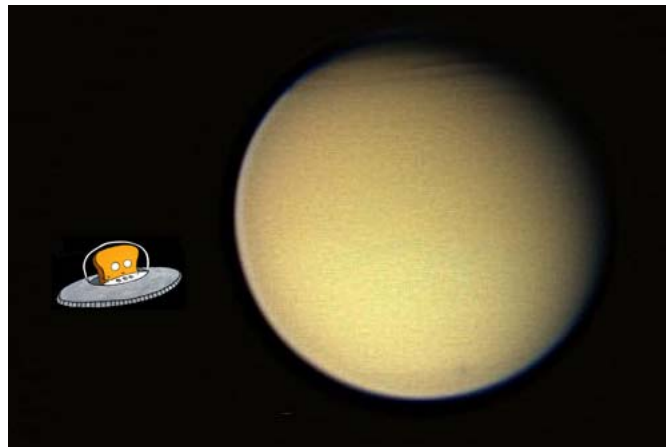




## TOST: Integration 115TI (T59) Wrap-Up



October 3, 2008

Kim Steadman, Trina Ray, Jo Pitesky, Nora Kelly



Segment times:

BEG: 2009-204T21:51:00

END: 2009-206T08:21:00

Altitude: 955 km

Time of C/A: 2009-205T15:34:04

Epoch: GMB\_E115\_Titan59



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



## T59 High-level Science Objectives

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- CAPS - T59 is one of three prime encounters for CAPS. These inbound observations of the region from 17 R\_T to closest approach allow CAPS to obtain ideal measurements of Titan's magnetospheric interaction. They cover the flank and south polar regions at night side of Saturn's magnetosphere
- INMS - INMS prime observation on the night side at high Southern latitudes. This is one of two high Southern latitude passes that will help fill in the latitude coverage of Titan's atmosphere.
- RADAR – Ridealong SAR on INMS. Runs parallel to T55-58 S hemisphere mapping sequence. Covers south polar terrain.
- VIMS – On the inbound, the phase angle is much larger than 90 degrees and VIMS prime observations will provide information on the composition of Titan's atmosphere. After C/A, VIMS will be riding along with CIRS and will observe the same area that has been observed at T58.
- CIRS – Far-infrared vertical scanning and integration near 60S.
- MAG - Description: T59 is a polar (south), post-dusk close flyby. MAG measurements will provide a description of the draping and the pileup of the external magnetic field around Titan on the nightside hemisphere/terminator. It will be also a good complement to T52, T53, T54, T55, T56, T57 and T58 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.



# Master Timeline for T59

<b>T59</b>	<b>955</b>
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Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2009-204T21:51:00	2009-204T22:31:00	SP Turn to WP	Neg_Y to Titan, Neg_X to Sun	DFPW Normal		
2009-204T22:31:00	C/A - 16:46:56	OD Uncertainty Dead Time				
C/A - 16:46:56	C/A - 16	ISS	Template M3	DFPW Normal	S_N_ER3	
C/A - 16	-13:00	CIRS	Template M3	DFPW Normal	S_N_ER3	
-13:00	-10:00	CIRS	Template N	DFPW Normal	S_N_ER3	
-10:00	-09:00	ISS	Template N	DFPW Normal	S_N_ER3	
-09:00	-05:00	CIRS	Template R	<a href="#">RADWU@ -05:15</a>	S_N_ER_5a for 15 min	
-05:00	-02:00	VIMS	Template Y	RADWU	S_N_ER3	
begin custom period						
-02:00	-00:47	CAPS		RADWU	S_N_ER3	Try to find secondary to minimize turn time, 2nd Neg-Y to Co-rotation RAM
-00:47	-00:46	RWA to RCS Transition		RADRCSS	S_N_ER3	Eng needs to be prime for 1 minute
-00:46	-00:19	CAPS		RADRCSS	S_N_ER3	
-00:19	0	INMS		RADRCSS	S_N_ER8	
2009-205T15:34:04		CLOSEST APPROACH	Neg_X to RAM, Neg_Z to Titan RADAR @ +/- 3 mins	RADRCSS	S_N_ER8	
0	+00:15	INMS		RADRCSS	S_N_ER8	
+00:15	+02:15	CIRS		ORSRCS	S_N_ER3	
end custom period						
+02:15	+02:39	RCS to RWA Transition		DFPW Normal	S_N_ER3	
+02:39	+05:00	CIRS	Template E	DFPW Normal	S_N_ER3	
+05:00	+07:00	CIRS	Template F	DFPW Normal	S_N_ER3	
+07:00	2009-205T22:41:00	OD Uncertainty Dead Time				
2009-205T22:41:00	2009-205T23:21:00	SP Turn to Earth for downlink		DFPW Normal	S_N_ER3	
2009-205T23:21:00	2009-206T08:21:00	Canberra 70M		DFPW Normal	RTE_N_SPB	

