:00	2009-286T13:49:00	4192	114.19	Non-SPASS	
INMS_119SA_RINGPLN001_RIDER	INMS_1498	2009-286T07:51:11		000T05:57:49	2009-286T13:49:00	50	1.073	Non-SPASS	



## T62 Notes for Sequence Lead

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- CIRS is using PIC as secondary pointing in a custom period.
  - This has been done before and is ok.
- The SMT report currently shows that TOST is handing over 227 Mb to the next segment.
  - Since this flyby was downlink limited and not SSR limited, TOST assumed a typical 92% data utilization for this flyby. This assumption means that 234 Mb of the TOST data allocation won't actually be used, therefore TOST won't be handing over any "real" data volume to the next segment.
- The tight deadband of (0.5, 0.5, 0.5) is needed for the UVIS occultation near C/A.