

TOST: Wrap-Up

035TI (T21)

Segment: 2006-345T15:17:00 – 2006-347T10:48:00

Titan C/A: 2006-346T11:41:31, Altitude = 1000 km

Epoch: GMB_E035_Titan21

July 20, 2006

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T21 Science Objectives

RADAR obtains SAR imagery of the poorly-covered northern midlatitude trailing hemisphere, which may include some areas of dunes.

Observations also include Radiometry and Scatterometry to build up southern hemisphere coverage.

UVIS has an EUVFUV observation, one of several throughout the tour, to image Titan at a variety of phase angles. These are used to investigate the scattering properties of high-altitude aerosols and the latitudinal distribution of acetylene, methane, and some other hydrocarbons and to look for auroral emissions. UVIS also observes an occultation of the star Alpha Per. Stellar occultations provide detailed vertical profiles of some hydrocarbons and haze in the altitude range 300 to 1500 Km. Each occultation samples a different latitude and different time of day so we gradually build up a 3-dimensional picture over the long term by observing many occultations.



035TI(T21) Timeline

C/A = 2006-346T11:41:31

035TI (T21)

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	



TOL

035TI (T21)

Request	Start Time	Epoch	Duration	End Time	Rate	Mb	SPASS Type	Primary Pointing	Secondary Pointing	Pointing Agreement
CAPS_035SA_SURVEY001_RIDER	2006-342T21:07:04	E035_Apo+000T00:00:00	003T12:34:27	2006-346T09:41:31	1000	304.5	Non-SPASS			
CAPS_035TI_T21INBND001_PRIME	2006-346T09:35:17		000T01:06:14	2006-346T10:41:31	4000	15.9	SPASS Rider			
CAPS_035TI_T21CLOSE001_PRIME	2006-346T10:41:31	GMB_E035_Titan21-000T01:00:00	000T02:00:00	2006-346T12:41:31	16000	115.2	SPASS Rider			
CAPS_035TI_T21OUTBND001_PRIME	2006-346T12:41:31	GMB_E035_Titan21+000T01:00:00	000T01:00:00	2006-346T13:41:31	4000	14.4	SPASS Rider			
CAPS_035SA_SURVEY003_RIDER	2006-346T13:41:31	GMB_E035_Titan21+000T02:00:00	002T14:39:39	2006-349T04:21:10	1000	225.6	Non-SPASS			
CDA_035DR_1615DUST255_RIDER	2006-342T21:35:07		004T10:11:53	2006-347T07:47:00	149.9	57.3	Non-SPASS			
CIRS_035TI_MIDIRTMAP006_PRIME	2006-345T16:08:31	GMB_E035_Titan21-000T19:33:00	000T04:03:00	2006-345T20:11:31	2000	29.2	Prime	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
CIRS_035TI_MIDIRTMAP006_SI	2006-345T16:08:31	GMB_E035_Titan21-000T19:33:00	000T04:03:00	2006-345T20:11:31	0	3.0	SPASS Rider			
CIRS_035TI_FIRNADCMP004_ISS	2006-345T20:11:31	GMB_E035_Titan21-000T15:30:00	000T01:00:00	2006-345T21:11:31	4000	14.4	SPASS Rider			
CIRS_035TI_FIRNADCMP003_PRIME	2006-345T21:11:31	GMB_E035_Titan21-000T14:30:00	000T05:30:00	2006-346T02:41:31	4000	79.2	Prime	CIRS_FP1 to Titan	PIC	