Deadband: 0.5, 2, 0.5

Dual playback: No Dual Playback for this Segment



# T59 Telemetry Mode Report

## TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2009-204T21:51:00.000	12:28:04	S_N_ER_3	SP_115NA_C70OBSNON204_NA
GMB_E115_Titan59-000T05:15:00	2009-205T10:19:04.000	00:15:00	S_N_ER_5A	SP_115NA_C70OBSNON204_NA
GMB_E115_Titan59-000T05:00:00	2009-205T10:34:04.000	04:41:00	S_N_ER_3	SP_115NA_C70OBSNON204_NA
GMB_E115_Titan59-000T00:19:00	2009-205T15:15:04.000	00:34:00	S_N_ER_8	SP_115NA_C70OBSNON204_NA
GMB_E115_Titan59+000T00:15:00	2009-205T15:49:04.000	07:31:56	S_N_ER_3	SP_115NA_C70OBSNON204_NA
	2009-205T23:21:00.000	01:15:00	RTE_N_SPB_82950	SP_115EA_C70METNON205_PRIME
	2009-206T00:36:00.000	01:15:00	RTE_N_SPB_110600	SP_115EA_C70METNON205_PRIME
	2009-206T01:51:00.000	03:45:00	RTE_N_SPB_124425	SP_115EA_C70METNON205_PRIME
	2009-206T05:36:00.000	02:00:00	RTE_N_SPB_99540	SP_115EA_C70METNON205_PRIME
	2009-206T07:36:00.000	00:45:00	RTE_N_SPB_66360	SP_115EA_C70METNON205_PRIME



# T59 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)	MGRN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	NET_MARGN (%)	CAROVR (Mb)
SP_115EA_C70METNON205_PRIME	205 23:21	206 08:21	0	2488	136	2624	3516	892	0	237	53	2914	2897	-17	0	0%	17

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	204 21:51	205 23:21	221.4	48.1	246.4	23.0	550.0	94.7	92.7	135.4	577.0	0.0	464.0	0.0	48.6	2501.2
OBSERVATION_SI	204 21:51	205 23:21	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0
SP_115EA_C70METNON205_PRIME	205 23:21	206 08:21	32.4	17.0	86.4	3.2	0.0	19.4	29.2	0.0	42.4	4.9	0.0	0.0	0.0	235.0
DAILY TOTAL SCIENCE	204 21:51	206 08:21	253.8	65.1	345.8	26.2	550.0	114.1	121.9	135.4	619.4	4.9	464.0	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)	253.8	65.1	345.8	26.2	550.0	114.1	121.9	135.4	619.4	4.9	464.0	0.0



# T59 DSN Report

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for 115TI\_T59\_080917.apf on 2008-Sep-17 11:23:54  
(+ = 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
C70METNON205	205T23:21-08:21	206T00:45-09:45	09:00	82,110,124,99,66	43	205T23:21-08:21	206T00:45-09:45	09:00	60 /15	TP	N003



