

000TI(T0) Timeline

C/A= 2004-184T09:30:21.06 @341,500km; Illuminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
184T01:06	184T01:36	SP turn to waypoint		DFPW	S_N_ER3	
184T01:36	184T01:56	20 min OD Deadtime		DFPW	S_N_ER3	2nd axis -X to Sun
-07:34	-06:00	ISS		DFPW	S_N_ER3	
-06:00	-04:38	CIRS		DFPW	S_N_ER3	
-04:38	-04:14	ISS		DFPW	S_N_ER3	
-04:14	-02:50	CIRS		DFPW	S_N_ER3	
-02:50	-02:26	ISS		DFPW	S_N_ER3	
-02:26	-01:00	CIRS		DFPW	S_N_ER3	
-01:00	-00:51	ISS		DFPW	S_N_ER3	2x2 mosaic
-00:51	0:00	VIMS	Titan Light Curve	DFPW	S_N_ER3	
0:00	+01:00	ISS	Titan S Pole	DFPW	S_N_ER3	Long dwell times
+01:00	+05:00	CIRS	Temp Map	DFPW	S_N_ER3	Incorporate pauses in mosaic for ISS
+05:00	+05:45	VIMS	Titan Light Curve	DFPW	S_N_ER3	
+05:45	+07:30	CIRS		DFPW	S_N_ER3	
184T17:00	184T17:20	20 min OD Deadtime		DFPW	S_N_ER3	
184T17:20	184T17:51	SP turn to Earth		DFPW	S_N_ER3	
184T17:51	184T20:21	Downlink over Goldstone	Downlink over Goldstone	DFPW	RTE_N_PB	- Playback capacity for 2.5 hours of downlink = 862Mbits.
184T20:21	184T21:45	OpNav	Turn to targets then turn to Rings orientation	DFPW	S_N_ER3	new waypoint for Rings, Partition 5 zeroed out, so OpNav data should be routed to Partition 4 by CDS
184T21:45	185T00:45	CIRS	Do rings observations	DFPW	S_N_ER3	turn time to SP for new waypoint
185T00:45	185T01:00	SP	Turn to Titan	DFPW	S_N_ER3	turn time to SP for new waypoint
185T01:00	185T03:15	CIRS	Far IR Map	DFPW	S_N_ER3	
185T03:15	185T04:00	VIMS	Titan Light Curve	DFPW	S_N_ER3	
185T04:00	185T10:00	CIRS	Far IR Map	DFPW	S_N_ER3	
185T10:00	185T11:00	ISS	Titan	DFPW	S_N_ER3	
185T11:00	185T11:20	SP	Turn to lapetus	DFPW	S_N_ER3	New waypoint for lapetus
185T11:20	185T12:30	ISS	lapetus	DFPW	S_N_ER5	
185T12:30	185T14:06	OPNAV		DFPW	S_N_ER5	Partition 5 zeroed out, so OpNav data should be routed to Partition 4 by CDS
185T14:06	185T23:06	Downlink over Goldstone		DFPW-TCM	RTE_N_SPB	Adjusted to correctly line up with DSN pass

00ATI(TA) Timeline

C/A= 2004-300T15:31:27 @ 1200 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
299T16:31	299T17:01	SP Turn to waypoint	-Y to Titan, -X to Sun	DFPW	S_N_ER_3	
299T17:01	299T17:16	OD Uncertainty Dead		DFPW	S_N_ER_3	
-22:14	-22:00	ISS	Monitor	DFPW	S_N_ER_3	
-22:00	-16:45	CIRS	Mid-IR Temp Map	DFPW	S_N_ER_3	
-16:45	-15:30	ISS	Monitor	DFPW	S_N_ER_3	
-15:30	-11:30	CIRS	Far-IR Nadir Comp	DFPW	S_N_ER_3	sit-and-stare
-11:30	-05:00	VIMS	Med Res	DFPW	S_N_ER_3	RADWU and S_N_ER_5a at -05:15; earlier
-05:00	-01:48	ISS	High Res	RADWU	S_N_ER_3	1 min dwells
-01:48	-01:27	RWA to RCS transition		RADRCS	S_N_ER_3	w/ VIMS Rider; Deadband = (2,2,2)
-01:27	-01:26	ISS Turn to waypoint	-Y to Titan, -X to Sun			
-01:26	-01:19	SP Turn to New waypoint	-Z to Titan, -X to Sun			-Y to Titan violates CIRS boresight to Sun
-01:19		Begin Custom Period				
-01:19	-01:15	RADAR	Turn to scatterometry	RADRCS	S_N_ER_8	
-01:15	-00:45	RADAR Scatterometry	Inbound	RADRCS	S_N_ER_8	Leave at -Z to Titan, +X to NTP
-00:45	-00:38	VIMS	Turn to -Y to Titan, +X NTP	RADRCS	S_N_ER_8	
-00:38	-00:13	VIMS	High Res	RADRCS	S_N_ER_3	Leave at VIMS_IR to Titan, +X to NTP
-00:12	-00:06	INMS	Turn to -X to Titan RAM, -Z Titan	RADRCS	S_N_ER_3	2nd axis = -Z to Titan for RADAR
-00:06	c/a	INMS	-X to RAM	RADRCS	S_N_ER_8	RADAR ride-along
c/a	+00:06	RADAR	High-Res SAR	RADRCS	S_N_ER_8	Pick up at INMS attitude; Deadband = (2,2,20)
+00:06	+00:16	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
+00:16	+00:30	RADAR	Altimetry	RADRCS	S_N_ER_8	
+00:30	+01:15	RADAR	Scatterometry	RADRCS	S_N_ER_8	
+01:15	+01:39	RCS to RWA Transition		RADRWA	S_N_ER_8	
+01:39	+05:00	RADAR	Radiometry	RADRWA	S_N_ER_8	Leave at -Z to Titan, -X to Sun
+05:00		End Custom Period				
+05:00	+08:15	UVIS	EUUVFUV	DFPW	S_N_ER_3	Extra time allocated for turns to/from -Z to Titan
300T23:46	301T00:01	OD Uncertainty Dead		DFPW	S_N_ER_3	
301T00:01	301T00:16	SP Turn to Earth for		DFPW	S_N_ER_3	
301T00:16	301T09:16	Downlink		DFPW	RTE_N_S	

Start Time	End Time	Prime Activity	OpMode	Telem Mode	Comments
345T06:06	345T08:03	OpNav + turn to waypoint	DFPW_Normal	S_N_ER_5	Old seg start was 07:51
345T08:03	345T20:10	ISS Titan movie	DFPW_Normal	S_N_ER_3	
345T20:10	345T21:05	SP turn to Earth	DFPW_Normal	S_N_ER_3	
345T21:05	346T06:35	Downlink (Mad 34HEF)	DFPW_TCM	RTE_N_SPB	OTM 7 backup; pass extended to 9.5 hrs to help d.v. problem
346T06:35	346T08:03	OpNav + turn to waypoint	DFPW_Normal	S_N_ER_5	Shortened 30 min.
346T08:03	347T00:00	ISS Titan movie	DFPW_Normal	S_N_ER_3	
347T00:00	347T01:30	ISS Ring Rad color	DFPW_Normal	S_N_ER_3	
347T01:30	347T04:36	OpNav + turn to earth	DFPW_Normal	S_N_ER_5	
347T04:36	347T13:36	Downlink (Gold 70m)	DFPW_Normal	RTE_N_SPB	
347T13:36	347T14:57	SP turn to waypoint	DFPW_Normal	S_N_ER_3	
347T14:57	347T15:12	Moveable block dead time	DFPW_Normal	S_N_ER_3	
-20:25	-12:00	CIRS Mid-IR Temp Map	DFPW_Normal	S_N_ER_3	
-12:00	-08:00	CIRS Far-IR Nadir Comp	DFPW_Normal	S_N_ER_3	
-08:00	-04:00	UVIS EUVFUV	DFPW_Normal	S_N_ER_3	
-04:00	-02:00	REG MAP	DFPW_Normal	S_N_ER_3	
-02:00		Start Custom Period			
-02:00	-00:30	HI RES	DFPW_Normal	S_N_ER_3	
-00:30	-00:09	Transition to RCS	DFPW_Normal	S_N_ER_3	(.5,2,.5) - ISS observe thru trans
-00:09	-00:01	Turn to UVIS occs	DFPW_Normal	S_N_ER_3	Pick up at NAC to latlon(27,141), -X to Sun
-00:01	+00:27	UVIS Occs	DFPW_Normal	S_N_ER_3	FUV to 201.3,-11.2 - Turn to 2nd occ by +27min
+00:27	+00:50	Transition to RWA	DFPW_Normal	S_N_ER_3	UVIS observe thru transition
+00:50	+02:30	VIMS Darkside	DFPW_Normal	S_N_ER_3	Pickup at star 263.402/-37.104, NEG_X to SUN - offset (.1868,30,0)
+02:30	+05:00	UVIS EUVFUV	DFPW_Normal	S_N_ER_3	
+05:00		End Custom Period			
+05:00	+07:00	CIRS Mid-IR Limb Int	DFPW_Normal	S_N_ER_3	
+07:00	+10:30	VIMS darkside	DFPW_Normal	S_N_ER_3	
348T22:08	348T22:23	Moveable block dead time	DFPW_Normal	S_N_ER_3	
348T22:23	348T22:52	SP turn to Earth	DFPW_Normal	S_N_ER_3	
348T22:52	349T07:52	Downlink (Mad 70m)	DFPW_Normal	RTE_N_SPB	



003TI(T3) Timeline C/A=2005-046T06:58:50 Titan-3 Preview Overview

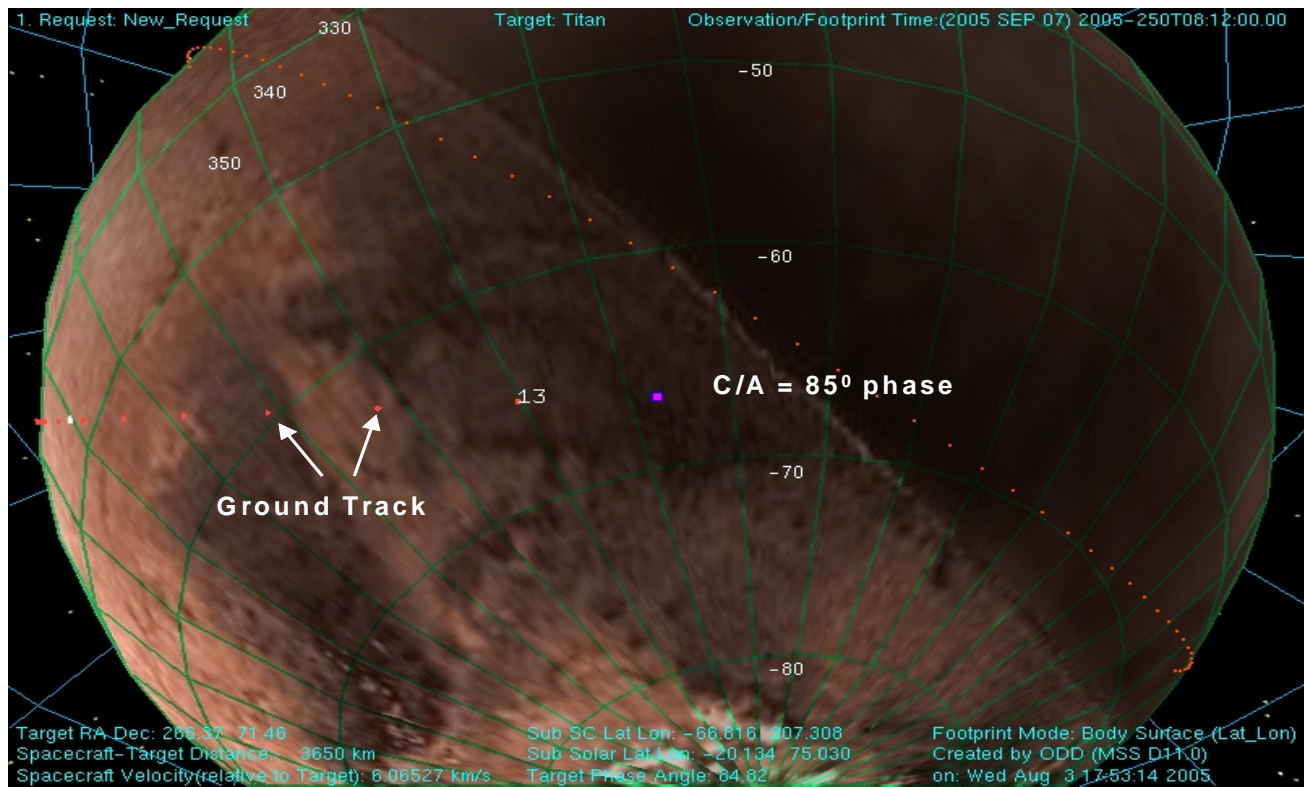
Start Time	End Time	Prime Activity	Op Mode	TLM Mode	Comments
045T09:07	045T09:39	SP Turn to waypoint	DFPW Normal	S_N_ER_3	-Y to Titan; +X to NTP
045T09:39	045T09:54	OD Uncertainty Dead Time	DFPW Normal	S_N_ER_3	
-21:00	-12:00	CIRS Mid-IR Nadir Temp Map	DFPW Normal	S_N_ER_3	sit and stare for 15 minutes at the beginning
-12:00	-11:00	ISS MONITOR_NA	DFPW Normal	S_N_ER_3	
-11:00	-7:00	CIRS Mid-IR Limb	DFPW Normal	S_N_ER_3	
-7:00	-5:00	ISS GLOBMAP_NA_LP	DFPW Normal	S_N_ER_3	
Begin Custom Period					
-5:00	-4:30	SP Turn to Earth for downlink	DFPW Normal RADAR_WU	S_N_ER_3 S_N_ER_5A	2ndary axis MAPS preferred S_N_ER_5A for 15 mins. @ -4:45; 0:07 transition
-4:30	-1:30	XBAND to Earth (Pos X to NEP)	RADAR_WU	RTE_N_SPB	
-1:30	-1:09	ISS Turn to ISS Attitude	RADAR_WU	S_N_ER_3	Turn time 18:36
-1:09	-0:59	ISS NAC	RADAR_WU	S_N_ER_3	
-0:59	-0:38	Transition to RADAR RCS	RADAR RCS	S_N_ER_3	20:48
-0:38	-0:30	RADAR Turn	RADAR RCS	S_N_ER_8	Pick-up at ISS Attitude Turn to -Z to Titan
-0:30	-0:16	RADAR Inbound Altimetry	RADAR RCS	S_N_ER_8	
-0:16	+0:16	RADAR SAR	RADAR RCS	S_N_ER_8	
+0:16	+0:31	RADAR Outbound Altimetry	RADAR RCS	S_N_ER_8	
+0:31	+1:02	RADAR Scatterometry	RADAR RCS	S_N_ER_8	
+1:02	+1:10	RADAR Turn	RADAR RCS	S_N_ER_8	Turn to -Y to Titan; +X to NTP
End Custom Period					
+1:10	+1:33	RCS to RWA Transition	DFPW Normal	S_N_ER_3	22:46
+1:33	+5:00	UVIS EUV-FUV	DFPW Normal	S_N_ER_3	
+5:00	+8:00	ISS NIGHT_WA	DFPW Normal	S_N_ER_3	
+8:00	+12:00	CIRS Far-IR Nadir Comp	DFPW Normal	S_N_ER_3	
+12:00	+16:20	CIRS Mid-IR Nadir Temp	DFPW Normal	S_N_ER_3	
046T23:14	046T23:29	OD Uncertainty Dead Time	DFPW Normal	S_N_ER_3	
046T23:29	046T23:59	SP Turn to Earth for downlink	DFPW Normal	S_N_ER_3	
046T23:59	047T08:59	Downlink over Goldstone	DFPW Normal	S_N_ER_3	

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
090T05:50	090T06:20	SP Turn to WP	NAC Titan, NEG_X Sun	ORS RWAF	S_N_ER_3	
090T06:20	090T06:35	OD Deadtime		ORS RWAF	S_N_ER_3	
-12:30	-08:30	CIRS	FP1	ORS RWAF	S_N_ER_3	
-08:30	-05:30	ISS	Combined	ORS RWAF	S_N_ER_3	RADAR_WU at -8:45 & SNER_5a at -8:45, then ER_3 at -8:30
-05:30	-00:30	RADAR	Radiometry	RADAR_RWA	S_N_ER_8	Use 30 and 90 deg offsets for the 2nd & 3rd polarizations
-00:30	C/A	ISS	High Res	ORS RWAF	S_N_ER_3	
C/A	+2:00	CIRS	FIR Limb Int	ORS RWAF	S_N_ER_3	
+2:00	+4:30	UVIS	EUVFUV	ORS RWAF	S_N_ER_3	
+4:30	+8:00	CIRS	MIDIR Limb Map	ORS RWAF	S_N_ER_3	
+8:00	+12:00	CIRS	FIR Limb Map	ORS RWAF	S_N_ER_3	
+12:00	+18:30	CIRS	MIDIR Limb Map	ORS RWAF	S_N_ER_3	
091T14:38	091T14:53	OD Deadtime		ORS RWAF	S_N_ER_3	Template B (modified)
091T14:53	091T15:22	SP Turn to Earth	XBAND Earth, POS_X to NEP	ORS RWAF	S_N_ER_3	
091T15:22	092T00:22	Madrid 70-m		DFPW N	RTE_N_SPB	

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
106T06:25	106T06:55	SP Turn to waypoint	ISS_NAC to Titan, +X to NEP	ORS_RWAF	S_N_ER_3	
106T06:55	106T07:10	Deadtime for OD Uncertainty		ORS_RWAF	S_N_ER_3	
-11:55	-08:30	CIRS_006TI_FIRNADCMP002_PRIME	CIRS_FP1 to Titan, +X to NEP	ORS_RWAF	S_N_ER_3	
-08:30	-08:00	ISS_006TI_PHOTOMWAC001_PRIME	ISS_NAC to Titan, +X to 262.8/64.6	ORS_RWAF	S_N_ER_3	
-08:00	-03:00	UVIS_006TI_EUVFUV001_PRIME	UVIS_EUV to Titan, +X to North_Pole_Dir	ORS_RWAF	S_N_ER_3	
-03:00	-01:00	ISS_006TI_HIGHRESNA001_PRIME	ISS_NAC to Titan, +X to 262.8/64.6	ORS_RWAF	S_N_ER_3	
-01:00	-00:39	RWA to RCS Transition		ORS_RCS	S_N_ER_3	
-00:39	-00:27	SP turn to WP	NEG_Y to Saturn (6.42,0,0 deg. offset), +Z to Sun	ORS_RCS	S_N_ER_3	
-00:37		Begin Custom Period		ORS_RCS		
-00:37	-00:19	CAPS_006TI_TITANPTG001_PRIME	NEG_Y to Saturn (6.42,0,0 deg. offset), +Z to Sun	ORS_RCS	S_N_ER_3 / S_N_ER_2	Start at Waypoint Attitude Custom handoff to INMS S_N_ER_2 for RPWS ± 30 min.
-00:19	+00:12	INMS_006TI_T5RMPNT002_PRIME	NEG_X to Titan (60,0,0 deg. offset), +Z to Sun	ORS_RCS	S_N_E_2	Custom handoff from and to CAPS
+00:12	+16:27	CAPS_006TI_TITANPTG002_PRIME	NEG_Y to Saturn (6.42,0,0 deg. offset), +Z to Sun	ORS_RCS / ORS_RWAF	S_N_ER_2 / S_N_ER_3	End at waypoint attitude Custom handoff from INMS S_N_ER_2 for RPWS ± 30 min.
+00:37	+01:00	RCS to RWA Transition		ORS_RWAF		
	+16:27	End Custom Period		ORS_RWAF		
107T11:34	107T11:49	Deadtime for OD Uncertainty		ORS_RWAF	S_N_ER_3	
107T11:49	107T12:31	SP Turn to Earth for downlink		ORS_RWAF	S_N_ER_3	2-part turned required
107T12:31	107T21:25	Madrid 70-m downlink	XBAND to Earth, Rolling	DFPW Normal	S_N_ER_3	