CIRS_035TI_FIRNADCMP003_SI	2006-345T21:11:31	GMB_E035_Titan21-000T14:30:00	000T05:30:00	2006-346T02:41:31	0	6.0	SPASS Rider			
CIRS_035TI_MIRLMBINT004_PRIME	2006-346T02:41:31	GMB_E035_Titan21-000T09:00:00	000T01:30:00	2006-346T04:11:31	4000	21.6	Prime	CIRS_FPB to Titan	PIC	
CIRS_035TI_MIRLMBINT004_SI	2006-346T02:41:31	GMB_E035_Titan21-000T09:00:00	000T01:30:00	2006-346T04:11:31	0	3.0	SPASS Rider			
CIRS_035TI_FIRNADMAP002_UVIS	2006-346T04:11:31	GMB_E035_Titan21-000T07:30:00	000T05:00:00	2006-346T09:11:31	2000	36.0	SPASS Rider			
CIRS_035TI_FIRNADCMP005_ISS	2006-346T09:11:31	GMB_E035_Titan21-000T02:30:00	000T01:20:00	2006-346T10:31:31	4000	19.2	SPASS Rider			
CIRS_035TI_FIRLMBINT002_UVIS	2006-346T10:31:31	GMB_E035_Titan21-000T01:10:00	000T00:26:00	2006-346T10:57:31	4000	6.2	SPASS Rider			
CIRS_035IC_DSCALSHRT001_RIDER	2006-346T15:11:31	GMB_E035_Titan21+000T03:30:00	000T00:30:00	2006-346T15:41:31	4000	7.2	SPASS Rider			
CIRS_035TI_FIRNADMAP003_ISS	2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T03:00:00	2006-346T18:41:31	2000	21.6	SPASS Rider			
CIRS_035TI_MIRLMBINT003_PRIME	2006-346T18:41:31	GMB_E035_Titan21+000T07:00:00	000T02:00:00	2006-346T20:41:31	4000	28.8	Prime	CIRS_FPB to Titan	PIC	
CIRS_035TI_MIRLMBINT003_SI	2006-346T18:41:31	GMB_E035_Titan21+000T07:00:00	000T02:00:00	2006-346T20:41:31	0	3.0	SPASS Rider			
CIRS_035TI_FIRNADCMP006_ISS	2006-346T20:41:31	GMB_E035_Titan21+000T09:00:00	000T01:00:00	2006-346T21:41:31	4000	14.4	SPASS Rider			
CIRS_035IC_DSCAL1466_RIDER	2006-347T00:18:00		000T06:00:00	2006-347T06:18:00	4000	86.4	SPASS Rider			
ENGR_035SSC_RADWU346_PPS	2006-346T08:56:31	GMB_E035_Titan21-000T02:45:00	000T00:00:07	2006-346T08:56:38	0	0.0	Non-SPASS			
ENGR_035SSC_ROUTEREU001_CDS	2006-346T10:11:31	GMB_E035_Titan21-000T01:30:00	000T01:23:00	2006-346T11:34:31	227	1.1	Non-SPASS			
ENGR_035SSC_RADRCS346_PPS	2006-346T10:57:31	GMB_E035_Titan21-000T00:44:00	000T00:20:50	2006-346T11:18:21	0	0.0	Prime			Deadband = (2,2,2)
ENGR_035SSC_DEADBAND346_AACS	2006-346T11:18:31	GMB_E035_Titan21-000T00:23:00	000T00:00:01	2006-346T11:18:32	0	0.0	SPASS Note			
ENGR_035SSC_RADRWBIAS346_PPS	2006-346T12:11:31	GMB_E035_Titan21+000T00:30:00	000T00:21:41	2006-346T12:33:12	0	0.0	Prime			
ENGR_035SSC_DFPW346_PPS	2006-346T15:40:54	GMB_E035_Titan21+000T03:59:23	000T00:00:37	2006-346T15:41:31	0	0.0	Non-SPASS			
INMS_035SA_SURVEY002_RIDER	2006-344T15:32:00		001T08:03:17	2006-345T23:35:17	100	5.8	Non-SPASS			
INMS_035TI_T21INBND001_RADAR	2006-345T23:35:17		000T11:06:14	2006-346T10:41:31	100	4.0	Non-SPASS			
INMS_035TI_T21FULRT001_INMS	2006-346T10:41:31	GMB_E035_Titan21-000T01:00:00	000T00:37:00	2006-346T11:18:31	1498	3.3	Non-SPASS			
INMS_035TI_T21RMPNT001_PRIME	2006-346T11:18:31	GMB_E035_Titan21-000T00:23:00	000T00:23:00	2006-346T11:41:31	1498	2.1	Prime	NEG_X to Titan_SC_RAM	NEG_Z to Titan	