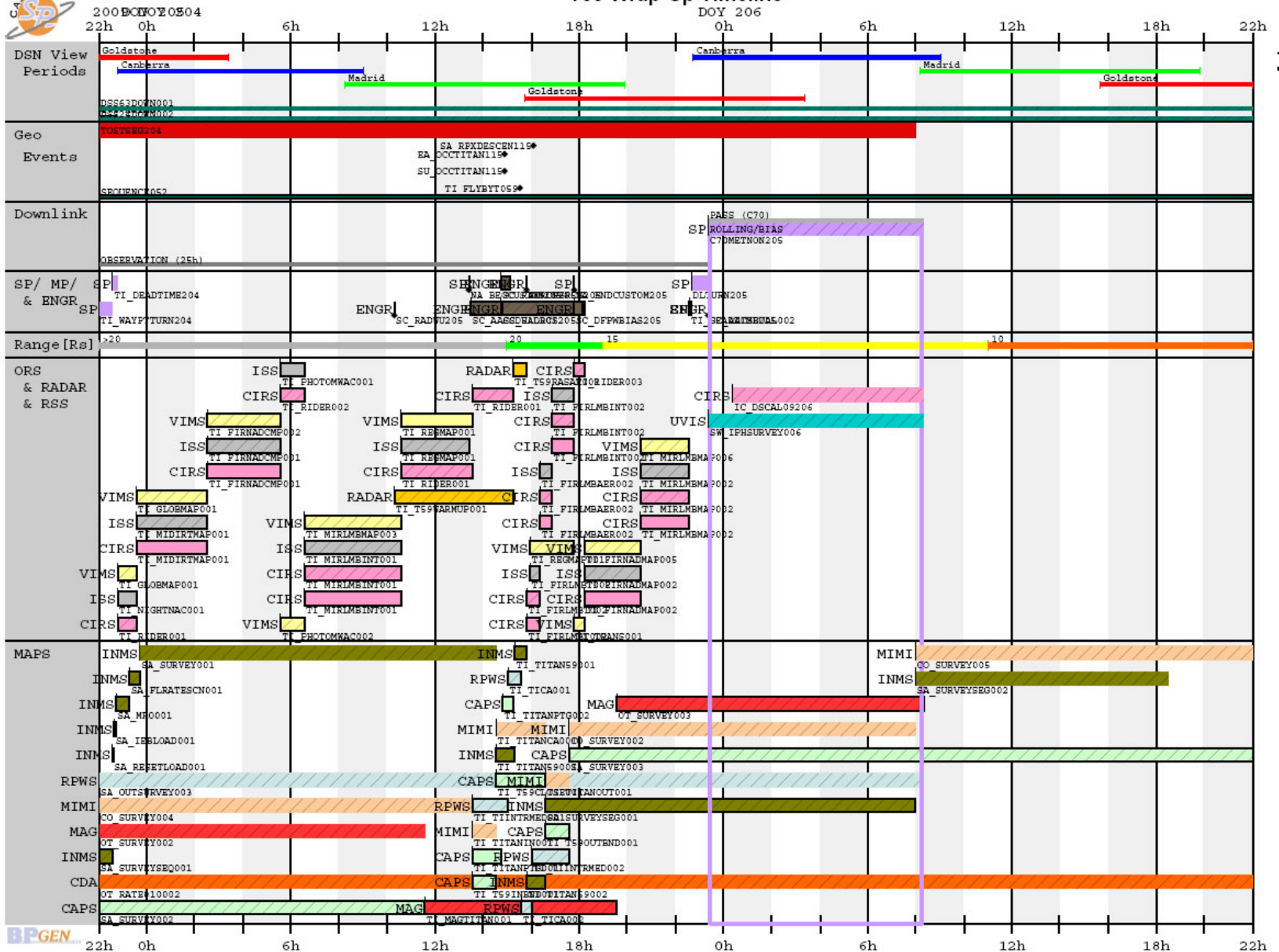
# T59 SPASS



Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S52, length = 32 days		2009-204T21:51:00	E115_SEQUENCE_052+000T00:00	032T02:13:00	2009-237T00:04:00			
Titan Flyby T59 Segment		2009-204T21:51:00		001T10:09:00	2009-206T08:00:00			
SP_115EA_S52IVP204_PRIME		2009-204T21:51:00		000T00:06:00	2009-204T21:57:00	XBAND to Earth	POS_X to NEP	S52 IVP Gap
SP_115TI_WAYPTTURN204_PRIME		2009-204T21:57:00		000T00:40:00	2009-204T22:37:00	NEG_Y to Titan	NEG_X to Sun	
<b>NEW WAYPOINT</b>		<b>2009-204T22:37:00</b>		<b>001T09:44:00</b>	<b>2009-206T08:21:00</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to Sun</b>	
<b>SP_115TI_DEADTIME204_PRIME</b>		<b>2009-204T22:37:00</b>		<b>000T00:10:08</b>	<b>2009-204T22:47:08</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to Sun</b>	
ISS_115TI_NIGHTNAC001_PRIME	C, V	2009-204T22:47:08	GMB_E115_Titan59-000T16:46:56	000T00:46:56	2009-204T23:34:04	ISS_NAC to Titan	NEG_X to Sun	
CIRS_115TI_MIDIRTMAP001_PRIME	I, V	2009-204T23:34:04	GMB_E115_Titan59-000T16:00:00	000T03:00:00	2009-205T02:34:04	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_115TI_FIRNADCMP001_PRIME	I, V	2009-205T02:34:04	GMB_E115_Titan59-000T13:00:00	000T03:00:00	2009-205T05:34:04	CIRS_FP1 to Titan	PIC	
ISS_115TI_PHOTOMWAC001_PRIME	C, V	2009-205T05:34:04	GMB_E115_Titan59-000T10:00:00	000T01:00:00	2009-205T06:34:04	ISS_NAC to Titan	NEG_X to Sun	
CIRS_115TI_MIRLMBINT001_PRIME	C, I, R, V	2009-205T06:34:04	GMB_E115_Titan59-000T09:00:00	000T04:00:00	2009-205T10:34:04	CIRS_FPB to Titan	PIC	
VIMS_115TI_REGMAP001_PRIME	C, I, R	2009-205T10:34:04	GMB_E115_Titan59-000T05:00:00	000T03:00:00	2009-205T13:34:04	VIMS_IR to Titan	NEG_X to Sun	
<b>Begin Custom Period</b>		<b>2009-205T13:24:04</b>	<b>GMB_E115_Titan59-000T02:10:00</b>	<b>000T00:00:01</b>	<b>2009-205T13:24:05</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to Sun</b>	
CAPS_115TI_TITANPTG001_PRIME	C, M, R	2009-205T13:34:04	GMB_E115_Titan59-000T02:00:00	000T01:13:00	2009-205T14:47:04	NEG_X to Titan_SC_RAM	POS_Y to COROT	Pick up at NEG_Y to Titan, NEG_X to Sun; Hand off at NEG_X to Titan_SC_RAM, POS_Y to COROT.
ENGR_115SC_RADRCS205_PRIME	C, M, R	2009-205T14:47:04	GMB_E115_Titan59-000T00:47:00	000T00:01:00	2009-205T14:48:04	NEG_X to Titan_SC_RAM	POS_Y to COROT	Pick up at NEG_X to Titan_SC_RAM, POS_Y to COROT; Hand off at NEG_X to Titan_SC_RAM, POS_Y to COROT.