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
233T21:20	233T21:50	SP Turn to waypoint		DFPW N	SN_ER_3	NAC, Titan & NEG_X, SUN
233T21:50	233T22:05	OD Dead Time		DFPW N	SN_ER_3	
-10:48	-7:30	CIRS	FIRNADCMP	DFPW N	SN_ER_3	
-7:30	-05:00	CIRS	MIDIRLMBMAP	DFPW N	SN_ER_3	
-05:00	-02:15	CIRS	FIRNADMAP	DFPW N	SN_ER_3	
-02:15	-01:15	CIRS	FIRLMBINT	DFPW N	SN_ER_3	
-01:15	-00:45	CIRS	FIRLMBBAER	DFPW N	SN_ER_3	
-00:45	-00:10	CIRS	FIRLMBTRK	DFPW N	SN_ER_3	
-00:10	+00:10	CIRS	High Res Map	DFPW N	SN_ER_3	
+00:10	+0:45	CIRS	FIRLMBTRK	DFPW N	SN_ER_3	
+0:45	+01:15	CIRS	FIRLMBBAER	DFPW N	SN_ER_3	
+01:15	+02:15	CIRS	FIRLMBINT	DFPW N	SN_ER_3	
+02:15	+05:00	CIRS	FIRNADMAP	DFPW N	SN_ER_3	
+05:00	+7:30	CIRS	MIDIRLMBMAP	DFPW N	SN_ER_3	
+7:30	+12:00	CIRS	FIRNADCMP	DFPW N	SN_ER_3	
+12:00	+19:03	CIRS	MIDIRTMAP	DFPW N	SN_ER_3	
235T03:57	235T04:12	OD Dead Time		DFPW N	SN_ER_3	
235T04:12	235T04:42	SP Turn to Earth for downlink		DFPW N	SN_ER_3	
235T04:42	235T13:42	Madrid 70-m		DFPW N	SPB	

Cassini Mission Titan Encounter Quick-Look Flyby Facts - Titan-7 in S14



Cassini Titan-7 Timeline - September 2005					Colors: yellow = maneuvers; blue = geometry, pink = T7-related; green = data playbacks
Orbiter UTC	Ground UTC	Pacific Time	Time wrt T7	Activity	Description
242T21:43:00	Aug 30 23:05	Tue Aug 30 03:05 PM	T7-07d10h	Start of Sequence S14	Start of Sequence which contains Titan-7.
246T11:30:00	Sep 03 12:52	Sat Sep 03 04:52 AM	T7-03d21h	OTM #31 Prime	Titan-7 minus 3 day targeting maneuver
247T10:30:00	Sep 04 11:52	Sun Sep 04 03:52 AM	T7-02d22h	OTM #31 Backup	
248T10:37:25	Sep 05 11:59	Mon Sep 05 03:59 AM	T7-01d22h	Ascending Ring Plane Crossing	
248T11:50:34	Sep 05 13:12	Mon Sep 05 05:12 AM	T7-01d20h	Saturn Periapse	Saturn periapse 014, r = 2.8 Rs, phase = 105 deg
249T20:30:00	Sep 06 21:52	Tue Sep 06 01:52 PM	T7-11h41m	Start of the TOST Segment	
249T20:30:00	Sep 06 21:52	Tue Sep 06 01:52 PM	T7-11h41m	Turn cameras to Titan	
249T21:15:00	Sep 06 22:37	Tue Sep 06 02:37 PM	T7-10h56m	Deadtime	27 minutes long due to shift in Epoch; used to accommodate changes in flyby time
249T21:41:57	Sep 06 23:03	Tue Sep 06 03:03 PM	T7-10h30m	Begin long scan across Titan	Examine thermal structure of Titan's stratosphere.
249T23:26:57	Sep 07 00:48	Tue Sep 06 04:48 PM	T7-08h45m	Titan Atmospheric Observations	Monitoring for surface/atmosphere changes
250T03:11:57	Sep 07 04:33	Tue Sep 06 08:33 PM	T7-05h00m	Titan limb observations	Examine trace constituents in Titan's stratosphere.
250T06:48:33	Sep 07 08:10	Wed Sep 07 12:10 AM	T7-01h23m	Descending Ring Plane Crossing	r = 20.24 Rs
250T07:20:07	Sep 07 08:42	Wed Sep 07 12:42 AM	T7-00h51m	Transition to Thrusters	Duration = 21 minutes
250T07:40:57	Sep 07 09:02	Wed Sep 07 01:02 AM	T7-00h31m	Turn the High-Gain Antenna to Titan	Preparation for RADAR Altimetry, SAR, and Radiometry
250T07:48:57	Sep 07 09:10	Wed Sep 07 01:10 AM	T7-00h23m	RADAR Altimetry	Inbound
250T07:56:57	Sep 07 09:18	Wed Sep 07 01:18 AM	T7-00h15m	RADAR SAR	Low Resolution Synthetic Aperture RADAR (SAR)
250T08:05:27	Sep 07 09:27	Wed Sep 07 01:27 AM	T7-00h06m	RADAR SAR	High Resolution Synthetic Aperture RADAR (SAR)
250T08:11:57	Sep 07 09:33	Wed Sep 07 01:33 AM	T7+00h00m	Titan-7 Flyby Closest Approach Time	Altitude = 1577 km (980 miles), speed = 5.95 km/s (13,400 mph); low phase inbound, 98.4 deg phase at closest approach, high phase outbound
250T08:18:27	Sep 07 09:40	Wed Sep 07 01:40 AM	T7+00h07m	RADAR SAR	Low Resolution Synthetic Aperture RADAR (SAR)
250T08:26:57	Sep 07 09:48	Wed Sep 07 01:48 AM	T7+00h15m	RADAR Altimetry	Outbound
250T08:50:57	Sep 07 10:12	Wed Sep 07 02:12 AM	T7+00h39m	UVIS Stellar Occultation	Examine Stellar Spectra as it passes through Titan's atmosphere.
250T09:35:57	Sep 07 10:57	Wed Sep 07 02:57 AM	T7+01h24m	Transition to Reaction Wheels	Duration = 24 minutes
250T09:59:57	Sep 07 11:21	Wed Sep 07 03:21 AM	T7+01h48m	RADAR Radiometry	Outbound Radiometry of Titan
250T13:31:57	Sep 07 14:53	Wed Sep 07 06:53 AM	T7+05h20m	Turn cameras to Titan	
250T13:51:57	Sep 07 15:13	Wed Sep 07 07:13 AM	T7+05h40m	Titan limb observations	Examine trace constituents in Titan's stratosphere.
250T17:11:57	Sep 07 18:33	Wed Sep 07 10:33 AM	T7+09h00m	Titan Photometry	Examine particle properties, vertical distributions
250T20:11:57	Sep 07 21:33	Wed Sep 07 01:33 PM	T7+12h00m	Begin long scan across Titan	Examine thermal structure of Titan's stratosphere.
251T02:23:49	Sep 08 03:45	Wed Sep 07 07:45 PM	T7+18h12m	Deadtime	1 second long due to shift in Epoch; used to accommodate changes in flyby time
251T02:24:00	Sep 08 03:46	Wed Sep 07 07:46 PM	T7+18h13m	Turn to Earth-Line	
251T02:50:00	Sep 08 04:12	Wed Sep 07 08:12 PM	T7+18h39m	Begin Playback of T7 Data	Goldstone 70M
251T12:46:00	Sep 08 14:08	Thu Sep 08 06:08 AM	T7+01d05h	End Playback of T7 Data	
257T16:49:43	Sep 14 18:11	Wed Sep 14 10:11 AM	T7+07d09h	Saturn Apoapse	Saturn Apoapse 015, r = 41.5 Rs, phase = 74 deg

014TI_T7 TOL

014TI (T7)

OBS_NAM	SCET START	E_REL	SCET END	DDThmmss DUR	kbps RATE	mbits SSR VOL	OPMODES	TLMODES
CAPS_014SA_SURVEY002_RIDER	2005-249T01:20:00		2005-250T06:22:35	01T05:02:35	1000	104.56	DFPW	S_N_ER3
INMS_014SA_SURVEY003_RIDER	2005-249T01:20:00		2005-249T19:50:26	00T18:30:26	50	3.33		
MAG_014OT_SURVEY005_PRIME	2005-249T01:20:00		2005-249T21:30:00	00T20:10:00	600	43.56		
MIMI_014CO_SURVEY004_MAPS	2005-249T01:20:00		2005-249T21:30:00	00T20:10:00	900	65.34		
RPWS_014SA_OUTSURVEY002_PRIME	2005-249T15:10:00		2005-249T21:30:00	00T06:20:00	1310	29.87		
CDA_014DR_1700DUST058_RIDER	2005-249T20:20:56		2005-250T00:21:05	00T04:00:09	524	7.55		
INMS_014TI_T7INBD001_RADAR	2005-249T20:22:36		2005-249T21:30:00	00T01:07:24	100	0.4		
SP_014NA_M70OBSNON251_NA	2005-249T20:30:00		2005-251T03:22:00	01T06:52:00	0	0		
SP_014TI_WAYPTTURN249_PRIME	2005-249T20:30:00		2005-249T21:15:00	00T00:45:00	0	0		
SP_014NA_DEADTIME249_PRIME	2005-249T21:15:00		2005-249T21:30:00	00T00:15:00	0	0		
INMS_014TI_T7INBD002_RIDER	2005-249T21:30:00		2005-250T06:50:26	00T09:20:26	50	1.68		
MAG_014OT_SURVEY002_PRIME	2005-249T21:30:00		2005-250T03:50:26	00T06:20:26	600	13.7		
MIMI_014CO_SURVEY005_MAPS	2005-249T21:30:00		2005-250T06:23:00	00T08:53:00	900	28.78		
RPWS_014SA_OUTSURVEY009_PRIME	2005-249T21:30:00		2005-250T06:22:36	00T08:52:36	1310	41.86		
CIRS_014TI_FIRNADCMP004_ISS	2005-249T21:50:26	E014_Titan7-000T10:00	2005-249T22:50:26	00T01:00:00	4000	14.4		
ISS_014TI_MONITORNA001_PRIME	2005-249T21:50:26	E014_Titan7-000T10:00	2005-249T23:05:26	00T01:15:00	0	280		
VIMS_014TI_NA_MONITO006_ISS	2005-249T21:50:26	E014_Titan7-000T10:00	2005-249T23:05:26	00T01:15:00	4000	18		
CIRS_014TI_FIRNADMAP004_VIMS	2005-249T23:05:26	E014_Titan7-000T08:45	2005-250T02:50:26	00T03:45:00	3000	40.5		
VIMS_014TI_MEDRES007_PRIME	2005-249T23:05:26	E014_Titan7-000T08:45	2005-250T03:20:26	00T04:15:00	19607.8	300		
ISS_014TI_PHOTOMWAC001_VIMS	2005-249T23:50:26	E014_Titan7-000T08:00	2005-250T02:50:26	00T03:00:00	0	28		
CDA_014RI_1800RINGM007_RIDER	2005-250T00:22:05		2005-250T02:22:05	00T02:00:00	524	3.77		
CDA_014DR_1900DUST080_RIDER	2005-250T02:23:05		2005-250T21:49:10	00T19:26:05	149.9	10.49		
CIRS_014TI_FIRNADMAP005_ISS	2005-250T02:50:26	E014_Titan7-000T05:00	2005-250T06:59:26	00T04:09:00	3000	44.82		
ISS_014TI_GLBMAPNMP001_PRIME	2005-250T02:50:26	E014_Titan7-000T05:00	2005-250T06:02:26	00T03:12:00	0	171		
VIMS_014TI_HIGHRES_N001_ISS	2005-250T02:50:26	E014_Titan7-000T05:00	2005-250T07:05:26	00T04:15:00	13071.9	200		
MAG_014TI_MAGTITAN001_PRIME	2005-250T03:50:26	E014_Titan7-000T04:00	2005-250T11:50:26	00T08:00:00	1976	56.91		
CAPS_014TI_T7INBD001_CIRS	2005-250T05:50:26	E014_Titan7-000T02:00	2005-250T06:50:26	00T01:00:00	4000	14.4		
MIMI_014TI_T7INBD001_CIRS	2005-250T05:50:26	E014_Titan7-000T02:00	2005-250T06:50:26	00T01:00:00	2000	7.2		
RPWS_014TI_TIIINTRMED001_PRIME	2005-250T05:50:26	E014_Titan7-000T02:00	2005-250T09:50:26	00T04:00:00	12499.4	179.99		
ISS_014TI_HIGHRESNA001_PRIME	2005-250T06:02:26	E014_Titan7-000T01:48	2005-250T06:59:26	00T00:57:00	0	285		
MP_014SA_RPXDESCEN014_NA	2005-250T06:30:13		2005-250T06:30:14	00T00:00:01	0	0		
CAPS_014TI_T7CLOSE001_CIRS	2005-250T06:50:26	E014_Titan7-000T01:00	2005-250T08:50:26	00T02:00:00	16000	115.2		
INMS_014TI_T7CLOSE001_RIDER	2005-250T06:50:26	E014_Titan7-000T01:00	2005-250T08:50:26	00T02:00:00	1498	10.79		
MIMI_014TI_T7CLOSE001_CIRS	2005-250T06:50:26	E014_Titan7-000T01:00	2005-250T08:50:26	00T02:00:00	2000	14.4		
VIMS_014TI_RCSRWA001_PRIME	2005-250T06:59:26	E014_Titan7-000T00:51	2005-250T07:20:26	00T00:21:00	7142.9	9	RAD_WU	
RADAR_014OT_TI7WARMUP001_RIDER	2005-250T07:10:26	E014_Titan7-000T00:40	2005-250T07:27:26	00T00:07:00	255.4	0.11	RAD_RCS	S_N_ER5a
SP_014TI_WAYPTTURN250_PRIME	2005-250T07:20:26	E014_Titan7-000T00:30	2005-250T07:27:26	00T00:07:00	0	0		
RADAR_014TI_TI7P1ALT001_PRIME	2005-250T07:27:26	E014_Titan7-000T00:23	2005-250T07:35:26	00T00:08:00	29986.6	14.39		S_N_ER8
RADAR_014TI_TI7P2LRES001_PRIME	2005-250T07:35:26	E014_Titan7-000T00:15	2005-250T07:43:56	00T00:08:30	194985.6	99.44		
RADAR_014TI_TI7P3HRES001_PRIME	2005-250T07:43:56	E014_Titan7-000T00:06	2005-250T07:56:56	00T00:13:00	364800	284.54		
MP_014TI_FLYBYT007_NA	2005-250T07:50:26		2005-250T07:50:27	00T00:00:01	0	0		
RADAR_014TI_TI7P4LRES001_PRIME	2005-250T07:56:56	E014_Titan7+000T00:06	2005-250T08:05:26	00T00:08:30	194985.6	99.44		
RADAR_014TI_TI7P5ALT001_PRIME	2005-250T08:05:26	E014_Titan7+000T00:15	2005-250T08:29:26	00T00:24:00	29986.6	43.18		
CIRS_014TI_FIRLIMBAER004_UVIS	2005-250T08:29:26	E014_Titan7+000T00:39	2005-250T09:14:26	00T00:45:00	4000	10.8		

014TI_T7 TOL

014TI (T7)