INMS_035TI_T21FULRT002_INMS	2006-346T11:41:31	GMB_E035_Titan21+000T00:00:00	000T01:00:00	2006-346T12:41:31	1498	5.4	Non-SPASS			
INMS_035TI_T21OUTBD001_RADAR	2006-346T12:41:31	GMB_E035_Titan21+000T01:00:00	000T11:00:00	2006-346T23:41:31	100	4.0	Non-SPASS			
INMS_035SA_SURVEY003_RIDER	2006-346T23:37:25		000T08:10:35	2006-347T07:48:00	50	1.5	Non-SPASS			
ISS_035TI_MIDIRTMAP006_CIRS	2006-345T16:11:31	GMB_E035_Titan21-000T19:30:00	000T04:03:00	2006-345T20:14:31	0	20.0	SPASS Rider			
ISS_035TI_NIGHTNAC001_PRIME	2006-345T20:11:31	GMB_E035_Titan21-000T15:30:00	000T01:00:00	2006-345T21:11:31	0	20.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
ISS_035TI_FIRNADCMP003_CIRS	2006-345T21:11:31	GMB_E035_Titan21-000T14:30:00	000T05:30:00	2006-346T02:41:31	0	20.0	SPASS Rider			
ISS_035TI_MIRLMBINT004_CIRS	2006-346T02:41:31	GMB_E035_Titan21-000T09:00:00	000T01:30:00	2006-346T04:11:31	0	50.0	SPASS Rider			
ISS_035TI_EUVFUV001_UVIS	2006-346T04:11:31	GMB_E035_Titan21-000T07:30:00	000T05:00:00	2006-346T09:11:31	0	20.0	SPASS Rider			
ISS_035TI_NIGHTWAC001_PRIME	2006-346T09:11:31	GMB_E035_Titan21-000T02:30:00	000T01:20:00	2006-346T10:31:31	0	20.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
ISS_035TI_GLOBMAPNA001_PRIME	2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T03:00:00	2006-346T18:41:31	0	247.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
ISS_035TI_MIRLMBINT003_CIRS	2006-346T18:41:31	GMB_E035_Titan21+000T07:00:00	000T02:00:00	2006-346T20:41:31	0	20.0	SPASS Rider			
ISS_035TI_MONITORNA001_PRIME	2006-346T20:41:31	GMB_E035_Titan21+000T09:00:00	000T01:28:00	2006-346T22:09:31	0	150.0	Prime	ISS_NAC to Titan	NEG_X to Sun	
MAG_035OT_SURVEY001_PRIME	2006-345T07:00:00		001T00:41:31	2006-346T07:41:31	600	53.3	Non-SPASS			
MAG_035TI_MAGTITAN001_PRIME	2006-346T07:41:31	GMB_E035_Titan21-000T04:00:00	000T08:00:00	2006-346T15:41:31	1976	56.9	Non-SPASS			
MAG_035OT_SURVEY005_PRIME	2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T18:18:29	2006-347T10:00:00	600	39.5	Non-SPASS			
MIMI_035CO_SURVEY004_RIDER	2006-345T07:00:01		001T02:41:30	2006-346T09:41:31	900	86.5	Non-SPASS			
MIMI_035TI_T21INBND002_CAPS	2006-346T09:41:31	GMB_E035_Titan21-000T02:00:00	000T01:00:00	2006-346T10:41:31	2000	7.2	SPASS Rider			
MIMI_035TI_T21CLOSE002_CAPS	2006-346T10:41:31	GMB_E035_Titan21-000T01:00:00	000T02:00:00	2006-346T12:41:31	2000	14.4	SPASS Rider			
MIMI_035TI_T21OUTBND002_CAPS	2006-346T12:41:31	GMB_E035_Titan21+000T01:00:00	000T01:00:00	2006-346T13:41:31	2000	7.2	SPASS Rider			
MIMI_035CO_SURVEY002_RIDER	2006-346T13:41:31	GMB_E035_Titan21+000T02:00:00	000T10:24:43	2006-347T00:06:14	900	33.7	Non-SPASS			
MIMI_035SA_MAGDYN003_RIDER	2006-347T00:00:01		000T07:47:59	2006-347T07:48:00	1200	33.7	SPASS Rider			