CAPS_115TI_TITANPTG002_PRIME	C, M, R	2009-205T14:48:04	GMB_E115_Titan59-000T00:46:00	000T00:27:00	2009-205T15:15:04	NEG_X to Titan_SC_RAM	POS_Y to COROT	Pick up at NEG_X to Titan_SC_RAM, POS_Y to COROT; Hand off at NEG_X to Titan_SC_RAM, POS_Y to COROT.
RADAR_115TI_T59RASAR001_PRIME	M	2009-205T15:15:04	GMB_E115_Titan59-000T00:19:00	000T00:34:00	2009-205T15:49:04	NEG_X to Titan_SC_RAM	NEG_Z to Titan	Pick up at NEG_X to Titan_SC_RAM, POS_Y to COROT; Hand off at NEG_X to Titan_SC_RAM, NEG_Z to Titan. Ride-along at c/a.
115TI (t) T59 TITAN Inbou...		2009-205T15:34:03		000T00:00:01	2009-205T15:34:04			
CIRS_115TI_FIRLMBT002_PRIME	C, I, M, V	2009-205T15:49:04	GMB_E115_Titan59+000T00:15:00	000T00:35:00	2009-205T16:24:04	CIRS_FP1 to Titan	PIC	Pick up at NEG_X to Titan_SC_RAM, NEG_Z to Titan; Hand off at CIRS_FP1 to Titan, PIC.
CIRS_115TI_FIRLMBAE002_PRIME	C, I, M, V	2009-205T16:24:04	GMB_E115_Titan59+000T00:50:00	000T00:30:00	2009-205T16:54:04	CIRS_FP1 to Titan	PIC	Pick up at CIRS_FP1 to Titan, PIC; Hand off at CIRS_FP1 to Titan, PIC.
CIRS_115TI_FIRLMBINT002_PRIME	C, I, M, V	2009-205T16:54:04	GMB_E115_Titan59+000T01:20:00	000T00:55:00	2009-205T17:49:04	CIRS_FP1 to Titan	PIC	Pick up at CIRS_FP1 to Titan, PIC; Hand off at NEG_Y to Titan, NEG_X to Sun.
<b>End Custom Period</b>		<b>2009-205T17:49:04</b>	<b>GMB_E115_Titan59+000T02:15:00</b>	<b>000T00:00:01</b>	<b>2009-205T17:49:05</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to Sun</b>	
ENGR_115SC_DFPWBIAS205_PPS	C, V	2009-205T17:49:04	GMB_E115_Titan59+000T02:15:00	000T00:21:05	2009-205T18:10:09			
CIRS_115TI_FIRNADMAP002_PRIME	I, V	2009-205T18:10:09	GMB_E115_Titan59+000T02:36:05	000T02:23:55	2009-205T20:34:04	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_115TI_MIRLMBMAP002_PRIME	C, I, V	2009-205T20:34:04	GMB_E115_Titan59+000T05:00:00	000T02:00:00	2009-205T22:34:04	CIRS_FPB to Titan	PIC	
<b>SP_115TI_DEADTIME205_PRIME</b>		<b>2009-205T22:34:04</b>	<b>GMB_E115_Titan59+000T07:00:00</b>	<b>000T00:06:56</b>	<b>2009-205T22:41:00</b>	<b>NEG_Y to Titan</b>	<b>NEG_X to Sun</b>	
SP_115EA_DLTURN205_PRIME		2009-205T22:41:00		000T00:40:00	2009-205T23:21:00	XBAND to Earth	POS_X to NTP	
SP_115EA_C70METNON205_PRIME	C	2009-205T23:21:00		000T09:00:00	2009-206T08:21:00	XBAND to Earth	Rolling/Bias	POS_X to NEP