OBS_NAM	SCET START	E_REL	SCET END	DDThmmss DUR	kbps RATE	mbits SSR VOL	OPMODES	TLMODES
UVIS_014ST_ALPPEG002_PRIME	2005-250T08:29:26	E014_Titan7+000T00:39	2005-250T09:14:26	00T00:45:00	32096	86.66		S_N_ER3
CAPS_014TI_T7OUTBND001_CIRS	2005-250T08:50:26	E014_Titan7+000T01:00	2005-250T09:50:26	00T01:00:00	4000	14.4		
INMS_014TI_T7OUTBD001_RADAR	2005-250T08:50:26	E014_Titan7+000T01:00	2005-250T19:50:26	00T11:00:00	100	3.96		
MIMI_014TI_T7OUTBND001_CIRS	2005-250T08:50:26	E014_Titan7+000T01:00	2005-250T09:50:26	00T01:00:00	2000	7.2		
Opmode transition from RCS to RWA	2005-250T09:14:26	E014_Titan7+000T01:24	2005-250T09:37:26	00T00:23:00	0	0	RAD_WU	
RADAR_014TI_TI7P6RAD001_PRIME	2005-250T09:37:26	E014_Titan7+000T01:47	2005-250T13:00:26	00T03:23:00	4997.8	58.77		S_N_ER8
CAPS_014SA_SURVEY005_RIDER	2005-250T10:22:36		2005-251T12:52:00	01T02:29:24	1000	95.36		
RPWS_014SA_OUTSURVEY003_PRIME	2005-250T10:22:36		2005-251T12:52:00	01T02:29:24	1310	124.93		
MIMI_014CO_SURVEY006_MAPS	2005-250T10:23:00		2005-251T12:52:00	01T02:29:00	1100	104.87		
MAG_014OT_SURVEY006_PRIME	2005-250T11:50:26	E014_Titan7+000T04:00	2005-251T12:19:50	01T00:29:24	600	52.9		
SP_014TI_WAYPTURN2502_PRIME	2005-250T13:00:26	E014_Titan7+000T05:10	2005-250T13:30:26	00T00:30:00	0	0		
CIRS_014IC_DSCALSHRT228_RIDER	2005-250T13:00:26	E014_Titan7+000T05:10	2005-250T13:30:26	00T00:30:00	4000	7.2	ORS_RWA	S_N_ER3
VIMS_014TI_NADIRMAP001_CIRS	2005-250T13:00:26	E014_Titan7+000T05:10	2005-251T02:38:26	00T13:38:00	4441.7	218		
CIRS_014TI_MIRLMBINT002_PRIME	2005-250T13:30:26	E014_Titan7+000T05:40	2005-250T16:50:26	00T03:20:00	4000	48		
CIRS_014TI_MIRLMBMAP005_SI	2005-250T13:30:26	E014_Titan7+000T05:40	2005-250T16:50:26	00T03:20:00	0	7		
CIRS_014TI_FIRNADCMP002_PRIME	2005-250T16:50:26	E014_Titan7+000T09:00	2005-250T19:50:26	00T03:00:00	4000	43.2		
CIRS_014TI_FIRNADCMP005_SI	2005-250T16:50:26	E014_Titan7+000T09:00	2005-250T19:50:26	00T03:00:00	0	4		
ISS_014TI_PHOTOMWAC002_CIRS	2005-250T16:50:26	E014_Titan7+000T09:00	2005-250T17:10:26	00T00:20:00	0	26		
ISS_014TI_NIGHTNAC001_CIRS	2005-250T17:10:26	E014_Titan7+000T09:20	2005-250T18:00:26	00T00:50:00	0	100		
CIRS_014TI_MIDIRTMAP005_PRIME	2005-250T19:50:26	E014_Titan7+000T12:00	2005-251T02:08:26	00T06:18:00	2000	45.36		
CIRS_014TI_MIDIRTMAP008_SI	2005-250T19:50:26	E014_Titan7+000T12:00	2005-251T02:08:26	00T06:18:00	0	7		
INMS_014SA_SURVEY005_RIDER	2005-250T19:50:26	E014_Titan7+000T12:00	2005-251T12:19:50	00T16:29:24	50	2.97		
CDA_014HY_2400HYORX005_RIDER	2005-250T21:50:10		2005-250T23:50:10	00T02:00:00	524	3.77		
CDA_014DR_2500DUST081_RIDER	2005-250T23:51:09		2005-257T16:09:55	06T16:18:46	149.9	86.49		
SP_014NA_DEADTIME251_PRIME	2005-251T02:09:00		2005-251T02:24:00	00T00:15:00	0	0		
SP_014EA_DLTURN251_PRIME	2005-251T02:24:00		2005-251T03:22:00	00T00:58:00	0	0		
SP_014EA_M70ARRNON251_PRIME	2005-251T03:22:00		2005-251T12:52:00	00T09:30:00	0	0	DFPW	
SP_014NA_M70ARR2ND251_SP	2005-251T03:22:00		2005-251T12:52:00	00T09:30:00	0	0		
SP_014NA_M70ARRNON251_SP	2005-251T03:22:00		2005-251T12:52:00	00T09:30:00	0	0		
TLM Mode transition to RTE_N_SPB_110k	2005-251T03:22:00		2005-251T03:53:00	00T00:31:00				RTE_N_SPB_110600
CIRS_014IC_DSCAL1237_PRIME	2005-251T03:24:00		2005-251T09:24:00	00T06:00:00	4000	86.4		
TLM Mode transition to RTE_N_SPB_124k	2005-251T03:53:00		2005-251T04:53:00	00T01:00:00				RTE_N_SPB_124425
TLM Mode transition to RTE_N_SPB_142k	2005-251T04:53:00		2005-251T11:53:00	00T09:00:00				RTE_N_SPB_142200
TLM Mode transition to RTE_N_SPB_124k	2005-251T11:53:00		2005-251T12:38:00	00T01:00:00				RTE_N_SPB_124425
TLM Mode transition to RTE_N_SPB_110k	2005-251T12:38:00		2005-251T12:52:00	00T00:14:00				RTE_N_SPB_110600

Start Time	End Time	Prime Activity	Obs Detail	Op Mode	TLM Mode	Comments
300T18:29:00	300T18:59	SP turn to WP		RADAR_WU	SN_ER_5A	Nac Titan, Neg_X Sun
300T18:59	300T19:14	Dead Time		RADAR_WU	SN_ER_3	
-09:01	-08:14	ISS GLOBMAP		RADAR_WU	SN_ER_3	
-08:14	-04:48	VIMS MEDRES		RADAR_WU	SN_ER_3	
-04:48	-04:15	ISS HIRES		RADAR_WU	SN_ER_3	
-04:15	-03:45	SP turn to WP		RADAR_WU	SN_ER_8	NEG_Z Titan, POS_X NTP
-03:45	-01:43	RADAR RAD		RADAR_RWA	SN_ER_8	
-01:43	-01:21	Transition to RCS		RADAR_RCS	SN_ER_8	
-01:21	-00:32	RADAR SCAT		RADAR_RCS	SN_ER_8	
-00:32	-00:15	RADAR ALT		RADAR_RCS	SN_ER_8	
-00:15	-00:03	RADAR SAR		RADAR_RCS	SN_ER_8	
-00:03	+00:03	RADAR SAR		RADAR_RCS	SN_ER_8	
+00:03	+00:15	RADAR SAR		RADAR_RCS	SN_ER_8	
+00:15	+00:32	RADAR ALT		RADAR_RCS	SN_ER_8	
+00:32	+01:21	RADAR SCAT		RADAR_RCS	SN_ER_8	
+01:21	+01:45	Transition to RWA		RADAR_RWA	SN_ER_8	
+01:45	+05:10	RADAR RAD		RADAR_RWA	SN_ER_8	
+05:10	+05:40	SP turn to WP		DFPW_N	SN_ER_3	NAC Titan, NEG_X Sun
+05:40	+09:00	CIRS MIDIRLMBMAP		DFPW_N	SN_ER_3	
+09:00	+12:00	CIRS FIRNADCMP		DFPW_N	SN_ER_3	
+12:00	+19:48:50	CIRS MIDIRTMAP		DFPW_N	SN_ER_3	
302T00:04	302T00:19	Dead Time		DFPW_N	SN_ER_3	
302T00:19	302T00:49	SP turn to D/L		DFPW_N	SN_ER_3	
302T00:49	302T09:49	D/L to M70		DFPW_N		

019TI(T9) Timeline C/A= 2005-360T18:59:30 @ 10,409 km

Start (SCET)	End (SCET)	Prime Activity	Obs Detail	OpMode	Telem Mode	Comments
2005-360T06:59:00	2005-360T07:27:00	SP Waypoint Turn		DFPW Norm	S_N_ER_3	SP Turn to Waypoint
2005-360T07:27:00	2005-360T07:49:30	Deadtime		DFPW Norm		
- 11:10:00	- 09:00:00	CIRS		DFPW Norm	S_N_ER_3	
- 09:00:00	- 06:00:00	VIMS	Med Res Regional Map	DFPW Norm	S_N_ER_3	
- 06:00:00	- 04:00:00	ISS	High Res NAC	DFPW Norm	S_N_ER_3	
- 04:00:00	- 01:00:00	UVIS		DFPW Norm	S_N_ER_3	
- 01:00:00	+ 02:30:00	MAPS	UVIS Controls Pointing	DFPW Norm	S_N_ER_2	NAC to specular point on Titan, +X to NSP with a -19 degree offset about Y.
+ 02:30:00	+08:54:00	UVIS		DFPW Norm	S_N_ER_3	
2005-361T03:53:30	2005-361T04:04:00	Deadtime		DFPW Norm		
2005-361T04:04:00	2005-361T04:34:00	SP Turn to Downlink Attitude		DFPW Norm	S_N_ER_3	SP Turn to Earth; Pos X to NEP
2005-361T04:34:00	2005-251T13:34:00	Downlink to Madrid 70M		DFPW Norm	RTE_N_SPB	Rolling

Start Time	End Time	Prime Activity	Obs Detail	Op Mode	TLM Mode	Comments
014T13:38:00	014T14:08:00	SP turn to WP		DFPW_N	SN_ER_3	Nac Titan, Neg_X Sun
014T14:08:00	014T14:23:00	Dead Time		DFPW_N	SN_ER_3	
-21:18	-12:00	CIRS Mid-IR Nadir Temp Map		DFPW_N	SN_ER_3	
-12:00	-10:00	CIRS Far-IT Nadir comp		DFPW_N	SN_ER_3	
-10:00	-09:00	ISS MONITOR_NA		DFPW_N	SN_ER_3	
-09:00	-05:00	CIRS Mid-IR Limb Temp Map		DFPW_N	SN_ER_3	
-05:00	-02:00	ISS Glob Map		DFPW_N	SN_ER_3	
-02:00	-00:40	VIMS		DFPW_N	SN_ER_3	
-00:40	-00:30	Turn UVIS Solar port to Titan		DFPW_N	SN_ER_3	
-00:30	+01:00	UVIS Solar Occultation		DFPW_N	SN_ER_3	
+01:00	+02:00	CIRS Far-IR Limb		DFPW_N	SN_ER_3	
+02:00	+03:00	VIMS Aurora		DFPW_N	SN_ER_3	
+03:00	+08:00	UVIS EUV-FUV		DFPW_N	SN_ER_3	
+08:00	+14:43	ISS NIGHT_NA		DFPW_N	SN_ER_3	
016T02:24	016T02:35	Dead Time		DFPW_N	SN_ER_3	
016T02:35	016T03:05	SP turn to D/L		DFPW_N	SN_ER_3	
016T03:05	016T12:05	D/L to G70		DFPW_N		



021TI (T11) Timeline

C/A= 058T08:25:19

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
057T09:06	057T09:36	SP Turn to waypoint	NAC to Titan, -X to Sun	DFPW Normal	S_N_ER_3	
057T09:36	-22:30	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-22:30	-10:00	VIMS	Saturn-facing side; Coordinate w/CIRS, prefer 4 microrad/sec slow scan	DFPW Normal	S_N_ER_3	
-10:00	-07:00	ISS Global Map	5 min dwell times	DFPW Normal/RSS_K_RWAF (at T1-09:05)	S_N_ER_3	To calculate RSS KA on time: - 06:30 minus 15 min deadtime, minus 2 hours warmup, minus 20 minutes margin)
-07:00	-06:30	SP Turn to Earth for downlink		RSS_K_RWAF	S_N_ER_3	
-06:30	-04:30	RSS	Gravity Wing	RSS_K_RWAF	RTE_N_SPB	Try for one tlm mode for simplification
-04:30	-04:00	Turn to Titan		RSS_K_RWAF	S_N_ER_3	
-04:00	-01:30	ISS	Good low phase, high resolution opportunity; four 5x3 mosaics; 1 min dwell times	RSS_K_RWAF	S_N_ER_3	
-01:30	-01:00	SP Turn to Earth for downlink		RSS_K_RWAF	S_N_ER_3	
-01:00	+04:30	RSS	Gravity	RSS_K_RWAF	S_N_ER_3	Goldstone and Canberra coverage required; Canberra will still be 3-way with Ka coherent wth Goldstone
+04:30	+05:00	Turn to Titan		RSS_K_RWAF	S_N_ER_3	
+05:00	+08:30	UVIS	6 microrad/sec slow continuous slew across titan; good for CIRS temperature map	RSS_K_RWAF	S_N_ER_3	
+08:30	+13:10	CIRS	Long integration w/FP1; mid-sou8thern latitude at 60 degrees emissionangle; co- aligned ORS boresights on Titan, mayh choose orientation to optimize; VIMS good lighting search opportunity	RSS_K_RWAF	S_N_ER_3	
+13:10	058T21:51	OD Uncertainty Dead Time		RSS_K_RWAF	S_N_ER_3	
058T21:51	058T22:21	SP Turn to Earth for downlink		RSS_K_RWAF	S_N_ER_3	
058T22:21	059T08:51	Goldstone 70-m		RSS	RTE_N_SPB	10.5 hrs needed to return 2 SSRs

023TI(T13) Timeline

C/A= 2006-120T20:53:31 @ 1853 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
120T04:44	120T05:14	SP Turn to waypoint	-Y to Titan, -X to Sun	DFPW Normal	S_N_ER_3	
120T05:14	120T05:29	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-15:24	-09:00	CIRS	Far-IR Nadir Comp	DFPW Normal	S_N_ER_3	
-09:00	-07:00	CIRS	Mid-IR Limb	DFPW Normal	S_N_ER_3	
-07:00	-06:00	VIMS	Med Res	DFPW Normal	S_N_ER_3	
-06:00	-04:00	CIRS	Mid-IR Limb	DFPW Normal / RADWU	S_N_ER_3, S_N_ER_5a	RADWU and S_N_ER_5a at -04:15; S_N_ER_3 at -04:00
-04:00	-02:00	ISS	Regional Map	RADWU	S_N_ER_3	
-02:00		Begin Custom Period				
-02:00	-01:16	ISS	High Res NAC	RADWU	S_N_ER_3	Leave at UVIS occ attitude
-01:16	-00:35	UVIS	Beta Ori Occ	RADWU	S_N_ER_3	
-00:35	-00:07	RADAR Low-Res SAR	Inbound	RADRWA	S_N_ER_8	Pick up at UVIS occ attitude
-00:07	+00:07	RADAR High-Res SAR	C/A	RADRWA	S_N_ER_8	
+00:07	+00:15	RADAR Low-Res SAR	Outbound	RADRWA	S_N_ER_8	
+00:15	+00:30	RADAR Altimetry	Outbound	RADRWA	S_N_ER_8	
+00:30	+01:15	RADAR Scatterometry	Outbound	RADRWA	S_N_ER_8	
+01:15	+05:20	RADAR Radiometry	Outbound	RADRWA	S_N_ER_8	Leave at waypoint
+05:20		End Custom Period				
+05:20	+10:30	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	
+10:30	+14:07	CIRS	Far-IR Nadir Comp	DFPW Normal	S_N_ER_3	
121T11:31	121T11:46	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
121T11:46	121T12:14	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
121T12:14	121T21:14	Madrid 70-m Array		DFPW Normal	RTE_N_SPB	

C/A 2006-140T12:18:12

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
139T19:56	139T20:26	SP turn to waypoint		DFPW Norm	S_N_ER_3	NAC to Titan, -X to SUN
139T20:26	139T20:41	OD Uncertainty Dead Time		DFPW Norm	S_N_ER_3	
-15:30	-9:00	CIRS	Long Integration with FP1; 60deg emission angle; co-aligned ORS boresights on Titan, may choose orientation to optimize pointing	DFPW Norm	S_N_ER_3	
-9:00	-7:30	CIRS	Limb obs. For vertical profile of trace hydrocarbons	DFPW Norm	S_N_ER_3	
-7:30	-3:22	UVIS	Limb to limb slow scan	DFPW Norm	S_N_ER_3	
-3:22	-3:00	Transition to RCS		ORS/RCS	S_N_ER_3	(0.5,2,0.5)
-3:00	-2:30	UVIS		RSS WU	S_N_ER_3	
-2:30		Begin Custom Period				
-2:30	-1:05	CIRS	FP1 limb integration	RSS WU	S_N_ER_3	
-1:05	-0:55	tum (RSS)	Pick up at CIRS LAT_VIEW	RSS/RCS	S_N_ER_3	secondary +Y to NSP
-0:55	+0:55	RSS	Bistat(In) / Occ(-15:02) / Bistat(Out)	RSS/RCS	S_N_ER_2	(0.5,0.5,20) at -0:55
+0:55	+1:03	tum (RSS)	Leave at CIRS LAT_VIEW	RSS/RCS	S_N_ER_3	NAC to Titan, -X to SUN
+1:03	+1:27	Transition to RWA		DFPW Norm	S_N_ER_3	
+1:27	+2:15	CIRS	Far IR Limb integration	DFPW Norm	S_N_ER_3	
+2:15		End Custom Period				
+2:15	+10:00	CIRS	Limb integration followed by nadir temperature map; meteorology campaign	DFPW Norm	S_N_ER_3	
+10:00	+13:00	CDA	Eccentricity Scan	DFPW Norm	S_N_ER_3	CDA can not heat CIRS
+13:00	+15:00	CIRS		DFPW Norm	S_N_ER_3	
+15:00	+18:00	CDA	Eccentricity Scan	DFPW Norm	S_N_ER_3	CDA can not heat CIRS
+18:00	+20:58	CIRS		DFPW Norm	S_N_ER_3	
141T09:11	141T09:26	OD Uncertainty Dead Time		DFPW Norm	S_N_ER_3	
141T09:26	141T09:56	SP turn to downlink		DFPW Norm	S_N_ER_3	
141T09:56	141T19:56	D/L over Madrid Array	NON-ROLLING agreement	DFPW Norm		POS_X to NEP

025TI(T15) Timeline

C/A= 2006-183T09:12:19 @ 1911 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
182T17:22	182T17:52	SP Turn to waypoint	-Y to Titan, -X to Sun	DFPW Normal	S_N_ER_3	
182T17:52	182T18:07	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-15:05	-13:30	VIMS	Global Map	DFPW Normal	S_N_ER_3	
-13:30	-10:00	CIRS	FP1 long integration; 60° emission angle; co-aligned ORS boresights on Titan; may choose orientation to optimize pointing.	DFPW Normal	S_N_ER_3	
-10:00	-8:00	ISS	Global Map, 5 min. dwell time	DFPW Normal	S_N_ER_3	
-8:00	-05:20	CIRS	Limb integration	RADWU	S_N_ER_5a	
-05:20	-05:00	SP Turn to RADAR waypoint	NEG_Z to Titan, POS_X to NTP	RADWU	S_N_ER_8	
-05:00		Begin Custom Period				
-05:00	-01:15	RADAR	Radiometry	RADRWA	S_N_ER_8	Potential CIRS Radiator violation.
-01:15	-01:00	RADAR	Scatterometry	RADRWA	S_N_ER_8	Leave at -Z to Titan, -Y to NTP
-01:00	+00:30	MAPS	-X to 345/-20; +Z to NSP	DFPW Normal	S_N_ER_2	Pick up at RADAR attitude; leave at MAPS attitude
+00:30	+02:30	CIRS	Limb integration	DFPW Normal	S_N_ER_3	Pick up at MAPS attitude; leave at waypoint
+02:30		End Custom Period				
+02:30	+08:00	UVIS	Slow scan limb to limb	DFPW Normal	S_N_ER_3	
+08:00	+09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	
+09:00	+22:24	CIRS	FP1 integration	DFPW Normal	S_N_ER_3	
184T07:37	184T07:52	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
184T07:52	184T08:22	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
184T08:22	184T17:22	Madrid 70-m Array		DFPW Normal	S_N_ER_3	