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035TI (T21)

MP_030NA_DSS45DOWN001_NA	2006-281T00:00:00		063T23:59:59	2006-344T23:59:59	0	0.0	Non-SPASS			
MP_033NA_SEQUENCE026_NA	2006-328T16:30:00	E033_SEQUENCE_026+000	041T21:20:00	2007-005T13:50:00	0	0.0	SPASS Note			
MP_034SA_REV035_NA	2006-342T21:02:17		014T02:09:29	2006-356T23:11:46	0	0.0	Non-SPASS			
MP_035TI_FLYBYT021_NA	2006-346T11:41:31		000T00:00:01	2006-346T11:41:32	0	0.0	SPASS Note			
MP_035SA_RPXDESCEN035_NA	2006-346T12:09:59		000T00:00:01	2006-346T12:10:00	0	0.0	Non-SPASS			
RADAR_035OT_WARM4T21001_RIDER	2006-346T08:56:31	GMB_E035_Titan21-000T02:45:00	000T02:38:00	2006-346T11:34:31	474.2	4.5	SPASS Rider			
RADAR_035TI_T21RASAR001_INMS	2006-346T11:34:31	GMB_E035_Titan21-000T00:07:00	000T00:07:00	2006-346T11:41:31	289468.8	121.6	SPASS Rider			
RADAR_035TI_T21OTHSAR001_PRIME	2006-346T11:41:31	GMB_E035_Titan21+000T00:00:00	000T00:07:00	2006-346T11:48:31	364800	153.2	Prime	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_035TI_T21OTLSAR001_PRIME	2006-346T11:48:31	GMB_E035_Titan21+000T00:07:00	000T00:08:00	2006-346T11:56:31	249997.4	120.0	Prime	NEG_Z to Titan	NEG_X to Titan_SC_RAM	
RADAR_035TI_T21OUTALT001_PRIME	2006-346T11:56:31	GMB_E035_Titan21+000T00:15:00	000T00:15:00	2006-346T12:11:31	31993	28.8	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir	
RADAR_035TI_T21OTSCAT001_PRIME	2006-346T12:35:31	GMB_E035_Titan21+000T00:54:00	000T00:41:21	2006-346T13:16:52	31993	79.4	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir	
RADAR_035TI_T21OUTRAD001_PRIME	2006-346T13:16:52	GMB_E035_Titan21+000T01:35:21	000T02:24:39	2006-346T15:41:31	4997.8	43.4	Prime	NEG_Z to Titan	POS_X to North_Pole_Dir	Start 2nd polarization +Y to NTP as late as possible for CAPS.
RPWS_035SA_OUTSURVEY003_PRIME	2006-345T15:17:00		001T16:31:00	2006-347T07:48:00	1310	191.1	Non-SPASS			
RPWS_035TI_TIINTRMED001_PRIME	2006-346T09:41:31	GMB_E035_Titan21-000T02:00:00	000T01:30:00	2006-346T11:11:31	12499.4	67.5	Non-SPASS			
RPWS_035TI_TICA001_PRIME	2006-346T11:11:31	GMB_E035_Titan21-000T00:30:00	000T01:00:00	2006-346T12:11:31	100001.1	360.0	Non-SPASS			
RPWS_035TI_TIINTRMED002_PRIME	2006-346T12:11:31	GMB_E035_Titan21+000T00:30:00	000T01:30:00	2006-346T13:41:31	12499.4	67.5	Non-SPASS			
SP_035NA_M70OBSNON346_NA	2006-345T15:17:00		001T07:31:00	2006-346T22:48:00	0	0.0	Non-SPASS			
SP_035NA_TOSTSEG345_NA	2006-345T15:17:00		001T16:31:00	2006-347T07:48:00	0	0.0	SPASS Note			