# T59 Wrap-Up Timeline



# T59 TOL page 1



Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MP_110NA_DSS63DOWN001_NA	MILESTONE	2009-123T22:46:27		090T23:47:40	2009-214T22:34:07	0	0	Non-SPASS		
MP_114NA_DSS24DOWN002_NA	MILESTONE	2009-186T22:38:00		076T23:53:59	2009-263T22:31:59	0	0	Non-SPASS		
CAPS_115SA_SURVEY002_PRIME	CAPS 16000	2009-204T21:51:00	E115_SEQUENCE_052+000T00:00:00	000T15:43:04	2009-205T13:34:04	1000	56.584	Non-SPASS		
CDA_1150T_RATE010002_RIDER	CDA 524	2009-204T21:51:00		002T19:24:59	2009-207T17:15:59	524	127.174	Non-SPASS		
INMS_115SA_SURVEYSEQ001_INMS	INMS 1498	2009-204T21:51:00	E115_SEQUENCE_052+000T00:00:00	000T00:43:00	2009-204T22:34:00	100	0.258	Non-SPASS		
MAG_1150T_SURVEY002_PRIME	MAG 1976	2009-204T21:51:00		000T13:43:04	2009-205T11:34:04	600	29.63	Non-SPASS		
MIMI_115CO_SURVEY004_RIDER	MIMI 8000	2009-204T21:51:00		000T15:43:04	2009-205T13:34:04	900	50.926	Non-SPASS		
MP_115NA_SEQUENCE052_NA	MILESTONE	2009-204T21:51:00	E115_SEQUENCE_052+000T00:00:00	032T02:13:00	2009-237T00:04:00	0	0	SPASS Note		
RPWS_115SA_OUTSURVEY003_PRIME	RPWS 30464	2009-204T21:51:00		001T10:30:00	2009-206T08:21:00	1310	162.704	Non-SPASS		
SP_115EA_S52IVP204_PRIME	MILESTONE	2009-204T21:51:00		000T00:06:00	2009-204T21:57:00	0	0	Prime	XBAND to Earth	POS_X to NEP
SP_115NA_C70OBSNON204_NA	OBSERVATION	2009-204T21:51:00		001T01:30:00	2009-205T23:21:00	0	0	Non-SPASS		
SP_115NA_TOSTSEG204_NA	MILESTONE	2009-204T21:51:00		001T10:09:00	2009-206T08:00:00	0	0	SPASS Note		
CIRS_1150T_SEQSETUP052_PRIME	CIRS 4000	2009-204T21:56:00	E115_SEQUENCE_052+000T00:05:00	000T00:02:00	2009-204T21:58:00	0	0	Non-SPASS		
SP_115TI_WAYPTTURN204_PRIME	MILESTONE	2009-204T21:57:00		000T00:40:00	2009-204T22:37:00	0	0	New Wayp	NEG_Y to Titan	NEG_X to Sun
INMS_115SA_RESETLOAD001_INMS	INMS 1498	2009-204T22:34:00	E115_SEQUENCE_052+000T00:43:00	000T00:07:00	2009-204T22:41:00	1	0	Non-SPASS		
SP_115TI_DEADTIME204_PRIME	MILESTONE	2009-204T22:37:00		000T00:10:08	2009-204T22:47:08	0	0	Prime	NEG_Y to Titan	NEG_X to Sun
INMS_115SA_IEBLOAD001_INMS	INMS 1498	2009-204T22:41:00	E115_SEQUENCE_052+000T00:50:00	000T00:05:00	2009-204T22:46:00	1	0	Non-SPASS		
INMS_115SA_MRO001_INMS	INMS 1498	2009-204T22:46:00	E115_SEQUENCE_052+000T00:55:00	000T00:33:00	2009-204T23:19:00	1044	2.067	Non-SPASS		
CIRS_115TI_RIDER001_ISS	CIRS 4000	2009-204T22:47:08	GMB E115 Titan59-000T16:46:56	000T00:46:56	2009-204T23:34:04	2000	5.632	SPASS Rider		
ISS_115TI_NIGHTNAC001_PRIME	ISS Phot 1 by	2009-204T22:47:08	GMB E115 Titan59-000T16:46:56	000T00:46:56	2009-204T23:34:04	0	75	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_115TI_GLOBMAP001_ISS	VIMS 18432	2009-204T22:47:08	GMB E115 Titan59-000T16:46:56	000T00:46:56	2009-204T23:34:04	3551.1	10	SPASS Rider		
INMS_115SA_FLRATESCN001_INMS	INMS 1498	2009-204T23:19:00	E115_SEQUENCE_052+000T01:28:00	000T00:22:59	2009-204T23:41:59	1498	2.066	Non-SPASS		
CIRS_115TI_MIDIRTMAP001_PRIME	CIRS 4000	2009-204T23:34:04	GMB E115 Titan59-000T16:00:00	000T03:00:00	2009-205T02:34:04	2000	21.6	Prime	CIRS_FP1 to Titan	POS_X to North Pole
ISS_115TI_MIDIRTMAP001_CIRS	ISS Phot 1 by	2009-204T23:34:04	GMB E115 Titan59-000T16:00:00	000T03:00:00	2009-205T02:34:04	0	25	SPASS Rider		
VIMS_115TI_GLOBMAP001_CIRS	VIMS 18432	2009-204T23:34:04	GMB E115 Titan59-000T16:00:00	000T03:00:00	2009-205T02:34:04	1851.9	20	SPASS Rider		
INMS_115SA_SURVEY001_INMS	INMS 1498	2009-204T23:41:59		000T14:52:05	2009-205T14:34:04	100	5.353	Non-SPASS		