C/A 2006-203T00:25:13 @ 950km

Start Time	Duration	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2006-201T23:51:00	00T00:30:00	2006-202T00:21:00	SP Turn to WP		DFPW Normal	S&ER-3	NAC to Titan, -X to Sun
2006-202T00:21:00	00T00:15:00	2006-202T00:36:00	OD Uncertainty Dead Time		DFPW Normal	S&ER-3	
TI-23:49	00T14:49	TI-09:00	VIMS	slow scan mosaic	DFPW Normal	S&ER-3	
TI-09:00	00T02:00	TI-07:00	CIRS		DFPW Normal/ RADWU	S&ER-3/ S&ER-5a	RADWU at TI-08:00; S&ER-5a at TI-08:00 for 15 min
TI-07:00	00T01:40	TI-05:20	VIMS		RADAR WU/Rad	S&ER-3	
TI-05:20			Begin Custom Period				
TI-05:20	00T00:18	TI-05:02	RADAR turn from VIMS attitude				
TI-05:02	00T03:25	TI-01:37	RADAR radiometry		RADAR_RWA	S&ER-8	(opmode transition is 44 sec)
TI-01:37	00T00:45:00	TI-00:52	RADAR scatterometry	inbound	RADAR_RWA/ RADAR_RCS	S&ER-8	
TI-00:52	00T00:22	TI-00:30	RWA to RCS transition		RADAR_RCS	S&ER-8	opmode transition is 21 min 13 sec; SPASS PRIME; (2,2,20) deadband
TI-00:30	00T00:15:00	TI-00:15	RADAR altimetry	inbound	RADAR_RCS	S&ER-8	
TI-00:15	00T00:08:00	TI-00:07	RADAR low res SAR	inbound	RADAR_RCS	S&ER-8	
TI-00:07	00T00:14:00	TI+00:07	RADAR high res SAR		RADAR_RCS	S&ER-8	
TI+00:07	00T08:00:00	TI+00:15	RADAR low res SAR	outbound	RADAR_RCS	S&ER-8	
TI+00:15	00T00:15:00	TI+00:30	RADAR altimetry	outbound	RADAR_RCS	S&ER-8	
TI+00:30	00T00:08:00	TI+00:38:00	UVIS turn from RADAR attitude				
TI+00:38:00	00T00:38:30	TI+01:15	UVIS Stellar Occ		ORS_RCS/ DFPW Normal	S&ER-3	ENGR is PRIME until TI+01:00, but UVIS will be performing occ. UVIS is Prime again from 01:00 to 01:15
TI+00:38:00	00T00:23	TI+01:00	RCS to RWA transition		DFPW Normal	S&ER-3	during UVIS; duration of transition is 22 min 36 sec; SPASS NOTE
TI+01:15	00T00:15	TI+01:30	CIRS turn from UVIS attitude				
TI+01:30	00T05:45	TI+07:15	CIRS	Limb integration, followed by north-south scan nadir map, followed by mid-IR on limb	DFPW Normal	S&ER-3	
TI+07:15			End Custom Period				
TI+07:15	00T05:34	TI+12:49	VIMS	stare for cloud monitoring and lightening search	DFPW Normal	S&ER-3	
2006-203T13:15:00	00T00:15	2006-203T13:30:00	OD Uncertainty Dead Time		DFPW Normal	S&ER-3	
2006-203T13:30:00	00T00:00	2006-203T14:00:00	SP turn to Earth		DFPW Normal	S&ER-3	
2006-203T14:00:00	00T09:36	2006-203T23:36:00	Goldstone DL		DFPW Normal	RTE&SPB	

028TI(T17) Timeline

C/A= 2006-250T20:12:04 @ 950 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
249T21:06	249T21:36	SP Turn to waypoint	NAC to Titan, -X to Sun	DFPW Normal	S_N_ER_3	
249T21:36	249T21:51	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-22:20	-15:00	CIRS_028TI_MIDIRTMAP006_PRIME		DFPW Normal	S_N_ER_3	
-15:00	-14:00	ISS_028TI_NIGHTNAC001_PRIME		DFPW Normal	S_N_ER_3	
-14:00	-08:00	CIRS_028TI_FIRNADCMP003_PRIME		DFPW Normal	S_N_ER_3	
-08:00	-07:30	ISS_028TI_PHOTOMWAC001_PRIME		DFPW Normal	S_N_ER_3	
-07:30	-02:45	UVIS_028TI_EUVFUV001_PRIME		DFPW Normal	S_N_ER_3	
-02:45	-02:24	Transition RWA to RCS		ORS_RCS	S_N_ER_3	
-02:24	-01:24	CIRS_028TI_FIRLMBINT002_PRIME		ORS_RCS	S_N_ER_3	
-01:24	-00:45	CIRS_028TI_FIRLMBBAER002_PRIME		RAD_RCS	S_N_ER_5A, S_N_ER_2	_5A until -01:09, _2 until -00:03
-00:45		Begin Custom Period				
-00:45	-00:15	CIRS_028TI_FIRLMBT002_PRIME		RAD_RCS	S_N_ER_2	End at VIMS occ attitude
-00:15	-00:08	VIMS_028TI_STAROCC001_PRIME		RAD_RCS	S_N_ER_2	
-00:08	+00:17	INMS	NEG_X to RAM	RAD_RCS	S_N_ER_2, S_N_ER_8, S_N_ER_2	Start at VIMS attitude; rotate to/from RADAR SAR; end at waypoint; _2 until -00:03, _8 until +00:02, _2 until +00:17
+00:17		End Custom Period				
+00:17	+00:40	Transition RCS to RWA		DFPW Normal	S_N_ER_3	
+00:40	+02:00	ISS_028TI_HIGHRESNA001_PRIME		DFPW Normal	S_N_ER_3	
+02:00	+04:00	ISS_028TI_REGMAPNA001_PRIME		DFPW Normal	S_N_ER_3	
+04:00	+07:00	ISS_028TI_GLOBMAPNA001_PRIME		DFPW Normal	S_N_ER_3	
+07:00	+10:00	ISS_028TI_MONITORNA001_PRIME		DFPW Normal	S_N_ER_3	
+10:00	+13:38	VIMS_028TI_PHOTOMETR002_PRIME		DFPW Normal	S_N_ER_3	
251T09:51	251T10:06	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
251T10:06	251T10:36	SP Turn to Earth for downlink	XBAND to Earth, -X to NEP	DFPW Normal	S_N_ER_3	
251T10:36	251T21:06	Downlink over Goldstone	XBAND to Earth, rolling	DFPW Normal	RTE_N_SPB	10.5 hrs req'd to return 2 SSRs

029TI(T18) Timeline							
C/A 2006-266T18:58:49 @960km							
Start Time	Duration	End Time	Prime Activity.	Obs. Detail	Op Mode	TLM Mode	Comments
265T20:07	0:30	265T20:37	SP turn to WP	NEG_Y Titan, NEG_X Sun	DFPW Norm	S_N_ER_3	
265T20:37	0:15	265T20:58:49	OD Uncertainty - Dead Time		DFPW Norm	S_N_ER_3	
-22:00	7:00	-15:00	CIRS	Composition map	DFPW Norm	S_N_ER_3	
-15:00	1:00	-14:00	ISS		DFPW Norm	S_N_ER_3	
-14:00	5:30	-8:30	CIRS		DFPW Norm	S_N_ER_3	
-8:30	1:00	-7:30	ISS		DFPW Norm	S_N_ER_3	
-7:30	4:30	-3:00	UVIS	Slow scan limb-to-limb	DFPW Norm	S_N_ER_3	
-3:00	1:00	-2:00	ISS		DFPW Norm	S_N_ER_3	
-2:00			Begin Custom period				
-2:00	1:16	-00:45	CIRS	FP1 Limb integration	Radar_WU	S_N_ER_5A	until -1:45
-00:45	0:22	-0:23	Transition to RCS		WU_RCS	S_N_ER_2	
-0:23	7min	-00:15	TURN (INMS)	Custom - CIRS to INMS	RADAR_RCS	S_N_ER_2	
-00:15	0:30	+00:15	INMS		RADAR_RCS	S_N_ER_8	
+00:15	8 min	+00:23	TURN (INMS)	INMS Custom - INMS to VIMS	RADAR_RCS	S_N_ER_2	
+00:23	+00:24	+00:45	Transition to DFPW Normal		DFPW Norm	S_N_ER_3	
+00:45	9:08	+09:53	VIMS	Nested mapping	DFPW Norm	S_N_ER_3	
+00:23			End Custom period				
+09:53	1:53	267T06:45	ISS				
267T06:45	0:15	267T07:00	OD Uncertainty - Dead Time		DFPW Norm	S_N_ER_3	
267T07:00	0:30	267T07:30	SP Turn to WP	FP_B Saturn , POS_Z NSP	DFPW Norm	S_N_ER_3	
267T07:30	2:40	267T10:10	CIRS	Ring observation	DFPW Norm	S_N_ER_3	
267T10:10	0:20	267T10:30	SP turn to D/L		DFPW Norm	S_N_ER_3	
267T10:30	9:30	267T20:00	Downlink over Goldstone		DFPW Norm	RTE_N_SPB	

030TI(T19) Timeline

C/A= 2006-282T17:23:24 @ 950 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
281T19:24	281T19:54	SP Turn to waypoint		DFPW Normal	S_N_ER_3	
281T19:54	281T20:09	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-21:14	-15:00	CIRS		DFPW Normal	S_N_ER_3	
-15:00	-14:00	ISS		DFPW Normal	S_N_ER_3	
-14:00	-09:00	CIRS	Long integration w/FP1	DFPW Normal	S_N_ER_3	
-09:00	-05:20	CIRS	Mid-IR limb integration	DFPW Normal / RAD WU	S_N_ER_3	RADAR_WU and S N ER 5a at -08:20
-05:20	-01:15	RADAR Radiometry	Inbound	RADRWA	S_N_ER_8	Includes 20 min. for turn from waypoint
-01:15	-00:52	RADAR Scatterometry	Inbound	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS transition		RADRCS		
-00:30	-00:15	RADAR Altimetry	Inbound	RADRCS	S_N_ER_8	
-00:15	-00:07	RADAR Low-Res SAR	Inbound	RADRCS	S_N_ER_8	
-00:07	+00:07	RADAR High-Res SAR	C/A	RADRCS	S_N_ER_8	
+00:07	+00:15	RADAR Low-Res SAR	Outbound	RADRCS	S_N_ER_8	
+00:15	+00:30	RADAR Altimetry	Outbound	RADRCS	S_N_ER_8	
+00:30	+00:54	RCS to RWA transition		RADRWA		
+00:54	+01:15	RADAR Scatterometry	Outbound	RADRWA	S_N_ER_8	
+01:15	+05:20	RADAR Radiometry		RADRWA	S_N_ER_8	Includes 20 min. for turn to waypoint
+05:20	+08:00	CIRS		DFPW Normal	S_N_ER_3	
+08:00	+10:00	ISS	Global Map	DFPW Normal	S_N_ER_3	
+10:00	+15:51	CIRS	Long integration w/FP1	DFPW Normal	S_N_ER_3	
283T09:15	283T09:30	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
283T09:30	283T10:00	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
283T10:00	283T19:00	Downlink over Goldstone		DFPW Normal	RTE_N_SPB	

031TI(T20) Timeline						
C/A 2006-298T15:58:07 @1030km						
Start Time	End Time	Prime Activity.	Obs. Detail	Op Mode	TLM Mode	Comments
296T10:56	296T11:26	SP turn to WP	NEG_Y Titan, NEG_X Sun	DFPW Norm	S_N_ER_3	
296T11:26	297T01:26	CIRS	Composition map	DFPW Norm	S_N_ER_3	
297T01:26	297T08:56	CIRS	Composition map	DFPW Norm	S_N_ER_3	
297T08:56	297T09:26	SP turn to Earth	NEG_Z Earth, NEG_X NEP	DFPW Norm	S_N_ER_3	
297T09:26	297T18:26	G70 D/L		DFPW Norm	S_N_ER_3	
297T18:26	297T18:56	SP turn to WP	NEG_Y Titan, POS_X NTP	DFPW Norm	S_N_ER_3	
297T18:56	297T19:18	OD Deadtime		DFPW Norm	S_N_ER_3	
-20:40	-7:30	VIMS	CLOUDMAP	DFPW Norm	S_N_ER_3	RADAR_WU and SNER_5a start at -8:30
-7:30	-5:30	VIMS	MEDRES	RADAR_WU	S_N_ER_3	back to SNER_3 at -8:15
-5:30		Begin Custom period			S_N_ER_3	
-5:30	-00:52	RADAR	Radiometry	Radar_WU	S_N_ER_8	
-01:14	-0:52	Transition to RCS	(0.5,2.0,0.5)	WU_RCS	S_N_ER_8	
-0:52	-00:10	CAPS		RADAR_RCS	S_N_ER_3	
+00:23		End Custom period				
-00:10	+00:20	VIMS	Composition map	RADAR_RCS	S_N_ER_3	
+00:20	+00:42	Transition to DFPW Normal		DFPW Norm	S_N_ER_3	
+00:42	+02:00	VIMS	HIRES	DFPW Norm	S_N_ER_3	
+02:00	+04:30	ISS	REGMAP	DFPW Norm	S_N_ER_3	
+04:30	+07:30	CIRS	MIRLMBMAP			5min dwells for ISS/VIMS
+07:30	+08:00	VIMS	DARKSIDE			
+08:00	+10:30	VIMS	COMPMAP			
299T02:28	299T02:37	OD Uncertainty - Dead Time		DFPW Norm	S_N_ER_3	
299T02:37	299T03:07	SP turn to D/L		DFPW Norm	S_N_ER_3	
299T03:07	299T08:11	Downlink over Madrid HEF		DFPW Norm	RTE_N_SPB	
299T08:11	299T14:56	Downlink over G70				



Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
345T15:17	345T15:47	SP Turn to way point	-Y to Titan, -X to Sun	DFPW Norm	S_N_ER_3	
345T15:47	345T16:02	OD Uncertainty Dead Time		DFPW Norm	S_N_ER_3	
-19:33	-15:30	CIRS		DFPW Norm	S_N_ER_3	
-15:30	-14:30	ISS		DFPW Norm	S_N_ER_3	
-14:30	-7:30	CIRS		DFPW Norm	S_N_ER_3	
-7:30	-2:30	UVIS		DFPW Norm then RADAR_WU	S_N_ER_3 then S_N_ER_5a	RADAR_WU & S_N_ER_5a start at -2:45
-2:30	-1:10	ISS		RADAR_WU	S_N_ER_3	
-1:10		Begin Custom Period				
-1:10	-0:44	UVIS Stellar Occ	Alpha Eri	RADAR_WU	S_N_ER_3	(RA=24.428, DEC=-57.237)
-0:44	-0:23	Transition to RCS		(.5,2,.5)	S_N_ER_2	(.5,2,.5) until -0:23 then (2,2,20)
-0:23	-0:15	Turn to INMS	INMS	RADAR_RCS	S_N_ER_2	
-0:15	0:00	INMS (Radar Rider)	-X to RAM, -Z to Titan	RADAR_RCS	S_N_ER_8	S_N_ER_2 until -0:07
0:00	+0:07	RADAR High-Res SAR	-Z to Titan, -X to RAM	RADAR_RCS	S_N_ER_8	
+0:07	+0:15	RADAR Low-Res SAR	-Z to Titan, -X to RAM	RADAR_RCS	S_N_ER_8	
+0:15	+0:30	RADAR Altimetry	-Z to Titan, +X to NTP	RADAR_RCS	S_N_ER_8	
+0:30	+0:52	Transition to RWA		RADAR_RWA	S_N_ER_8	
+0:52	+1:35	RADAR Scatterometry	-Z to Titan, +X to NTP	RADAR_RWA	S_N_ER_8	
+1:35	+3:30	RADAR Radiometry	-Z to Titan, +X to NTP	RADAR_RWA	S_N_ER_8	
+3:30	+4:00	Radar Turn to way point	-Y to Titan, -X to Sun	RADAR_RWA	S_N_ER_8	
+4:00		End Custom Period				
+4:00	+7:00	ISS		DFPW Norm	S_N_ER_3	
+7:00	+9:00	CIRS		DFPW Norm	S_N_ER_3	
+9:00	+10:28	ISS		DFPW Norm	S_N_ER_3	
+10:28	+13:28	CIRS *				
347T01:09	347T01:15	OD Uncertainty Dead Time		DFPW Norm	S_N_ER_3	
347T01:15	347T01:36	SP Turn to D/L		DFPW Norm	S_N_ER_3	
347T01:36	347T10:48	D/L		DFPW Norm	SPB	

037TI(T23) Timeline

C/A= 2007-013T08:34:00 @ 950 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
012T13:34	012T14:04	SP Turn to waypoint	-Y to Titan, -X to Sun	DFPW Normal	S_N_ER_3	
012T14:04	012T14:19	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-18:15	-16:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (truncated)
-16:00	-15:00	ISS		DFPW Normal	S_N_ER_3	Template M
-15:00	-13:00	CIRS		DFPW Normal	S_N_ER_3	Template M
-13:00	-10:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template N
-10:00	-09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	Template N
-09:00	-05:00	CIRS	Mid-IR Limb	DFPW Normal / RADWU	S_N_ER_3, S_N_ER_5a	Template R; RADWU & S_N_ER_5a at -08:00
-05:00		Begin Custom Period				
-05:00	-01:15	RADAR Radiometry	Inbound	RADROWA	S_N_ER_8	Template S
-01:15	-00:52	RADAR Scatterometry	Inbound	RADROWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS transition	Inbound	RADRCS		(Deadband = 2,2,20)
-00:30	-00:15	RADAR Altimetry	Inbound	RADRCS	S_N_ER_8	
-00:15	-00:07	RADAR Low-Res SAR	Inbound	RADRCS	S_N_ER_8	
-00:07	+00:07	RADAR High-Res SAR	C/A	RADRCS	S_N_ER_8	
+00:07	+00:15	RADAR Low-Res SAR	Outbound	RADRCS	S_N_ER_8	
+00:15	+00:30	RADAR Altimetry	Outbound	RADRCS	S_N_ER_8	
+00:30	+00:54	RADAR Scatterometry	Outbound	RADRCS	S_N_ER_8	
+00:54	+01:04	RADAR turn to UVIS occ		RADRCS	S_N_ER_8	-Y to 206.8850/49.313, -Z to NTP
+01:04	+01:28	RCS to RWA transition		RADROWA		Transition at start of occ
+01:04	+01:41	UVIS Occ of Eta Uma		RADRCS	S_N_ER_3	RCS to RWA transition during observation
+01:41	+02:00	RADAR turn to radiometry		RADRCS	S_N_ER_8	
+02:00	+05:00	RADAR Radiometry	Outbound	RADROWA	S_N_ER_8	End at ORS waypoint; Template L
+05:00		End Custom Period				
+05:00	+08:00	ISS	Regional Map	DFPW Normal	S_N_ER_3	Template H
+08:00	+09:00	ISS	Wide Angle	DFPW Normal	S_N_ER_3	Template H
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D (Updated)
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D (Updated)
+13:00	+14:00	VIMS	Stare	DFPW Normal	S_N_ER_3	Template D (Updated)
013T22:34	013T22:49	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
013T22:49	014T04:04	UVIS	Ring Impact	DFPW Normal	S_N_ER_3	
014T04:04	014T04:34	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
014T04:34	014T13:34	Downlink over Goldstone		DFPW Normal	RTE_N_SPB	