CIRS_115TI_FIRNADCMP001_PRIME	CIRS 4000	2009-205T02:34:04	GMB E115 Titan59-000T13:00:00	000T03:00:00	2009-205T05:34:04	4000	43.2	Prime	CIRS_FP1 to Titan	PIC
ISS_115TI_FIRNADCMP001_CIRS	ISS Phot 1 by	2009-205T02:34:04	GMB E115 Titan59-000T13:00:00	000T03:00:00	2009-205T05:34:04	0	25	SPASS Rider		
VIMS_115TI_FIRNADCMP002_CIRS	VIMS 18432	2009-205T02:34:04	GMB E115 Titan59-000T13:00:00	000T03:00:00	2009-205T05:34:04	1851.9	20	SPASS Rider		
CIRS_115TI_RIDER002_ISS	CIRS 4000	2009-205T05:34:04	GMB E115 Titan59-000T10:00:00	000T01:00:00	2009-205T06:34:04	2000	7.2	SPASS Rider		
ISS_115TI_PHOTOMWAC001_PRIME	ISS Phot 1 by	2009-205T05:34:04	GMB E115 Titan59-000T10:00:00	000T01:00:00	2009-205T06:34:04	0	100	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_115TI_PHOTOMWAC002_ISS	VIMS 18432	2009-205T05:34:04	GMB E115 Titan59-000T10:00:00	000T01:00:00	2009-205T06:34:04	5555.6	20	SPASS Rider		
CIRS_115TI_MIRLMBINT001_PRIME	CIRS 4000	2009-205T06:34:04	GMB E115 Titan59-000T09:00:00	000T04:00:00	2009-205T10:34:04	4000	57.6	Prime	CIRS_FP1 to Titan	PIC
CIRS_115TI_MIRLMBINT001_SI	ISS SUPPORT	2009-205T06:34:04	GMB E115 Titan59-000T09:00:00	000T04:00:00	2009-205T10:34:04	0	4	SPASS Rider		
ISS_115TI_MIRLMBINT001_CIRS	ISS Phot 1 by	2009-205T06:34:04	GMB E115 Titan59-000T09:00:00	000T04:00:00	2009-205T10:34:04	0	50	SPASS Rider		
VIMS_115TI_MIRLMBMAP003_CIRS	VIMS 18432	2009-205T06:34:04	GMB E115 Titan59-000T09:00:00	000T04:00:00	2009-205T10:34:04	3472.2	50	SPASS Rider		
ENGR_115SC_RADWU205_PPS	OpMode	2009-205T10:19:04	GMB E115 Titan59-000T05:15:00	000T00:00:07	2009-205T10:19:11	0	0	Non-SPASS		
RADAR_115TI_T59WARMUP001_RIDER	RADAR 364800	2009-205T10:19:04	GMB E115 Titan59-000T05:15:00	000T04:56:00	2009-205T15:15:04	474.2	8.423	SPASS Rider		
CIRS_115TI_RIDER001_VIMS	CIRS 4000	2009-205T10:34:04	GMB E115 Titan59-000T05:00:00	000T03:00:00	2009-205T13:34:04	2000	21.6	SPASS Rider		
ISS_115TI_REGMAP001_VIMS	ISS Phot 1 by	2009-205T10:34:04	GMB E115 Titan59-000T05:00:00	000T02:50:00	2009-205T13:24:04	0	50	SPASS Rider		
VIMS_115TI_REGMAP001_PRIME	VIMS 18432	2009-205T10:34:04	GMB E115 Titan59-000T05:00:00	000T03:00:00	2009-205T13:34:04	5555.6	60	Prime	VIMS_IR to Titan	NEG_X to Sun
MAG_115TI_MAGTIMAN001_PRIME	MAG 1976	2009-205T11:34:04	GMB E115 Titan59-000T04:00:00	000T08:00:00	2009-205T19:34:04	1976	56.909	Non-SPASS		
SP_115NA_BEGCUSTOM205_NA	MILESTONE	2009-205T13:24:04	GMB E115 Titan59-000T02:10:00	000T00:00:01	2009-205T13:24:05	0	0	SPASS Note		
ENGR_115SC_AACS2UAL001_CDS	ENGR 1638	2009-205T13:31:04	GMB E115 Titan59-000T02:03:00	000T04:42:00	2009-205T18:13:04	1638	27.715	Non-SPASS		
CAPS_115TI_T59INBND001_PRIME	CAPS 16000	2009-205T13:34:04	GMB E115 Titan59-000T02:00:00	000T01:00:00	2009-205T14:34:04	4000	14.4	SPASS Rider		
CAPS_115TI_TITANPTG001_PRIME	CAPS 16000	2009-205T13:34:04	GMB E115 Titan59-000T02:00:00	000T01:13:00	2009-205T14:47:04	0	0	Prime	NEG_X to Titan	POS_Y to COROT
CIRS_115TI_RIDER001_CAPS	CIRS 4000	2009-205T13:34:04	GMB E115 Titan59-000T02:00:00	000T01:41:00	2009-205T15:15:04	2000	12.12	SPASS Rider		
MIMI_115TI_TITANIN001_RIDER	MIMI 8000	2009-205T13:34:04		000T01:00:00	2009-205T14:34:04	1200	4.32	SPASS Rider		
RPWS_115TI_TIIINTRMED001_PRIME	RPWS 30464	2009-205T13:34:04	GMB E115 Titan59-000T02:00:00	000T01:30:00	2009-205T15:04:04	30464	164.506	Non-SPASS		
CAPS_115TI_T59CLOSE001_PRIME	CAPS 16000	2009-205T14:34:04	GMB E115 Titan59-000T01:00:00	000T02:00:00	2009-205T16:34:04	16000	115.2	SPASS Rider		
INMS_115TI_TITAN59001_INMS	INMS 1498	2009-205T14:34:04	GMB E115 Titan59-000T01:00:00	000T00:45:00	2009-205T15:19:04	1498	4.045	Non-SPASS		