C/A= 2007-029T07:15:55 @ 2631 km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
028T12:12	028T12:42	SP Turn to waypoint		DFPW	S_N_ER_3	
028T12:42	028T12:57	OD Dead Time		DFPW	S_N_ER_3	
-18:15	-16:00	CIRS	Mid-IR Temp Map	DFPW	S_N_ER_3	Template M (shortened)
-16:00	-15:00	ISS	Monitor	DFPW	S_N_ER_3	Template M
-15:00	-13:00	CIRS	Mid-IR Temp Map	DFPW	S_N_ER_3	Template M
-13:00	-10:00	CIRS	FP1 integration	DFPW	S_N_ER_3	Template N
-10:00	-09:00	ISS	Photometry	DFPW	S_N_ER_3	Template N
-09:00	-03:00	UVIS	EUVFUV slow scans	DFPW	S_N_ER_3	Templates P & U
-03:00	-02:00	ISS	Regional Map	DFPW	S_N_ER_3	Template U
-02:00		Begin Custom Period				
-02:00	-00:23	CIRS		DFPW	S_N_ER_3	
-00:23	-00:17	VIMS	Stellar Occ	DFPW	S_N_ER_3	
-00:17	+02:00	VIMS	High Res	DFPW	S_N_ER_3	Template J
+02:00		End Custom Period				
+02:00	+04:00	ISS	Regional Map			
+04:00	+05:00	CIRS		DFPW	S_N_ER_3	Template J
+05:00	+09:00	CIRS	Limb Map	DFPW	S_N_ER_3	Template F
+09:00	+14:00	CIRS		DFPW	S_N_ER_3	Template C
+14:00	+19:14	CIRS	Mid-IR Temp Map	DFPW/RSSK	S_N_ER_3	RSSK at 00:51:10
030T02:27	030T02:42	OD Dead Time		DFPW	S_N_ER_3	
030T02:42	030T03:12	SP turn to downlink		DFPW	S_N_ER_3	
030T03:12	030T12:12	Goldstone		DFPW	RTE_N_SPB	



039TI (T25) Timeline

C/A= 053T03:10:59

Start Time	Duration	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2007-052T10:37:00	00T00:30:00	2007-052T11:07:00	SP turn to WP	NAC to Titan, +X to NTP	DFPW Normal	S&ER-3	
2007-052T11:07:00	00T00:15:00	2006-052T11:22:00	OD Uncertainty Dead Time		DFPW Normal	S&ER-3	
TI-15:49	00T00:49	TI-15:00	ISS	monitor	DFPW Normal	S&ER-3	template M
TI-15:00	00T02:00	TI-13:00	CIRS	Mid IR temp map	DFPW Normal	S&ER-3	template M
TI-13:00	00T03:00	TI-10:00	CIRS	FP1	DFPW Normal	S&ER-3	template N
TI-10:00	00T01:00	TI-09:00	ISS	Photometry	DFPW Normal	S&ER-3	template N
TI-09:00	00T01:00	TI-08:00	CIRS	Mid IR Limb	DFPW Normal	S&ER-3	template R
TI-08:00	00T02:50	TI-05:10	CIRS	Mid IR Limb	RADARWU	S&ER-5a/S&ER-3	template R; S&ER-5a at TI-07:45 for 15 min
TI-05:10	00T00:22	TI-04:48	SP turn to RADAR WP	+X to 223/-12, -Z to Titan	RADARWU	S&ER-8	
TI-04:48	00T03:33	TI-01:15	RADAR	radiometry (inbound)	RADAR_RWA	S&ER-8	template S
TI-01:15	00T00:23	TI-00:52	RADAR	scatterometry (inbound)			
TI-00:52	00T00:22	TI-00:30	RWA to RCS transition				opmode transition is 21 min 13 sec; SPASS NOTE; (2,2,20) deadband
TI-00:30	00T00:14	TI-00:16	RADAR	altimetry (inbound)	RADAR_RCS	S&ER-8	
TI-00:16	00T00:10	TI-00:06	RADAR	low-res SAR imaging (inbound)			
TI-00:06	00T00:12	TI+00:06	RADAR	high-res SAR imaging			
TI+00:06	00T00:10	TI+00:16	RADAR	low-res SAR imaging (outbound)			
TI+00:16	00T00:14	TI+00:30	RADAR	altimetry (outbound)			
TI+00:30	00T00:24	TI+00:52	RCS to RWA transition				opmode transition is 23 min 18 sec; SPASS NOTE
TI+00:54	00T00:23	TI+01:17	RADAR	scatterometry (outbound)			
TI+01:17	00T03:32	TI+04:49	RADAR	radiometry (outbound)	RADAR_RWA	S&ER-8	template L
TI+04:49	00T00:22	TI+05:11	SP turn to WP	NAC to Titan, -X to Sun	DFPW Normal	S&ER-3	
TI+05:11	00T03:49	TI+09:00	ISS	global mosaic	DFPW Normal	S&ER-3	template H
TI+09:00	00T02:00	TI+11:00	CIRS	FP1 stare	DFPW Normal	S&ER-3	template D
TI+11:00	00T02:00	TI+13:00	ISS	mosaic	DFPW Normal	S&ER-3	template D
TI+13:00	00T01:00	TI+14:00	VIMS	stare	DFPW Normal	S&ER-3	template D
TI+14:00	00T07:15	2006-054T00:26:00	CIRS	mid IR temp map with slow scans	DFPW Normal	S&ER-3	template A
2006-054T00:26:00	00T00:15	2006-054T00:41:00	OD Uncertainty Dead Time		DFPW Normal	S&ER-3	
2006-054T00:41:00	00T00:30	2006-054T01:11:00	SP turn to Earth		DFPW Normal	S&ER-3	
2006-054T01:11:00	00T09:00	2006-054T10:11:00	Goldstone DL		DFPW Normal	RTE&SPB	

040TI(T26) Timeline

C/A= 2007-069T01:49 @ 980 km; Unilluminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
068T09:21	068T09:51	SP Turn to waypoint	-Y to Titan, +X to NTP	DFPW Normal	S_N_ER_3	
068T09:51	068T10:06	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-15:41	-14:41	ISS	Polar Photom	DFPW Normal	S_N_ER_3	Template M (modified)
-14:41	-13:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (modified)
-13:00	-10:00	CIRS	FP1 Integration	DFPW Normal	S_N_ER_3	Template N
-10:00	-09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	Template N
-09:00	-05:00	CIRS	Mid-IR Limb Map	DFPW Normal	S_N_ER_3	Template R
-05:00	-01:24	CIRS	Nadir	DFPW Normal	S_N_ER_3	Template T (modified)
-01:24	-01:00	RWA to RCS Transition		ORS_RCS	S_N_ER_3	(Deadband = 0.5,20,0.5)
-01:00	-00:47	SP Turn to waypoint	-X to SC_RAM, -Y to Titan	ORS_RCS	S_N_ER_3	Safe throughout custom period; suspend SID
-00:47		Begin Custom Period				
-00:47	-00:11	UVIS Solar Occ	UVIS_SOLAR to Sun, -X to SC_RAM	DFPW Normal	S_N_ER_3, S_N_ER_2	2nd axis for INMS; S_N_ER_2 at 00:30 for RPWS
-00:11	+00:15	INMS		ORS_RCS	S_N_ER_2	Pick up at UVIS_SOLAR to Sun, X to RAM; Leave at -X to SC_RAM. -Y to Titan
+00:15		End Custom Period				
+00:15	+01:52	CIRS		ORS_RCS	S_N_ER_2, S_N_ER_3	
+01:52	+02:00	SP Turn to waypoint	-Y to Titan, -X to Sun	ORS_RCS	S_N_ER_3	
+02:00	+02:23	RCS to RWA Transition		ORS_RCS	S_N_ER_3	
+02:23	+04:15	ISS	Regional Map	DFPW Normal	S_N_ER_3	Shortened wrt May '02 TOL
+04:15	+05:00	CIRS		DFPW Normal	S_N_ER_3	
+05:00	+08:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template G
+08:00	+09:00	ISS		DFPW Normal	S_N_ER_3	Template G
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+15:14	VIMS	Stare	DFPW Normal	S_N_ER_3	Template D
069T17:02	069T17:17	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
069T17:17	069T17:47	SP Turn to Earth		DFPW Normal	S_N_ER_3	
069T17:47	070T02:47	Madrid 70-m		DFPW Normal	RTE_N_SPB	

NOTE: Incorrect Timeline (i.e. RCS-RWA Transition), please refer to Attitude Strategy on next page

040TI (T26) Attitude Strategy

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S028, length = 39 ...		2007-048T10:52:00	E039_SEQUENCE_028+000T00:00:00	038T21:12:00	2007-087T08:04:00			
TOST rev 40 Segment		2007-068T09:21:00		001T17:26:00	2007-070T02:47:00			
SP_040TI_WAYPTTURN068_PRIME		2007-068T09:21:00		000T00:30:00	2007-068T09:51:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	16.38 min turn
NEW WAYPOINT		2007-068T09:51:00		000T15:11:00	2007-069T01:02:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
SP_040TI_DEADTIME068_PRIME		2007-068T09:51:00		000T00:17:00	2007-068T10:08:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
ISS_040TI_NIGHTNAC001_PRIME	C, V	2007-068T10:08:00	GMB_E040_Titan26-000T15:41:00	000T01:00:00	2007-068T11:08:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_MIDIRTMAP001_PRIME	C, I, V	2007-068T11:08:00	GMB_E040_Titan26-000T14:41:00	000T01:41:00	2007-068T12:49:00	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_FIRNADCP001_PRIME	C, I, V	2007-068T12:49:00	GMB_E040_Titan26-000T13:00:00	000T03:00:00	2007-068T15:49:00	CIRS_FP1 to Titan	PIC	
ISS_040TI_PHOTMWAC001_PRIME	C, V	2007-068T15:49:00	GMB_E040_Titan26-000T10:00:00	000T01:00:00	2007-068T16:49:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_MIRLMBMAP001_PRIME	C, I, V	2007-068T16:49:00	GMB_E040_Titan26-000T09:00:00	000T04:00:00	2007-068T20:49:00	CIRS_FPB to Titan	PIC	
CIRS_040TI_FIRNADMAP001_PRIME	C, I, V	2007-068T20:49:00	GMB_E040_Titan26-000T05:00:00	000T02:45:00	2007-068T23:34:00	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
CIRS_040TI_FIRLMBINT001_PRIME	C, I, M, U, V	2007-068T23:34:00	GMB_E040_Titan26-000T02:15:00	000T00:51:00	2007-069T00:25:00	CIRS_FP1 to Titan	PIC	
ENGR_040SC_ORSRCS069_PPS	C, M	2007-069T00:25:00	GMB_E040_Titan26-000T01:24:00	000T00:20:51	2007-069T00:45:51	ISS_NAC to Titan	POS_X to North_Pole_Dir	Deadband = (0.5, 20, 0.5)
SP_040SR_WAYPTTURN069_PRIME	M	2007-069T00:49:00	GMB_E040_Titan26-000T01:00:00	000T00:13:00	2007-069T01:02:00	NEG_X to Titan_SC_RAM	NEG_Y to Titan	11.2 min turn on thrusters
NEW WAYPOINT		2007-069T01:02:00		000T01:10:00	2007-069T02:12:00	NEG_X to Titan_SC_RAM	NEG_Y to Titan	
Begin Custom Period		2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:01:00	2007-069T01:03:00			
UVIS_040SU_USUNOCC002_PRIME	M, V	2007-069T01:02:00	GMB_E040_Titan26-000T00:47:00	000T00:36:00	2007-069T01:38:00	NEG_Y to Sun (-20.0,0.0,0.0 deg. offset)	NEG_X to Titan_SC_RAM	Pick up at NEG_X to Titan_SC_RAM, NEG_Y to Titan; Hand off at NEG_Y to Sun (-20.0,0.0,0.0 deg. offset), NEG_X to Titan_SC_RAM. Secondary axis -X to S/C ram for INMS. S_N_ER2 at -30:00 for RPWS
INMS_040TI_T26RAMPNT001_PRIME	M	2007-069T01:38:00	GMB_E040_Titan26-000T00:11:00	000T00:26:00	2007-069T02:04:00	NEG_X to Titan_SC_RAM	NEG_Y to Titan	Pick up at NEG_Y to Sun (-20.0,0.0,0.0 deg. offset), NEG_X to Titan_SC_RAM; Hand off at NEG_X to Titan_SC_RAM, NEG_Y to Titan.
40TI (t) T26 TITAN outbound...		2007-069T01:49:00		000T00:00:01	2007-069T01:49:01			
End Custom Period		2007-069T02:04:00	GMB_E040_Titan26+000T00:15:00	000T00:01:00	2007-069T02:05:00			
SP_040TI_WAYPTTURN069_PRIME	M	2007-069T02:04:00	GMB_E040_Titan26+000T00:15:00	000T00:08:00	2007-069T02:12:00	ISS_NAC to Titan (0.0,-8.0,0.0 deg. offset)	NEG_X to Sun	04.52 turn on thrusters
NEW WAYPOINT		2007-069T02:12:00		001T00:35:00	2007-070T02:47:00	ISS_NAC to Titan (0.0,-8.0,0.0 deg. offset)	NEG_X to Sun	
CIRS_040TI_FIRLMBT002_PRIME	C, I, M, V	2007-069T02:12:00	GMB_E040_Titan26+000T00:23:00	000T00:30:00	2007-069T02:42:00	CIRS_FP1 to Titan	PIC	Pick up at -Y to Titan, -X to Sun, -8 deg about Y.
CIRS_040TI_FIRLMBT002_PRIME	C, I, M, V	2007-069T02:42:00	GMB_E040_Titan26+000T00:53:00	000T00:30:00	2007-069T03:12:00	CIRS_FP1 to Titan	PIC	
ENGR_040SC_DFPWBIAS069_PPS	C, M, V	2007-069T03:12:00	GMB_E040_Titan26+000T01:23:00	000T00:21:05	2007-069T03:33:05	ISS_NAC to Titan	NEG_X to Sun	
CIRS_040TI_FIRLMBT002_PRIME	C, I, M, V	2007-069T03:35:00	GMB_E040_Titan26+000T01:46:00	000T00:37:00	2007-069T04:12:00	CIRS_FP1 to Titan	PIC	hand-off at waypoint (-Y Titan center, -X Sun, -8 deg about Y)
ISS_040TI_REGMAP001_PRIME	C, V	2007-069T04:12:00	GMB_E040_Titan26+000T02:23:00	000T01:52:00	2007-069T06:04:00	ISS_NAC to Titan	NEG_X to Sun	
CIRS_040TI_FIRNADMAP002_PRIME	C, I, V	2007-069T06:04:00	GMB_E040_Titan26+000T04:15:00	000T00:45:00	2007-069T06:49:00	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
UVIS_040TI_EUVFUV002_PRIME	C, I, V	2007-069T06:49:00	GMB_E040_Titan26+000T05:00:00	000T03:00:00	2007-069T09:49:00	UVIS_FUV to Titan	NEG_X to Sun	
ISS_040TI_GLOBMAP001_PRIME	C, V	2007-069T09:49:00	GMB_E040_Titan26+000T08:00:00	000T00:40:00	2007-069T10:29:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_040TI_PHOTMWAC002_PRIME	C, V	2007-069T10:29:00	GMB_E040_Titan26+000T08:40:00	000T00:20:00	2007-069T10:49:00	ISS_NAC to Titan	NEG_X to Sun	
CIRS_040TI_FIRNADCP002_PRIME	C, I, U, V	2007-069T10:49:00	GMB_E040_Titan26+000T09:00:00	000T02:00:00	2007-069T12:49:00	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
ISS_040TI_MONITORNA001_PRIME	C, V	2007-069T12:49:00	GMB_E040_Titan26+000T11:00:00	000T02:00:00	2007-069T14:49:00	ISS_NAC to Titan	NEG_X to Sun	
VIMS_040TI_GLOBMAP002_PRIME	C, I	2007-069T14:49:00	GMB_E040_Titan26+000T13:00:00	000T02:14:00	2007-069T17:03:00	ISS_NAC to Titan	NEG_X to Sun	
SP_040TI_DEADTIME069_PRIME		2007-069T17:03:00	GMB_E040_Titan26+000T15:14:00	000T00:14:00	2007-069T17:17:00	ISS_NAC to Titan	NEG_X to Sun	
SP_040EA_DLTURN069_PRIME		2007-069T17:17:00		000T00:30:00	2007-069T17:47:00	XBAND to Earth (0.0,0.0,-65.0 deg. offset)	POS_X to NEP	16.0 min turn
SP_040EA_M70METNON069_PRIME	C	2007-069T17:47:00		000T09:00:00	2007-070T02:47:00	XBAND to Earth (0.0,0.0,-65.0 deg. offset)	Rolling	

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
084T08:20	084T08:50	SP Turn to waypoint		DFPW	S_N_ER_3	NEG_Y to Titan, NEG_X to Sun
084T08:50	084T09:05	OD Uncertainty Dead		DFPW	S_N_ER_3	
-15:16	-13:00	CIRS	Mid-IR Temp Map	DFPW	S_N_ER_3	Template M - First 16 mins from
-13:00	-10:00	CIRS	FP1	DFPW	S_N_ER_3	Template N
-10:00	-09:00	ISS	Photometry	DFPW	S_N_ER_3	Template N
-09:00	-05:00	CIRS	Mid-IR Limb	DFPW	S_N_ER_3	Template R
-05:00	-04:00	ISS	Regional Map	DFPW	S_N_ER_3	Template U
-04:00	-03:34	Transition to RCS	26 minutes (21+5)	RSS3/RCS	S_N_ER_3	
-03:34	-01:11	UVIS	EUVFUV	RSS3/RCS	S_N_ER_3	Template U
-02:50	-00:50	RSS Warm-Up		RSS3/RCS	S_N_ER_3	
-01:11	-00:58	SP Turn to New Waypoint		RSS3/RCS	S_N_ER_3	NEG_Z to Earth, NEG_Y to SCRAM (0,0,30) - See Lien
-00:58	-00:50	RSS	Turn to Bistatic	RSS3/RCS	S_N_ER_2	
-00:50	-00:23	RSS	Bistatic	RSS3/RCS	S_N_ER_2	
-00:23	+00:12	RSS	Occultation	RSS3/RCS	S_N_ER_2	
+00:12	+00:50	RSS	Bistatic	RSS3/RCS	S_N_ER_2	
+00:50	+01:00	RSS	Turn to waypoint	RSS3/RCS	S_N_ER_2	
+01:00	+01:10	SP Turn to New waypoint		RSS3/RCS	S_N_ER_2	NEG_Y to Titan, NEG_X to Sun - SP Turn to CIRS Limb Attitude
+01:10	+01:33	Transition to DFPW	23 minutes	DFPW	S_N_ER_3	
+01:33	+03:00	CIRS	Limb	DFPW	S_N_ER_3	Template K
+03:00	+05:00	UVIS	EUVFUV	DFPW	S_N_ER_3	Template K
+05:00	+08:00	UVIS	EUVFUV	DFPW	S_N_ER_3	Template G
+08:00	+09:00	ISS	WAC	DFPW	S_N_ER_3	Template G
+09:00	+11:00	CIRS	FP1	DFPW	S_N_ER_3	Template D (Updated)
+11:00	+13:00	ISS	Mosaic	DFPW	S_N_ER_3	Template D (Updated)
+13:00	+14:00	VIMS	Stare	DFPW	S_N_ER_3	Template D (Updated)
+14:00	+21:15	VIMS	Global Map	DFPW	S_N_ER_3	Template B (modified)
085T21:37	085T21:52	OD Uncertainty Dead		DFPW	S_N_ER_3	
085T21:52	085T22:22	SP Turn to Earth for downlink		DFPW	S_N_ER_3	NEG_Z to Earth, NEG_X to Sun
085T22:22	086T07:22	Goldstone 70-m		DFPW	RTE_N_SPB	XBAND to Earth, rolling