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MIMI 115TI TITANCA001 RIDER	MIMI 8000	2009-205T14:34:04		000T02:00:00	2009-205T16:34:04	2000	14.4	SPASS Rider		
ENGR 115SC RADRCS205 PPS	OpMode	2009-205T14:47:04	GMB E115 Titan59-000T00:47:00	000T00:20:50	2009-205T15:07:54	0	0	Non-SPASS		
ENGR 115SC RADRCS205 PRIME	MILESTONE	2009-205T14:47:04	GMB E115 Titan59-000T00:47:00	000T00:01:00	2009-205T14:48:04	0	0	Prime	NEG X to Titan S	POS Y to COROT
CAPS 115TI TITANPTG002 PRIME	CAPS 16000	2009-205T14:48:04	GMB E115 Titan59-000T00:46:00	000T00:27:00	2009-205T15:15:04	0	0	Prime	NEG X to Titan S	POS Y to COROT
MP 115EA OCCTITAN115 NA	MILESTONE	2009-205T14:52:28		000T00:00:01	2009-205T14:52:29	0	0	Non-SPASS		
MP 115SU OCCTITAN115 NA	MILESTONE	2009-205T14:56:08		000T00:00:01	2009-205T14:56:09	0	0	Non-SPASS		
RPWS 115TI TICA001 PRIME	RPWS 182784	2009-205T15:04:04	GMB E115 Titan59-000T00:30:00	000T00:34:00	2009-205T15:38:04	30464.1	62.147	Non-SPASS		
RADAR 115TI T59RASAR001 PRIME	RADAR 364800	2009-205T15:15:04	GMB E115 Titan59-000T00:19:00	000T00:34:00	2009-205T15:49:04	66174.7	134.996	Prime	NEG X to Titan S	NEG Z to Titan
INMS 115TI TITAN59001 PRIME	INMS 1498	2009-205T15:19:04	GMB E115 Titan59-000T00:15:00	000T00:30:00	2009-205T15:49:04	1498	2.696	SPASS Rider		
MP 115TI FLYBYT059 NA	MILESTONE	2009-205T15:34:03		000T00:00:01	2009-205T15:34:04	0	0	SPASS Note		
RPWS 115TI TICA002 PRIME	RPWS 182784	2009-205T15:38:04	GMB E115 Titan59+000T00:04:00	000T00:26:00	2009-205T16:04:04	60934.7	95.058	Non-SPASS		
ENGR 115SC ORSRC205 PPS	OpMode	2009-205T15:48:58	GMB E115 Titan59+000T00:14:54	000T00:00:06	2009-205T15:49:04	0	0	Non-SPASS		
CIRS 115TI FIRLMBT002 PRIME	CIRS 4000	2009-205T15:49:04	GMB E115 Titan59+000T00:15:00	000T00:35:00	2009-205T16:24:04	4000	8.4	Prime	CIRS_FP1 to Titan	PIC
CIRS 115TI FIRLMBT002 SI	ISS SUPPORT	2009-205T15:49:04	GMB E115 Titan59+000T00:15:00	000T00:35:00	2009-205T16:24:04	0	2	SPASS Rider		
INMS 115TI TITAN59002 INMS	INMS 1498	2009-205T15:49:04	GMB E115 Titan59+000T00:15:00	000T00:45:00	2009-205T16:34:04	1498	4.045	Non-SPASS		
ISS 115TI FIRLMBT002 CIRS	ISS Phot 1 by	2009-205T15:57:04	GMB E115 Titan59+000T00:23:00	000T00:27:00	2009-205T16:24:04	0	50	SPASS Rider		
VIMS 115TI REGMAP001 CIRS	VIMS 18432	2009-205T15:57:04	GMB E115 Titan59+000T00:23:00	000T01:52:00	2009-205T17:49:04	14136.9	95	SPASS Rider		
RPWS 115TI TIINTRMED002 PRIME	RPWS 30464	2009-205T16:04:04	GMB E115 Titan59+000T00:30:00	000T01:30:00	2009-205T17:34:04	24998.8	134.993	Non-SPASS		
MP 115SA RPXDESCEN115 NA	MILESTONE	2009-205T16:04:36		000T00:00:01	2009-205T16:04:37	0	0	Non-SPASS		
CIRS 115TI FIRLMBAR002 PRIME	CIRS 4000	2009-205T16:24:04	GMB E115 Titan59+000T00:50:00	000T00:30:00	2009-205T16:54:04	4000	7.2	Prime	CIRS_FP1 to Titan	PIC
CIRS 115TI FIRLMBAR002 SI	ISS SUPPORT	2009-205T16:24:04	GMB E115 Titan59+000T00:50:00	000T00:30:00	2009-205T16:54:04	0	2	SPASS Rider		
ISS 115TI FIRLMBAR002 CIRS	ISS Phot 1 by	2009-205T16:24:04	GMB E115 Titan59+000T00:50:00	000T00:30:00	2009-205T16:54:04	0	50	SPASS Rider		
CAPS 115TI T59OUTBND001 PRIME	CAPS 16000	2009-205T16:34:04	GMB E115 Titan59+000T01:00:00	000T01:00:00	2009-205T17:34:04	4000	14.4	SPASS Rider		
INMS 115SA SURVEYSEG001 INMS	INMS 1498	2009-205T16:34:04	GMB E115 Titan59+000T01:00:00	000T15:25:56	2009-206T08:00:00	100	5.556	Non-SPASS		
MIMI 115TI TITANOUT001 RIDER	MIMI 8000	2009-205T16:34:04		000T01:00:00	2009-205T17:34:04	1200	4.32	SPASS Rider		
CIRS 115TI FIRLMBINT002 PRIME	CIRS 4000	2009-205T16:54:04	GMB E115 Titan59+000T01:20:00	000T00:55:00	2009-205T17:49:04	4000	13.2	Prime	CIRS_FP1 to Titan	PIC
CIRS 115TI FIRLMBINT002 SI	ISS SUPPORT	2009-205T16:54:04	GMB E115 Titan59+000T01:20:00	000T00:55:00	2009-205T17:49:04	0	2	SPASS Rider		
ISS 115TI FIRLMBINT002 CIRS	ISS Phot 1 by	2009-205T16:54:04	GMB E115 Titan59+000T01:20:00	000T00:55:00	2009-205T17:49:04	0	50	SPASS Rider		
CAPS 115SA SURVEY003 PRIME	CAPS 16000	2009-205T17:34:04	GMB E115 Titan59+000T02:00:00	001T22:07:56	2009-207T15:42:00	1000	166.076	Non-SPASS		
MIMI 115CO SURVEY002 RIDER	MIMI 8000	2009-205T17:34:04		000T14:25:56	2009-206T08:00:00	900	46.76	Non-SPASS		
CIRS 115TI RIDER003 SP	CIRS 4000	2009-205T17:49:04	GMB E115 Titan59+000T02:15:00	000T00:21:05	2009-205T18:10:09	2000	2.53	SPASS Rider		
ENGR 115SC DFPWBIAS205 PPS	OpMode	2009-205T17:49:04	GMB E115 Titan59+000T02:15:00	000T00:21:05	2009-205T18:10:09	0	0	Prime		
SP 115NA ENDCUSTOM205 NA	MILESTONE	2009-205T17:49:04	GMB E115 Titan59+000T02:15:00	000T00:00:01	2009-205T17:49:05	0	0	SPASS Note		
VIMS 115TI TRANS001 ENGR	VIMS 18432	2009-205T17:49:04	GMB E115 Titan59+000T02:15:00	000T00:24:00	2009-205T18:13:04	6250	9	SPASS Rider		
CIRS 115TI FIRNADMAP002 PRIME	CIRS 4000	2009-205T18:10:09	GMB E115 Titan59+000T02:36:05	000T02:23:55	2009-205T20:34:04	2000	17.27	Prime	CIRS_FP1 to Titan	POS X to North_Pole
ISS 115TI FIRNADMAP002 CIRS	ISS Phot 1 by	2009-205T18:13:04	GMB E115 Titan59+000T02:39:00	000T02:21:00	2009-205T20:34:04	0	25	SPASS Rider		
VIMS 115TI FIRNADMAP005 CIRS	VIMS 18432	2009-205T18:13:04	GMB E115 Titan59+000T02:39:00	000T02:21:00	2009-205T20:34:04	13593.4	115	SPASS Rider		
MAG 115OT SURVEY003 PRIME	MAG 1976	2009-205T19:34:04	GMB E115 Titan59+000T04:00:00	000T12:46:56	2009-206T08:21:00	600	27.61	Non-SPASS		
CIRS 115TI MIRLMBMAP002 PRIME	CIRS 4000	2009-205T20:34:04	GMB E115 Titan59+000T05:00:00	000T02:00:00	2009-205T22:34:04	4000	28.8	Prime	CIRS_FPB to Titan	PIC
CIRS 115TI MIRLMBMAP002 SI	ISS SUPPORT	2009-205T20:34:04	GMB E115 Titan59+000T05:00:00	000T02:00:00	2009-205T22:34:04	0	3	SPASS Rider		
ISS 115TI MIRLMBMAP002 CIRS	ISS Phot 1 by	2009-205T20:34:04	GMB E115 Titan59+000T05:00:00	000T02:00:00	2009-205T22:34:04	0	50	SPASS Rider		
VIMS 115TI MIRLMBMAP006 CIRS	VIMS 18432	2009-205T20:34:04	GMB E115 Titan59+000T05:00:00	000T02:00:00	2009-205T22:34:04	9027.8	65	SPASS Rider		
SP 115TI DEADTIME205 PRIME	MILESTONE	2009-205T22:34:04	GMB E115 Titan59+000T07:00:00	000T00:06:56	2009-205T22:41:00	0	0	Prime	NEG Y to Titan	NEG X to Sun
SP 115EA DLTURN205 PRIME	MILESTONE	2009-205T22:41:00		000T00:40:00	2009-205T23:21:00	0	0	Prime	XBAND to Earth	POS X to NTP
ENGR 115SC AACSDUAL002 CDS	MILESTONE	2009-205T23:20:47		000T00:00:02	2009-205T23:20:49	0	0	Non-SPASS		
SP 115EA C70METNON205 PRIME	DOWNLINK PA	2009-205T23:21:00		000T09:00:00	2009-206T08:21:00	0	0	Prime	XBAND to Earth	Rolling/Bias
SP 115NA C70METNON205 SP	DSN PASS	2009-205T23:21:00		000T09:00:00	2009-206T08:21:00	0	0	Non-SPASS		
UVIS 115SW_IPHSURVEY006 RIDER	UVIS 5032	2009-205T23:21:00		000T09:00:00	2009-206T08:21:00	152.5	4.94	Non-SPASS		
CIRS 115CI DSCAL09206 SP	CIRS 4000	2009-206T00:21:00		000T08:00:00	2009-206T08:21:00	3000	86.4	SPASS Rider		
INMS 115SA SURVEYSEG002 INMS	INMS 1498	2009-206T08:00:00		000T10:30:35	2009-206T18:30:35	100	3.784	Non-SPASS		
MIMI 115CO SURVEY005 RIDER	MIMI 8000	2009-206T08:00:00		000T23:37:23	2009-207T07:37:23	900	76.539	Non-SPASS		



## T59 Liens and Open Issues

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- Telemetry mode change during an ISS observation for RADAR warm-up. ISS is ok with this.