C/A 2007-100T22:57:11 at 950 km from (DATE)

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
100T07:03	100T07:33	SP Turn to waypoint		DFPW	S_N_ER_3	NEG_Y to Titan, NEG_X to Sun
100T07:33	100T07:48	OD Uncertainty Dead		DFPW	S_N_ER_3	
-15:09	-15:00	ISS	Monitor	DFPW Normal	S_N_ER_3	Template M (modified)
-15:00	-13:00	CIRS	Mid-IR Temp Map	DFPW	S_N_ER_3	Template M
-13:00	-09:00	VIMS	Cloud Map	DFPW	S_N_ER_3	Template O
-09:00	-05:10	UVIS	FUV/EUV	DFPW Normal /	S_N_ER_3 / S_N_ER_5a	Template P; RADWU & S_N_ER_5a at -08:00
-05:10	-4:50	SP Turn to waypoint	20 min turn	DFPW Normal /	S_N_ER_3	NEG_Z to Titan, NEG_X to RA/DEC 35/0 degrees
-04:50	-01:15	RADAR	Radiometry	RADRWA	S_N_ER_8	Template S
-01:15	-00:52	RADAR	Scatterometry	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition	22 mins	RADRCS	S_N_ER_8	Deadband = (2,2,20)
-00:30	-00:16	RADAR	Altimetry	RADRCS	S_N_ER_8	
-00:16	-00:06	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
-00:06	+00:06	RADAR	High-Res SAR	RADRCS	S_N_ER_8	
+00:06	+00:16	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
+00:16	+00:29	RADAR	Altimetry	RADRCS	S_N_ER_8	End at RADAR waypoint (SP to
+00:29	+00:37	SP Turn to waypoint		RADRCS	S_N_ER_8	NEG_Y to Titan, NEG_X to Sun
+00:37	+01:00	RCS to RWA Transition	23 mins	DFPW	S_N_ER_3	
+01:00	+02:00	ISS	High Res	DFPW	S_N_ER_3	
+02:00	+04:00	ISS	Regional Map	DFPW	S_N_ER_3	Template J
+04:00	+05:00	CIRS	Mid IR Limb Map	DFPW	S_N_ER_3	Template J
+05:00	+08:36	ISS	Global Mosaic	DFPW	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photometry	DFPW	S_N_ER_3	Template H
+09:00	+14:00	CIRS		DFPW	S_N_ER_3	Template C
+14:00	+21:14	CIRS	Mid-IR Temp Map	DFPW	S_N_ER_3	Template A (modified)
101T20:12	101T20:27	OD Uncertainty Dead		DFPW	S_N_ER_3	
101T20:27	101T20:57	SP Turn to Earth for		DFPW	S_N_ER_3	NEG_Z to Earth, NEG_X to Sun
101T20:57	102T05:57	Goldstone 70-m		DFPW	RTE_N_SPB	

043TI (T29) Timeline

C/A= 116T21:32:52

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
116T06:01	116T06:31	SP Turn to WP	NAC to TI, +X to NTP	DFPW Normal	S_N_ER_3	
116T06:31	116T06:46	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-14:46	-13:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (modified)
-13:00	-10:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template N
-10:00	-09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	Template N
-09:00	-05:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template Q
-05:00	-02:10	CIRS	Nadir	RADWU	S_N_ER_5a	Template T; RADWU & 5a for RADAR
-02:10	-01:50	SP turn to RADAR WP	-Z to Titan, -X to 270/-6			
-01:50	-01:15	RADAR	Radiometry	RADRWA	S_N_ER_8	
-01:15	-00:52	RADAR	Scatterometry	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition		RADRCS	S_N_ER_8	Deadband = (2,2,20)
-00:30	-00:15	RADAR	Altimetry	RADRCS	S_N_ER_8	
-00:15	-00:07	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
-00:07	+00:07	RADAR	High-Res SAR	RADRCS	S_N_ER_8	
+00:07	+00:15	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADRCS	S_N_ER_8	
+00:30	+00:54	RCS to RWA Transition		RADRWA	S_N_ER_8	
+00:54	+01:15	RADAR	Scatterometry	RADRWA	S_N_ER_8	
+01:15	+04:50	RADAR	Radiometry	RADRWA	S_N_ER_8	Template L
+04:50	+05:10	SP turn to WP	NAC to TI, -X to Sun			
+05:10	+08:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template I
+08:00	+08:36	ISS	NAC Mosaic	DFPW Normal	S_N_ER_3	Template I
+08:36	+09:00	ISS	WAC Photometry	DFPW Normal	S_N_ER_3	Template I
+09:00	+11:00	CIRS		DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS		DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS		DFPW Normal	S_N_ER_3	Template D
+14:00	+14:42	CIRS	Mid-IR Temp Map			Template A (modified)
117T12:15	117T12:30	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
117T12:30	117T13:00	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
117T13:00	117T22:33	Madrid 70-m		DFPW Normal	RTE_N_SPB	

044TI (T30) Timeline

C/A= 132T20:09:58

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
132T04:59	132T05:29	SP Turn to WP	NAC to TI, +X to NTP	DFPW Normal	S_N_ER_3	
132T05:29	132T05:44	MOD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-14:24	-13:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (modified)
-13:00	-09:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template O
-09:00	-05:10	UVIS	EUVFUV	DFPW Normal / RADWU	S_N_ER_3 / S_N_ER_5a	Template P; RADWU & S_N_ER_5a at -07:50
-05:10	-04:50	SP turn to RADAR WP	-Z to Titan, -X to 35/-15			
-04:50	-01:15	RADAR	Radiometry	RADRWA	S_N_ER_8	Template S
-01:15	-00:52	RADAR	Scatterometry	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition		RADRCS	S_N_ER_8	Deadband = (2,2,20)
-00:30	-00:15	RADAR	Altimetry	RADRCS	S_N_ER_8	
-00:15	-00:07	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
-00:07	+00:07	RADAR	High-Res SAR	RADRCS	S_N_ER_8	
+00:07	+00:15	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADRCS	S_N_ER_8	
+00:30	+00:54	RCS to RWA Transition		RADRWA	S_N_ER_8	
+00:54	+01:15	RADAR	Scatterometry	RADRWA	S_N_ER_8	
+01:15	+04:35	RADAR	Radiometry	RADRWA	S_N_ER_8	Template L
+04:35	+04:55	SP turn to WP	NAC to TI, -X to Sun			
+04:55	+08:36	ISS	Global Mosaic	DFPW Normal	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photometry	DFPW Normal	S_N_ER_3	Template H
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Stare	DFPW Normal	S_N_ER_3	Template D
+14:00	+15:19	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template A (modified)
133T11:28	133T11:43	MOD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
133T11:43	133T12:13	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
133T12:13	133T22:13	Madrid 70-m Array		DFPW Normal	RTE_N_SPB	

045TI (T31) Timeline C/A= 2007-148T18:51:55

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
148T03:56:00	148T04:26:00	SP Turn to waypoint		DFPW Normal	S_N_ER_3	NAC to Titan, -X to SUN
148T04:26:00	148T04:42:00	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-14:09	-13:00	CIRS		DFPW Normal	S_N_ER_3	Template M
-13:00	-10:00	CIRS-FP1		DFPW Normal	S_N_ER_3	Template N
-10:00	-9:00	ISS		DFPW Normal	S_N_ER_3	Template N
-9:00	-5:00	UVIS		DFPW Normal	S_N_ER_3	Template P
-5:00	-3:00	UVIS		DFPW Normal	S_N_ER_3	Template U
-3:00	-1:45	ISS		RSS_WU	S_N_ER_3	Template U
-1:45	-1:15	SP Turn to waypoint		RSS_WU	S_N_ER_3	-Z to Earth, POS_X to NSP
-1:15	+1:07	RSS Occultation		RSS3(RWAF)	S_N_ER_2	
+1:07	+00:40	RSS Bistat Out		RSS3(RWAF)	S_N_ER_2	
+00:40	+1:00	SP Turn to waypoint		DFPW Normal	S_N_ER_3	NAC to Titan, +X to NSP
+1:00	2:00	ISS		DFPW Normal	S_N_ER_3	
2:00	4:00	ISS-reg		DFPW Normal	S_N_ER_3	Template J
4:00	5:00	CIRS		DFPW Normal	S_N_ER_3	Template J
5:00	8:00	VIMS		DFPW Normal	S_N_ER_3	Template I
8:00	9:00	ISS-W		DFPW Normal	S_N_ER_3	Template I
9:00	15:14	CIRS		DFPW Normal	S_N_ER_3	Template C
149T10:05	149T10:21	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
149T10:21	149T10:51	SP Turn to downlink		DFPW Normal	S_N_ER_3	
149T10:51	149T21:21	Downlink over Madrid		DFPW Normal	S_N_ER_3	-Z to Earth, NEG_X to Sun (0,0,10 offset)

C/A= 2007-164T17:47:57 @ 950 km; Unilluminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
164T02:54	164T03:24	SP Turn to waypoint		DFPW Nor	S_N_ER_3	_Y Titan, +X NTP
164T03:24	164T03:39	OD Uncertainty Dead Time		DFPW Nor	S_N_ER_3	
-14:07	-13:00	CIRS		DFPW Nor	S_N_ER_3	Template M
-13:00	-09:00	VIMS	Cloud Map	DFPW Nor	S_N_ER_3	Template O
-09:00	-05:00	CIRS	Mid-IR Limb	DFPW Nor	S_N_ER_3	Template R
-05:00	-03:00	UVIS	EUVFUV	DFPW Nor	S_N_ER_3	Template U
-03:00	-02:00	ISS		DFPW Nor	S_N_ER_3	Template U
-02:00	-01:34	SP Turn to waypoint	26 min turn	DFPW Nor	S_N_ER_3	Solar Occ to SUN, -X RAM
-01:34		Begin Custom Period		DFPW Nor	S_N_ER_3	
-01:34	-01:07	UVIS	Solar Occ Ingress	DFPW Nor	S_N_ER_3	
-01:07	-00:43	RWA to RCS Transition		ORS/RCS	S_N_ER_3	simultaneous w/solar occ
-00:43	-00:22	VIMS	Lightning Search	ORS/RCS	S_N_ER_3	pickup at Solar Occ SUN, +Z Limb
-00:22	-00:15	Turn (INMS)		ORS/RCS	S_N_ER_2	pickup at -Y Titan, -X RAM
-00:15	+00:15	INMS		ORS/RCS	S_N_ER_2	MAPS rider (-Y Titan secondary)
+00:15	+00:22	Turn (CIRS)	CIRS Limb attitude	ORS/RCS	S_N_ER_2	pickup at -X RAM, -Y Titan
+00:22	+00:46	RCS to RWA Transition		DFPW Nor	S_N_ER_3	
+00:46	+01:02	CIRS	Limb	DFPW Nor	S_N_ER_3	
+01:02	+02:00	VIMS		DFPW Nor	S_N_ER_3	pickup at FP1 Lat_View, +Z FOV_LIMB
+02:00		End Custom Period		DFPW Nor	S_N_ER_3	SID violation during turn (6 m)
+2:00	+02:18	SP Turn to waypoint	18 min turn	DFPW Nor	S_N_ER_3	-Y Titan, -X SUN
+02:18	+05:00	CIRS		DFPW Nor	S_N_ER_3	Template E
+05:00	+08:00	VIMS	Regional Map	DFPW Nor	S_N_ER_3	Template I
+08:00	+09:00	ISS	NAC & WAC	DFPW Nor	S_N_ER_3	Template I
+09:00	+11:00	CIRS	FP1	DFPW Nor	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Nor	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Nor	S_N_ER_3	Template D
+14:00	+16:15	CIRS		DFPW Nor	S_N_ER_3	Template A (modified)
165T10:02	165T10:17	OD Uncertainty Dead Time		DFPW Nor	S_N_ER_3	
165T10:17	165T10:47	SP Turn for downlink		DFPW Nor	S_N_ER_3	
165T10:47	165T20:47	Goldstone 70-m Array		DFPW Nor	RTE_SPB	10 hrs

047TI (T33) Timeline

C/A= 180T17:02:41

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
180T02:05	180T02:35	SP Turn to waypoint	XBAND to EA, +Y to Sun	DFPW Normal	S_N_ER_3	
180T02:35	180T02:50	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-14:15		begin custom period				
-14:15	-13:00	CIRS		DFPW Normal	S_N_ER_3	Template N
-13:00	-10:00	CIRS	FP1	DFPW Normal/RSS_K_RWAF (at TI-11:00)	S_N_ER_3	Template N; CIRS leaves off at NAC to LAT_LON (10N, 345W, 0km). +X to NTP
-10:00	-09:00	ISS	Photometry	RSS_K_RWAF	S_N_ER_3	Template N
-09:00		end custom period				
-09:00	-05:00	RSS	Gravity	RSS_K_RWAF	S_N_ER_3	
-05:00	-02:00	UVIS	EUVFUV	RSS_K_RWAF	S_N_ER_3	Template U
-02:00	+00:45	RSS	Gravity	RSS_K_RWAF	S_N_ER_2	MAPS specify secondary axis
+00:45		begin custom period				
+00:45	+02:00	ISS		RSS_K_RWAF	S_N_ER_3	
+02:00	+04:00	ISS	Regional Map	RSS_K_RWAF	S_N_ER_3	Template J; ISS leaves off at NAC to Titan, -X to Sun (-22.4, 0, -11.2 offset)
+04:00	+05:15	CIRS		RSS_K_RWAF	S_N_ER_3	Template J
+05:15		end custom period				
+05:15	+08:45	RSS	Gravity	RSS_K_RWAF	S_N_ER_3	Turn to RSS attitude
+08:45	+09:15	SP Turn to waypoint	NAC to Titan, +X to NTP	DFPW Normal	S_N_ER_3	
+09:15	+14:00	CIRS		DFPW Normal	S_N_ER_3	Template C
+14:00	+20:00	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified)
181T13:06	181T13:21	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
181T13:21	181T13:51	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
181T13:51	182T02:35	Goldstone 70-m		DFPW Normal	RTE_N_SPB	10 hrs needed to return 2 SSRs

C/A= 2007-200T00:41:02 @ 1301 km; Unilluminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
199T00:51	199T01:21	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y Titan, -X to 330, -16.0
199T01:21	199T01:36	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-23:03	-16:00	CIRS	Mid-IR T Map	DFPW Normal	S_N_ER_3	Template M (modified)
-16:00	-15:00	ISS		DFPW Normal	S_N_ER_3	Template M
-15:00	-13:00	CIRS		DFPW Normal	S_N_ER_3	Template M
-13:00	-09:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template O
-09:00	-05:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template P
-05:00	-03:51	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template U
-03:51	-03:30	Transition to RCS	(0.5,0.5,0.5)	ORS/RCS	S_N_ER_3	Template U
-03:30	-03:00	UVIS		RSS3/RCS	S_N_ER_3	
-03:00	-01:38	ISS		RSS3/RCS	S_N_ER_3	
-01:38	-01:30	Turn (RSS pick up at WP)		RSS3/RCS	S_N_ER_3	
-01:30	-00:05	RSS - leave off at WP	Bistatic	RSS3/RCS	S&ER2 (from -0:30 to -0:05)	Secondary +Y to NSP for MAPS
-00:05	+00:29	ISS	High Res	RSS3/RCS	S_N_ER_3	ck TMC constraints
+00:29	+00:53	Transition to RWA		DFPW Normal	S_N_ER_3	
+00:53	+04:00	ISS	Regional Map	DFPW Normal	S_N_ER_3	Template J
+04:00	+05:00	CIRS		DFPW Normal	S_N_ER_3	Template J
+05:00	+08:36	ISS	Global Map	DFPW Normal	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photom	DFPW Normal	S_N_ER_3	Template H
+09:00	+14:11	CIRS		DFPW Normal	S_N_ER_3	Template C (modified)
200T14:51	200T15:06	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
200T15:06	200T15:36	SP Turn to downlink		DFPW Normal	S_N_ER_3	

049TI (T35) Timeline

C/A= 243T06:32:34

Start Time	End Time	Prime Activity	Op Mode	TLM Mode	Comments
242T17:34	242T18:04	SP Turn to way point	DFPW Norm	S_N_ER_3	-Y to Titan, -X to SUN
242T18:04	242T18:19	OD Uncertainty Dead Time	DFPW Norm	S_N_ER_3	
-12:15	-10:00	CIRS FP1	DFPW Norm	S_N_ER_3	Template N (modified)
-10:00	-9:00	ISS Photometry	DFPW Norm	S_N_ER_3	Template N
-9:00	-5:00	CIRS (mid IR limb map / limb comp)	DFPW Norm	S_N_ER_3	Template R
-5:00	-2:00	CIRS (FP_1 slow scans)	DFPW Norm	S_N_ER_3	Template T
-2:00 Begin Custom Period					
-2:00	-1:00	CIRS	DFPW Norm	S_N_ER_3	Leave off at UVIS RA/DEC - Sigma Sag (RA=283.84., DEC=-26.295)
-1:00	-00:37	UVIS Occ	DFPW Norm	S_N_ER_3	Occ at -0:45
-00:37	-00:14	VIMS turn to other limb (for occ)	DFPW Norm	S_N_ER_3	
-00:14	0:00	VIMS Occ	DFPW Norm	S_N_ER_3	Alpha Sco (RA=247.375, DEC=-26.44)
0:00	+2:00	ISS	DFPW Norm	S_N_ER_3	ISS picks up at Alpha Sco; end at waypoint
+2:00 End Custom Period					
+2:00	+4:00	ISS - regional map	DFPW Norm	S_N_ER_3	Template J
+4:00	+5:00	CIRS	DFPW Norm	S_N_ER_3	Template J
+5:00	+9:00	ISS	DFPW Norm	S_N_ER_3	Template H
+9:00	+15:00	CIRS Stare	DFPW Norm	S_N_ER_3	Template C
+15:00	+21:00	CIRS scan	DFPW Norm	S_N_ER_3	Template A (modified)
244T03:35	244T03:50	OD Uncertainty Dead Time	DFPW Norm	S_N_ER_3	
244T03:50	244T04:20	SP Turn to D/L	DFPW Norm	S_N_ER_3	
244T04:20	244T16:20	D/L	DFPW Norm	SPB	12 Hour D/L (and still need to carry over)

NOTE: Incorrect Timeline (i.e. preceding D/L shifted later, C/A ISS=>VIMS), please refer to Attitude Strategy on next page

049TI T35 Attitude Strategy

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S033, length = 42 ...		2007-223T23:20:00	E049_SEQUENCE_033+000T041T21:31:00		2007-265T20:51:00			
SP_049EA_G70METOPN242_PRIME		2007-242T12:34:00		000T08:15:00	2007-242T20:49:00	XBAND to Earth	Rolling	
TOST rev 49 Segment		2007-242T17:34:00		001T22:46:00	2007-244T16:20:00			
SP_049TI_WAYPTTURN242_PRIME		2007-242T20:49:00		000T00:30:00	2007-242T21:19:00	NEG_Y to Titan	NEG_X to Sun	SP Turn to Waypoint
NEW WAYPOINT		2007-242T21:19:00		001T19:01:00	2007-244T16:20:00	NEG_Y to Titan	NEG_X to Sun	
SP_049TI_DEADTIME242_PRIME		2007-242T21:19:00		000T00:13:34	2007-242T21:32:34	NEG_Y to Titan	NEG_X to Sun	
CIRS_049TI_MIRLMBINT001_PRIME	C, I, V	2007-242T21:32:34	GMB_E049_Titan35-000T09:000T04:00:00		2007-243T01:32:34	CIRS_FP3 to Titan	PIC	
CIRS_049TI_FIRNADMAP001_PRIME	C, I, V	2007-243T01:32:34	GMB_E049_Titan35-000T05:000T03:00:00		2007-243T04:32:34	CIRS_FP1 to Titan	PIC	
Begin Custom Period		2007-243T04:32:34	GMB_E049_Titan35-000T02:000T00:00:01		2007-243T04:32:35			
CIRS_049TI_FIRLMBINT001_PRIME	C, I, M, V	2007-243T04:32:34	GMB_E049_Titan35-000T02:000T01:00:00		2007-243T05:32:34	CIRS_FP1 to Titan	PIC	Pick up at NEG_Y to Titan, NEG_X to Sun; Hand off at UVIS_FUV to 283.816/-26.296, NEG_X to Sun.
UVIS_049ST_SIGSGR002_PRIME	M, V	2007-243T05:32:34	GMB_E049_Titan35-000T01:000T00:23:00		2007-243T05:55:34	UVIS_FUV to 283.816/-26.296	NEG_X to Sun	Pick up at UVIS_FUV to 283.816/-26.296, NEG_X to Sun; Hand off at UVIS_FUV to 283.816/-26.296, NEG_X to Sun. Other teams will do the turns. Secondary axis determined by other team
VIMS_049TI_STAROCC001_PRIME	M	2007-243T05:55:34	GMB_E049_Titan35-000T00:3000T00:37:00		2007-243T06:32:34	VIMS_IR to 247.352/-26.432	NEG_X to Sun	Pick up at UVIS_FUV to 283.816/-26.296, NEG_X to Sun; Hand off at VIMS_IR to 247.375/-26.44, NEG_X to Sun. Pick up at UVIS_FUV to 283.816/-26.296, NEG_X to Sun; Hand off at VIMS_IR to sta
VIMS_049TI_VHIRESNAC001_PRIME	C, I, M, V	2007-243T06:32:34	GMB_E049_Titan35+000T00:1000T00:30:00		2007-243T07:02:34	VIMS_IR to Titan	NEG_X to Sun	Pick up at VIMS_IR to 247.375/-26.44, NEG_X to Sun; Hand off at VIMS_IR to Titan, NEG_X to Sun.
VIMS_049TI_HIRESNAC001_PRIME	C, I, M, V	2007-243T07:02:34	GMB_E049_Titan35+000T00:1000T01:30:00		2007-243T08:32:34	VIMS_IR to Titan	NEG_X to Sun	Pick up at VIMS_IR to Titan, NEG_X to Sun; Hand off at NEG_Y to Titan, NEG_X to Sun.
End Custom Period		2007-243T08:32:34	GMB_E049_Titan35+000T02:000T00:00:01		2007-243T08:32:35			
ISS_049TI_REGMAP001_PRIME	C, M, V	2007-243T08:32:34	GMB_E049_Titan35+000T02:000T02:00:00		2007-243T10:32:34	ISS_NAC to Titan	NEG_X to Sun	
CIRS_049TI_FIRNADMAP004_PRIME	C, I, M, V	2007-243T10:32:34	GMB_E049_Titan35+000T04:1000T01:00:00		2007-243T11:32:34	CIRS_FP1 to Titan	PIC	
ISS_049TI_GLOBMAP001_PRIME	C, M, V	2007-243T11:32:34	GMB_E049_Titan35+000T05:1000T03:36:00		2007-243T15:08:34	ISS_NAC to Titan	NEG_X to Sun	
ISS_049TI_PHOTOMWAC002_PRIME	C, M, V	2007-243T15:08:34	GMB_E049_Titan35+000T08:000T00:24:00		2007-243T15:32:34	ISS_NAC to Titan	NEG_X to Sun	
CIRS_049TI_FIRNADCMP002_PRIME	C, I, M, V	2007-243T15:32:34	GMB_E049_Titan35+000T09:1000T06:00:00		2007-243T21:32:34	CIRS_FP1 to Titan	PIC	
CIRS_049TI_MIDIRTMAP002_PRIME	C, I, M, R	2007-243T21:32:34	GMB_E049_Titan35+000T15:1000T06:00:00		2007-244T03:32:34	CIRS_FP2 to Titan	POS_X to North Pole Dir	
SP_049TI_DEADTIME244_PRIME	M, R	2007-244T03:32:34	GMB_E049_Titan35+000T21:000T00:17:26		2007-244T03:50:00	NEG_Y to Titan	NEG_X to Sun	
SP_049EA_DLTRN244_PRIME	M, R	2007-244T03:50:00		000T00:30:00	2007-244T04:20:00	XBAND to Earth	POS_X to NEP	SP Turn to Earth
SP_049EA_M34BWGRSS244_PRIME	C, M, R	2007-244T04:20:00		000T07:30:00	2007-244T11:50:00	XBAND to Earth	POS_X to NEP	
SP_049EA_G70METNON244_PRIME	R	2007-244T11:50:00		000T04:30:00	2007-244T16:20:00	XBAND to Earth	POS_X to NEP	



050TI(T36) Timeline

C/A 2007-275T04:43@975km

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
274T12:51	274T13:21	SP Turn to waypoint		DFPW Normal	S_N_ER_3	ISS_NAC to Titan, +X to NTP
274T13:21	274T13:31	OD Dead Time		DFPW Normal	S_N_ER_3	
-15:12	-10:00	CIRS	FP1	RADAR_WU @ -10:15	S_N_ER_5a @ -10:15	Template N (SNER_5a for 15 min)
-10:00	-09:00	ISS	Photometry	RADAR_WU	S_N_ER_3	Template N
-09:00	-05:11	UVIS	EUVFUV	RADAR_WU	S_N_ER_3	Template P
-05:11	-04:49	SP Turn to waypoint		RADAR_WU	S_N_ER_3	-Z to Titan, +X to 205/-20
-04:49		Begin Custom Period				
-04:49	-02:00	RADAR	Radiometry	RADAR_RWA	S_N_ER_8	Template S
-02:00	-00:52	RADAR	Scatterometry	RADAR_RWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition		RADAR/INMS	S_N_ER_8	
-00:30	-00:15	RADAR	Altimetry	RADAR/INMS	S_N_ER_8	
-00:15	+00:15	RADAR		RADAR/INMS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADAR/INMS	S_N_ER_8	
+00:30	+00:53	RCS to RWA Transition		RADAR_RWA	S_N_ER_8	
+00:53	+02:00	RADAR	Scatterometry	RADAR_RWA	S_N_ER_8	
+02:00	+04:50	RADAR	Radiometry	RADAR_RWA	S_N_ER_8	Template L
	+00:30	End Custom Period				
+04:50	+05:10	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y to Titan, -X to Sun
+05:10	+08:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template I
+08:00	+09:00	ISS	NAC & WAC	DFPW Normal	S_N_ER_3	Template I
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+22:46	CIRS		DFPW Normal ; RSSKRAWAF @ 2007- 276T02:12:00	S_N_ER_3	Template A (modified)
276T03:29	276T03:51	OD Dead Time		RSSKRAWAF	S_N_ER_3	
276T03:51	276T04:19	SP Turn to downlink		RSSKRAWAF	S_N_ER_3	
276T04:19	276T14:19	Madrid 70-m Array		RSSKRAWAF	RTE_N_SPB	DSN Maintenance from 06:37 - 14:37

052TI (T37) Timeline C/A= 323T00:47:26

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
322T10:12	322T10:42	SP Turn to waypoint		DFPW	S_N_ER_3	NEG_Y to TI, POS_X to NTP (0,-20,0)
322T10:42	322T10:57	OD Uncertainty Dead		DFPW	S_N_ER_3	
-13:55	-09:00	VIMS	Cloud Map	DFPW	S_N_ER_3	Template O (modified)
-09:00	-05:00	CIRS	Mid-IR Limb	DFPW	S_N_ER_3	Template R
-05:00	-02:00	CIRS	Limb	DFPW	S_N_ER_3	Template T
-02:00	-01:39	RWA to RCS Transition	21 mins	ORS(RCS)	S_N_ER_3	Deadband (0.5, 20, 0.5)
-01:39		Begin Custom Period		ORS(RCS)	S_N_ER_3	
-01:39	-00:15	CIRS	High-Res Limb	ORS(RCS)	SNER_2	Leave at INMS attitude
-00:15	+00:09	INMS	ORS to Titan	ORS(RCS)	SNER_2	2nd axis for ORS; leave at VIMS attitude
+00:09	+00:21	VIMS	Zero Phase	ORS(RCS)	S_N_ER_3	Stare
+00:21	+00:44	RCS to RWA Transition	23 mins	DFPW Normal	S_N_ER_3	
+00:44	+02:00	ISS	High Res	DFPW	S_N_ER_3	Pick up at VIMS attitude
+02:00	+04:00	ISS	Regional Map	DFPW Normal	S_N_ER_3	Template J; Return to waypoint
+04:00		End Custom Period		DFPW	S_N_ER_3	
+04:00	+05:00	CIRS		DFPW	S_N_ER_3	Template J
+05:00	+08:36	ISS	Global Map	DFPW	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photom	DFPW Normal	S_N_ER_3	Template H
+09:00	+14:00	CIRS		DFPW	S_N_ER_3	Template C
+14:00	+23:19	CIRS		DFPW	S_N_ER_3	Template A (modified)
324T00:12	324T00:27	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
324T00:27	324T00:57	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	NEG_Z to Earth, NEG_X to Sun
324T00:57	324T09:57	Madrid 70-m Array		DFPW Normal	RTE_N_SP B	



053TI(T38) Timeline

053TI (T38)

C/A= 2007-339T00:07:37 @ 1300 km; Unilluminated Approach

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
338T09:14	338T09:44	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y Titan, (0, -36, 0 offset) -X to Sun TBC
338T09:44	338T09:59	OD Dead Time		DFPW Normal	S_N_ER_3	
-14:07	-10:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template N (modified)
-10:00	-09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	Template N
-09:00	-05:30	UVIS		DFPW Normal	S_N_ER_3	
-05:30		Begin Custom Period		DFPW Normal	S_N_ER_3	
-05:30	-02:30	CIRS	Nadir	DFPW Normal	S_N_ER_3	
-02:30	-00:15	CIRS		DFPW Normal	S_N_ER_3	
-00:15	+02:00	VIMS		DFPW Normal	S_N_ER_3	Secondary -X to RAM at C/A
+02:00	+04:00	ISS	Reg Map	DFPW Normal	S_N_ER_3	Template J
+04:00	+05:00	CIRS		DFPW Normal	S_N_ER_3	pick up at NAC Titan, NEG_X Sun, offset [-22.4, 0.0, -5.6]
+05:00	+08:00	ISS		DFPW Normal	S_N_ER_3	Template I
+08:00	+09:00	VIMS		DFPW Normal	S_N_ER_3	Template I. Leave at NEG_Y to TITAN, NEG_X to TITAN_SC_RAM
	+09:00	End Custom Period		DFPW Normal	S_N_ER_3	
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Reg Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+23:37	CIRS		DFPW Normal	S_N_ER_3	Template A (modified)
339T23:44	339T23:59	OD Dead Time		DFPW Normal	S_N_ER_3	
339T23:59	340T00:29	SP Turn for downlink		DFPW Normal	S_N_ER_3	
340T00:29	340T09:29	Madrid 70-m		DFPW Normal	RTE_N_SPB	

054TI (T39) Timeline

C/A= 2007-354T22:57:55

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
354T08:16	354T08:46	SP Turn to waypoint	NAC to TI, +X to NTP	DFPW Normal	S_N_ER_3	
354T08:46	354T08:57	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-13:55	-09:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template O (modified)
-09:00	-05:06	CIRS	Mid-IR Limb	DFPW Normal/RADWU	S_N_ER_3/5a	Template R; RADWU & S_N_ER_5a at -07:45
-05:06	-04:45	SP turn to RADAR WP	-Z to Titan, -X to 5/5	RADWU		
-04:45	-02:00	RADAR	Radiometry	RADRWA	S_N_ER_8	Template S
-02:00	-00:52	RADAR	Scatterometry	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition			S_N_ER_8	
-00:30	-00:15	RADAR	Altimetry	RADRCS	S_N_ER_8	
-00:15	-00:07	RADAR	Low-Res SAR	RADRCS	S_N_ER_8	
-00:07	+00:15	RADAR	High-Res SAR	RADRCS	S_N_ER_8	primary -X to ram for INMS
+00:15	+00:30	RADAR	Altimetry	RADRCS	S_N_ER_8	
+00:30	+00:54	RCS to RWA Transition			S_N_ER_8	
+00:54	+02:00	RADAR	Scatterometry	RADRWA	S_N_ER_8	
+02:00	+05:00	RADAR	Radiometry	RADRWA	S_N_ER_8	Template L
+04:45	+05:05	SP Turn to waypoint	NAC to TI, -X to Sun		S_N_ER_3	
+05:05	+09:00	CIRS	Limb Map	DFPW Normal	S_N_ER_3	Template F
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+15:30	ISS	Rhea	DFPW Normal	S_N_ER_3	
+15:30	+1T00:15	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified)
355T23:12	355T23:27	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
355T23:27	355T23:57	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
355T23:57	356T08:57	Madrid 70-m Array		DFPW Normal	RTE_N_SPB	



TOL for 055TI (T40)

055TI (T40)

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
005T05:48	005T06:18	SP Turn Earth to Tethys		DFPW Normal	S_N_ER_3	NEG_Y to Tethys, POS_Z to NSP
005T06:18	005T07:18	ISS	Tethys	DFPW Normal	S_N_ER_3	
005T07:18	005T07:48	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y to Titan, -X to Sun
005T07:48	005T08:07	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-13:23	-10:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template N (modified)
-10:00	-09:00	ISS	Photometry	DFPW Normal	S_N_ER_3	Template N
-09:00	-05:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template P
-05:00	-03:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template U
-03:00	-02:00	ISS		DFPW Normal	S_N_ER_3	Template U
-02:00		BEGIN Custom Period				
-02:00	-01:05	CIRS		DFPW Normal	S_N_ER_3	End at UVIS occ attitude
-01:05	-00:44	RWA to RCS Transition	21 mins	ORS (RCS)	S_N_ER_3	
-00:44	-00:28	UVIS	Stellar occ	ORS (RCS)	S_N_ER_2	
-00:28		END Custom Period		ORS (RCS)		
-00:28	-00:23	SP Turns to VIMS Occ	5 min	ORS (RCS)	S_N_ER_2	-Y to RA/DEC 213.915/19.1825
-00:23	-00:08	VIMS	Stellar occ	ORS (RCS)	S_N_ER_2	
-00:08	-00:05	SP Turn to INMS Attitude	3 Min	ORS (RCS)	S_N_ER_2	-X to SC RAM, -Y to Titan
-00:05	+00:10	INMS		ORS (RCS)	S_N_ER_2	
+00:10	+00:17	SP Turn to VIMS Attitude	7 min	ORS (RCS)	S_N_ER_2	VIMS_IR to LatLon -10, 162,NEG_X to SUN
+00:17	+00:36	VIMS	Landing site	ORS (RCS)	S_N_ER_2	
+00:36	+00:57	RCS to RWA Transition	00:21:05 dur	DFPW Normal	S_N_ER_3	
+00:57	+01:12	SP Turn to ORS Attitude	15 mins	DFPW Normal	S_N_ER_3	-Y to Titan, -X to Sun
+01:12	+02:00	VIMS	High Res	DFPW Normal	S_N_ER_3	Start at VIMS attitude
+02:00	+04:00	ISS	Regional Map	DFPW Normal	S_N_ER_3	Template J
+04:00	+05:00	CIRS		DFPW Normal	S_N_ER_3	Template J
+05:00	+07:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template I
+07:00	+09:00	ISS	NAC & WAC	DFPW Normal	S_N_ER_3	Template I
+08:40	+14:00	ISS		DFPW Normal	S_N_ER_3	Template I
+09:00	+14:00	CIRS		DFPW Normal	S_N_ER_3	Template C
+14:00	+1T00:14	CIRS		DFPW Normal	S_N_ER_3	Template A
006T21:41	006T21:56	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
006T21:56	006T22:26	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	

059TI (T41) Timeline C/A= 2008-053T17:32:06

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
053T03:51	053T04:21	SP Turn to waypoint	NAC to Titan, +X to NTP	DFPW Normal	S_N_ER_3	
053T04:21	053T04:36	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-13:03	-10:00	CIRS	FP1	DFPW Normal/RADWU	S_N_ER_3/5A	Template N (modified); S&ER-5a at TI-10:15
-10:00	-09:00	ISS	Photometry	RADWU	S_N_ER_3	Template N
-09:00	-06:16	VIMS	Cloud Map	RADWU	S_N_ER_3	Template Q
-05:15	-04:45	SP Turn to RADAR WP	-Z to Titan, -X to 30/+42	RADWU	S_N_ER_3	
-04:45	-02:00	RADAR	Radiometry	RADRWA	S_N_ER_8	Template S
-02:00	-00:52	RADAR	Scatterometry	RADRWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition				
-00:30	-00:15	RADAR	Altimetry	RADRCS	S_N_ER_8	
-00:15	+00:15	RADAR	SAR	RADRCS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADRCS	S_N_ER_8	
+00:30	+01:12	RADAR	Scatterometry	RADRCS	S_N_ER_8	
+01:12	+01:21	SP Turn to waypoint	NAC to Titan, -X to Sun	ORSRCS	S_N_ER_3	
+01:21	+01:44	RCS to RWA Transition				Simultaneous with UVIS occ
+01:21	+02:30	UVIS	Stellar occ	ORSRCS/DFPW Normal	S_N_ER_3	
+02:30	+05:00	UVIS		DFPW Normal	S_N_ER_3	Template K (modified)
+05:00	+08:36	ISS	Global Map	DFPW Normal	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photom	DFPW Normal	S_N_ER_3	Template H
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+14:30	SP turn to downlink				
+14:30	+18:30	downlink				
+18:30	+19:00	SP turn to waypoint	NAC to Titan, +X to NTP			
+19:00	+22:45	CIRS		DFPW Normal	S_N_ER_3	Template A
+22:45	+1T01:15	UVIS	Stellar occ	DFPW Normal	S_N_ER_3	
+1T01:15	+1T03:55	CIRS		DFPW Normal	S_N_ER_3	Template A
+1T03:55	+1T06:10	UVIS	Stellar occ	DFPW Normal	S_N_ER_3	
+1T06:10	+1T07:55	CIRS		DFPW Normal	S_N_ER_3	Template A
055T01:36	055T01:51	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
055T01:51	055T02:21	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
055T02:21	055T11:21	Goldstone 70-m		DFPW Normal	RTE_N_SP8	



TOL for 062TI (T42)

062TI (T42)

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
085T01:35	085T02:05	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y LAT_VIEW (-55, 90, HRS, 0) +Z FOV_LIMB (-55, RHS)
085T02:05	085T02:20	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-12:15	-09:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template O (modified)
-09:00	-05:00	CIRS	Mid-IR Limb	DFPW Normal	S_N_ER_3	Template R
-05:00	-02:00	CIRS	Nadir	DFPW Normal	S_N_ER_3	Template T
-02:00	-01:59	RWA to RCS Transition		ORS/RCS	S_N_ER_3	Deadband (.5, 2, .5)
-01:59	-00:21	CIRS	Limb	ORS/RCS	S_N_ER_3	
-00:21	-00:15	SP turn to WP				-X RAM, -Y Titan
-00:15	+00:15	INMS		ORS/RCS	S_N_ER_2	-Y to Titan 2nd axis for ORS
+00:15	+00:27	SP turn to WP			S_N_ER_3	-Y Titan, -X SUN (0,30,0)
+00:27	+00:46	VIMS	Landing site	ORS/RCS	S_N_ER_3	
+00:46	+01:08	RCS to RWA Transition		DFPW Normal	S_N_ER_3	
+01:08	+02:00	VIMS		DFPW Normal	S_N_ER_3	
+02:00	+04:00	ISS	Reg Map	DFPW Normal	S_N_ER_3	Template J
+04:00	+05:00	CIRS		DFPW Normal	S_N_ER_3	Template J
+05:00	+09:00	CIRS	Limb Map	DFPW Normal	S_N_ER_3	Template F
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Reg Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+1T00:59	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified)
+1T00:59	086T15:50	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
086T15:50	086T16:20	SP Turn to downlink		DFPW Normal	S_N_ER_3	
086T16:20	087T01:20	Downlink over Goldstone		DFPW Normal	RTE_N_SPB	

Modified from original integration timeline due to shortening of RWA/RCS Transition times

067TI (T43) Timeline C/A= 2008-133T10:01:58

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
132T22:30	132T23:00	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y to Titan, +X to NTP
132T23:00	132T23:15	OD Dead Time		DFPW Normal	S_N_ER_3	
-10:54	-10:00	CIRS	FP1	RADAR_WU @ -10:15	S_N_ER_5a @ -10:15	Template N (modified) (SNER_5a only for 15m)
-10:00	-09:00	ISS	Photometry	RADAR_WU	S_N_ER_3	Template N
-09:00	-05:07	VIMS	Cloud Map	RADAR_WU	S_N_ER_3	Template Q
-05:07	-04:53	SP turn to waypoint	11 min turn	RADAR_WU	S_N_ER_3	-Z to Titan, -X to 296/-52
-04:53	-02:00	RADAR	Radiometry	RADAR_RWA	S_N_ER_8	Template S
-02:00	-00:52	RADAR	Scatterometry	RADAR_RWA	S_N_ER_8	
-00:52	-00:30	RWA to RCS Transition		RADAR/INMS	S_N_ER_8	
-00:30	-00:15	RADAR	Altimetry	RADAR/INMS	S_N_ER_8	
-00:15	-00:07	RADAR	Low-Res SAR	RADAR/INMS	S_N_ER_8	
-00:07	+00:07	RADAR	High-Res SAR	RADAR/INMS	S_N_ER_8	
+00:07	+00:15	RADAR	Low-Res SAR	RADAR/INMS	S_N_ER_8	
+00:15	+00:30	RADAR	Altimetry	RADAR/INMS	S_N_ER_8	
+00:30	+00:54	RCS to RWA Transition		DFPW Normal	S_N_ER_8	
+00:54	+01:50	RADAR	Scatterometry	DFPW Normal	S_N_ER_8	
+01:50	+02:10	SP turn to waypoint	18 min turn	DFPW Normal	S_N_ER_3	-Y to Titan, +X to NTP
+02:10	+05:00	CIRS		DFPW Normal	S_N_ER_3	Template E
+05:00	+09:00	CIRS	Limb Map	DFPW Normal	S_N_ER_3	Template F
+09:00	+14:00	CIRS		DFPW Normal	S_N_ER_3	Template C
+14:00	+14:30	SP Turn to Earth				
+14:30	+16:15	Downlink to Goldstone				
+16:15	+16:45	SP Turn back to Titan				-Y to Titan, +X to NTP
+16:45	+1T02:19	CIRS		DFPW Normal	S_N_ER_3	Template A (modified)
134T12:29	134T12:44	OD Dead Time		DFPW Normal	S_N_ER_3	
134T12:44	134T13:14	SP Turn to Earth		DFPW Normal	S_N_ER_3	
134T13:14	134T22:14	Downlink over Madrid		DFPW Normal	RTE_N_SPB	Array (63 & 54)



TOL for 069TI (T44)

069TI (T44)

Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
148T04:43	148T05:13	SP Turn to waypoint		DFPW Normal	S_N_ER_3	-Y to Titan, +X to NTP
148T05:13	148T05:29	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
-1T03:05	-1T00:05	CIRS-Rings Observation	Rings	DFPW Normal	S_N_ER_3	
-1T00:05	-16:00	CIRS	Mid-IR Temp Map	DFPW Normal	S_N_ER_3	Template M (modified)
-16:00	-15:00	ISS		DFPW Normal	S_N_ER_3	Template M
-15:00	-13:00	CIRS		DFPW Normal	S_N_ER_3	Template M
-13:00	-09:00	VIMS	Cloud Map	DFPW Normal	S_N_ER_3	Template O
-09:00	-05:00	UVIS	EUVFUV	DFPW Normal	S_N_ER_3	Template P
-05:00	-03:00	UVIS	EUVFUV	RADWU	a/S_N_ER_5	Template U; S_N_ER_5a for 15 minutes at -5:00
-03:00	-02:00	ISS		RADWU	S_N_ER_3	Template U;
-02:00	-01:39	Transition RWA to RCS		RADRCSS	S_N_ER_3	Deadband (2,2,20)
-01:39	-01:31	SP Turn to Waypoint		RADRCSS	S_N_ER_8	-Z to Titan, -X to RADEC 276, -56
-01:31	-0:30	RADAR	Scatterometry	RADRCSS	S_N_ER_8	
-0:30	-0:15	RADAR	Altimetry	RADRCSS	S_N_ER_8	
-0:15	-0:07	RADAR	SAR	RADRCSS	S_N_ER_8	
-0:07	+0:07	RADAR	Hi-SAR	RADRCSS	S_N_ER_8	
+0:07	+0:15	RADAR	SAR	RADRCSS	S_N_ER_8	
+0:15	+0:30	RADAR	Altimetry	RADRCSS	S_N_ER_8	
+00:30	+00:54	Transition RCS to RWA		RADRWA	S_N_ER_8	
+0:54	+01:38	RADAR	Scatterometry	RADRWA	S_N_ER_8	
+01:38	+04:37	RADAR	Radiometry	RADRWA	S_N_ER_8	Template E
+04:35	+05:05	RADAR Turn to RADAR Waypoint	30 min turn	RADRWA	S_N_ER_8	
+05:05	+05:24	SP turn to new waypoint	19 min turn	RADRWA	S_N_ER_3	-Y to Titan, +X to NTP
+05:24	+08:36	ISS	Global Map	DFPW Normal	S_N_ER_3	Template H
+08:36	+09:00	ISS	WAC Photom	DFPW Normal	S_N_ER_3	Template H
+09:00	+11:00	CIRS	FP1	DFPW Normal	S_N_ER_3	Template D
+11:00	+13:00	ISS	Mosaic	DFPW Normal	S_N_ER_3	Template D
+13:00	+14:00	VIMS	Regional Map	DFPW Normal	S_N_ER_3	Template D
+14:00	+16:00	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified)
+16:00	+16:30	SP Turn to Earth for Downlink				
+16:30	+18:30	Goldstone 70m		DFPW Normal	RTE_N_SP B	
+18:30	+1T02:53	VIMS	Global Map	DFPW Normal	S_N_ER_3	Template B (modified) Pickup at -Z to Earth
150T11:27	150T11:42	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
150T11:42	150T12:12	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3	
150T12:12	150T21:12	Madrid 70-m Array		DFPW Normal	RTE_N_SP	



T44 SPASS

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S040, length = 42 ...		2008-110T07:18:00	E065_SEQUENCE_040+000T00:00:00	041T21:09:00	2008-152T04:27:00			
TOST rev 69 Segment		2008-148T04:43:00		002T16:29:00	2008-150T21:12:00			
SP_069TI_WAYPTTURN148_PRIME	M	2008-148T04:43:00		000T00:30:00	2008-148T05:13:00	ISS_NAC to Saturn	POS_Z to North_Pole_Dir	SP Turn to Waypoint
NEW WAYPOINT		2008-148T05:13:00		000T03:06:32	2008-148T08:19:32	ISS_NAC to Saturn	POS_Z to North_Pole_Dir	
SP_069TI_DEADTIME148_PRIME	M	2008-148T05:13:00		000T00:06:32	2008-148T05:19:32	ISS_NAC to Saturn	POS_Z to North_Pole_Dir	
CIRS_069RI_TEMPL25LP001_PRIME	C, M, V	2008-148T05:19:32	GMB_E069_Titan44-001T03:05:00	000T02:25:00	2008-148T07:44:32	CIRS_FP1 to Rings	POS_Z to NSP	
SP_069TI_WAYPTTURN448_PRIME	M	2008-148T07:44:32	GMB_E069_Titan44-001T00:40:00	000T00:24:00	2008-148T08:08:32	ISS_NAC to Titan (0.0,0.0,55.0 deg. offset)	POS_X to North_Pole_Dir	SP Turn to Waypoint
SP_069TI_WAYPTTURN548_PRIME	M	2008-148T08:08:32	GMB_E069_Titan44-001T00:16:00	000T00:11:00	2008-148T08:19:32	ISS_NAC to Titan	POS_X to North_Pole_Dir	SP Turn to Waypoint
NEW WAYPOINT		2008-148T08:19:32		000T22:14:00	2008-149T06:33:32	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_069TI_MIDIRTMAP001_PRIME	C, I, M, U, V	2008-148T08:19:32	GMB_E069_Titan44-001T00:05:00	000T08:05:00	2008-148T16:24:32	CIRS_FP1 to Titan	POS_X to North_Pole_Dir	
ISS_069TI_NIGHTNAC001_PRIME	C, M, V	2008-148T16:24:32	GMB_E069_Titan44-000T16:00:00	000T01:00:00	2008-148T17:24:32	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_069TI_FIRNADCMPO01_PRIME	C, I, M, V	2008-148T17:24:32	GMB_E069_Titan44-000T15:00:00	000T02:00:00	2008-148T19:24:32	CIRS_FP1 to Titan	PIC	
VIMS_069TI_CLOUDMAP001_PRIME	C, I, M	2008-148T19:24:32	GMB_E069_Titan44-000T13:00:00	000T04:00:00	2008-148T23:24:32	ISS_NAC to Titan	NEG_X to Sun	
UVIS_069TI_EUVFUV001_PRIME	C, I, M, R, V	2008-148T23:24:32	GMB_E069_Titan44-000T09:00:00	000T06:00:00	2008-149T05:24:32	UVIS_FUV to Titan	POS_X to North_Pole_Dir	
ISS_069TI_NIGHTWAC001_PRIME	C, M, R, V	2008-149T05:24:32	GMB_E069_Titan44-000T03:00:00	000T01:00:00	2008-149T06:24:32	ISS_NAC to Titan	POS_X to North_Pole_Dir	May do mosaic in lit hemisphere but need at least 1 minute dwell time to satisfy VIMS requirement
ENGR_069SC_RADRCS001_PRIME	M	2008-149T06:24:32	GMB_E069_Titan44-000T02:00:00	000T00:01:00	2008-149T06:25:32			Actual duration = 20:50
SP_069TI_WAYPTTURN949_PRIME	M	2008-149T06:25:32	GMB_E069_Titan44-000T01:59:00	000T00:08:00	2008-149T06:33:32	NEG_Z to Titan	NEG_X to 276.0/-56.0	on thrusters. 7 min. turn, 1 minute margin
NEW WAYPOINT		2008-149T06:33:32		000T07:15:00	2008-149T13:48:32	NEG_Z to Titan	NEG_X to 276.0/-56.0	
RADAR_069TI_T44INSCAT901_PRIME	M	2008-149T06:33:32	GMB_E069_Titan44-000T01:51:00	000T01:21:00	2008-149T07:54:32	NEG_Z to Titan	POS_X to North_Pole_Dir	
RADAR_069TI_T44INALT901_PRIME	M	2008-149T07:54:32	GMB_E069_Titan44-000T00:30:00	000T00:15:00	2008-149T08:09:32	NEG_Z to Titan	POS_X to North_Pole_Dir	
Start of T44 high value dat...		2008-149T08:01:32	GMB_E069_Titan44-000T00:23:00	000T00:00:01	2008-149T08:01:33			
RADAR_069TI_T44INLSAR901_PRIME	M	2008-149T08:09:32	GMB_E069_Titan44-000T00:15:00	000T00:08:00	2008-149T08:17:32	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_069TI_T44HISAR901_PRIME	M	2008-149T08:17:32	GMB_E069_Titan44-000T00:07:00	000T00:14:00	2008-149T08:31:32	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
End of T44 high value data ...		2008-149T08:24:32	GMB_E069_Titan44+000T00:00:00	000T00:00:01	2008-149T08:24:33			
69TI (t) T44 TITAN Outbou...		2008-149T08:24:35		000T00:00:01	2008-149T08:24:36			
RADAR_069TI_T44OUTLSAR901_PRIME	M	2008-149T08:31:32	GMB_E069_Titan44+000T00:07:00	000T00:08:00	2008-149T08:39:32	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_069TI_T44OUTALT901_PRIME	M	2008-149T08:39:32	GMB_E069_Titan44+000T00:15:00	000T00:15:00	2008-149T08:54:32	NEG_Z to Titan (0.0,0.0,45.0 deg. offset)	POS_X to North_Pole_Dir	
ENGR_069SC_RADRWBIAS949_PPS	M	2008-149T08:54:32	GMB_E069_Titan44+000T00:30:00	000T00:21:41	2008-149T09:16:13	NEG_Z to Titan (0.0,0.0,45.0 deg. offset)	POS_X to North_Pole_Dir	
RADAR_069TI_T44OUTSCT901_PRIME	M	2008-149T09:16:32	GMB_E069_Titan44+000T00:52:00	000T00:47:00	2008-149T10:03:32	NEG_Z to Titan (0.0,0.0,45.0 deg. offset)	POS_X to North_Pole_Dir	
RADAR_069TI_T44OUTRAD901_PRIME	M	2008-149T10:03:32	GMB_E069_Titan44+000T01:39:00	000T03:26:00	2008-149T13:29:32	NEG_Z to Titan (0.0,0.0,45.0 deg. offset)	POS_X to North_Pole_Dir	Use -Y_NTP (0,0,45) for the 2nd polarization. Leave at -Z_TI, -X_RA/DEC 276/-56.
SP_069TI_WAYPTTURN950_PRIME	M	2008-149T13:29:32	GMB_E069_Titan44+000T05:05:00	000T00:19:00	2008-149T13:48:32	ISS_NAC to Titan	POS_X to North_Pole_Dir	Use 18 minutes for turn time, 1 min margin
NEW WAYPOINT		2008-149T13:48:32		000T11:29:28	2008-150T01:18:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
ISS_069TI_GLOBMAP901_PRIME	C, M, V	2008-149T13:48:32	GMB_E069_Titan44+000T05:24:00	000T03:12:00	2008-149T17:00:32	ISS_NAC to Titan	NEG_X to Sun	
ISS_069TI_PHOTOMWAC001_PRIME	C, M, V	2008-149T17:00:32	GMB_E069_Titan44+000T08:36:00	000T00:24:00	2008-149T17:24:32	ISS_NAC to Titan	POS_X to North_Pole_Dir	
CIRS_069TI_FIRNADCMPO02_PRIME	C, I, M, V	2008-149T17:24:32	GMB_E069_Titan44+000T09:00:00	000T02:00:00	2008-149T19:24:32	CIRS_FP1 to Titan	PIC	
ISS_069TI_MONITORNA001_PRIME	M, V	2008-149T19:24:32	GMB_E069_Titan44+000T11:00:00	000T02:00:00	2008-149T21:24:32	ISS_NAC to Titan	NEG_X to Sun	
VIMS_069TI_GLOBMAP003_PRIME	C, I, M	2008-149T21:24:32	GMB_E069_Titan44+000T13:00:00	000T01:00:00	2008-149T22:24:32	ISS_NAC to Titan	NEG_X to Sun	
VIMS_069TI_GLOBMAPFA002_PRIME	C, I, M	2008-149T22:24:32	GMB_E069_Titan44+000T14:00:00	000T02:00:00	2008-150T00:24:32	ISS_NAC to Titan	NEG_X to Sun	
SP_069TI_DEADTIME950_PRIME	M	2008-150T00:24:32	GMB_E069_Titan44+000T16:00:00	000T00:22:28	2008-150T00:47:00	ISS_NAC to Titan	POS_X to North_Pole_Dir	
SP_069EA_DLTURN149_PRIME	M	2008-150T00:47:00		000T00:31:00	2008-150T01:18:00	XBAND to Earth	POS_X to NEP	
NEW WAYPOINT		2008-150T01:18:00		000T19:54:00	2008-150T21:12:00	XBAND to Earth	POS_X to NEP	
SP_069EA_G34BWGNON150_PRIME	M	2008-150T01:18:00		000T02:00:00	2008-150T03:18:00	XBAND to Earth	Rolling	
VIMS_069TI_GLOBMAPFA003_PRIME	C, I, M	2008-150T03:18:00		000T08:54:00	2008-150T12:12:00	ISS_NAC to Titan	NEG_X to Sun	
Apoapse Per = 7.1 d, inc = ...		2008-150T09:15:58		000T00:00:01	2008-150T09:15:59			
SP_070EA_M70METSEQ952_PRIME	C, M	2008-150T12:12:00		000T09:00:00	2008-150T21:12:00	XBAND to Earth	5_Hr_Rolling	