SP_035TI_WAYPTTURN345_PRIME	2006-345T15:17:00		000T00:30:00	2006-345T15:47:00	0	0.0	New Waypoi	NEG_Y to Titan	NEG_X to Sun	
SP_035TI_DEADTIME345_PRIME	2006-345T15:47:00		000T00:21:31	2006-345T16:08:31	0	0.0	Prime	NEG_Y to Titan	NEG_X to Sun	
SP_035NA_BEGCUSTOM346_NA	2006-346T10:31:31	GMB_E035_Titan21-000T01:10:00	000T00:00:01	2006-346T10:31:32	0	0.0	SPASS Note			
SP_035NA_ENDCUSTOM346_NA	2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T00:00:01	2006-346T15:41:32	0	0.0	SPASS Note			
SP_035TI_DEADTIME346_PRIME	2006-346T22:09:31	GMB_E035_Titan21+000T10:28:00	000T00:15:43	2006-346T22:25:14	0	0.0	Prime	NEG_Y to Titan	NEG_X to Sun	
SP_035EA_DLTURN346_PRIME	2006-346T22:19:00		000T00:29:00	2006-346T22:48:00	0	0.0	Prime	XBAND to Earth	NEG_X to NEP	
SP_035EA_M70METNON346_PRIME	2006-346T22:48:00		000T09:00:00	2006-347T07:48:00	0	0.0	Prime	XBAND to Earth	5_Hr_Rolling	
SP_035NA_M70METNON346_SP	2006-346T22:48:00		000T09:00:00	2006-347T07:48:00	0	0.0	Non-SPASS			
UVIS_035TI_EUVFUV001_PRIME	2006-346T04:11:31	GMB_E035_Titan21-000T07:30:00	000T05:00:00	2006-346T09:11:31	5032	90.6	Prime	ISS_NAC to Titan	NEG_X to Sun	
UVIS_035ST_ALPERID02_PRIME	2006-346T10:31:31	GMB_E035_Titan21-000T01:10:00	000T00:26:00	2006-346T10:57:31	32096	50.1	Prime	UVIS_FUV to 24.429/-57.237	NEG_X to Sun	
UVIS_035SC_RADRCS346_ENGR	2006-346T10:57:31	GMB_E035_Titan21-000T00:44:00	000T00:20:48	2006-346T11:18:19	32096	40.1	SPASS Rider			
UVIS_035SW_IPHSURVEY013_RIDER	2006-346T22:48:00		000T09:00:00	2006-347T07:48:00	76	2.5	Non-SPASS			
VIMS_035TI_SCAN002_CIRS	2006-345T17:41:31	GMB_E035_Titan21-000T18:00:00	000T02:30:00	2006-345T20:11:31	5000	45.0	SPASS Rider			
VIMS_035TI_NIGHTSIDE003_ISS	2006-345T20:11:31	GMB_E035_Titan21-000T15:30:00	000T01:00:00	2006-345T21:11:31	6111.1	22.0	SPASS Rider			
VIMS_035TI_STARE002_CIRS	2006-345T21:11:31	GMB_E035_Titan21-000T14:30:00	000T07:00:00	2006-346T04:11:31	2857.1	72.0	SPASS Rider			
VIMS_035TI_SCAN003_UVIS	2006-346T04:11:31	GMB_E035_Titan21-000T07:30:00	000T05:00:00	2006-346T09:11:31	8000	144.0	SPASS Rider			
VIMS_035TI_REGMAP003_ISS	2006-346T09:11:31	GMB_E035_Titan21-000T02:30:00	000T01:20:00	2006-346T10:31:31	11250	54.0	SPASS Rider			
VIMS_035TI_REGMAP005_ISS	2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T03:00:00	2006-346T18:41:31	7407.4	80.0	SPASS Rider			
VIMS_035TI_MIDIRLMB003_CIRS	2006-346T18:41:31	GMB_E035_Titan21+000T07:00:00	000T02:00:00	2006-346T20:41:31	10000	72.0	SPASS Rider			
VIMS_035TI_GLOBLMAP003_ISS	2006-346T20:41:31	GMB_E035_Titan21+000T09:00:00	000T01:00:00	2006-346T21:41:31	11111.1	40.0	SPASS Rider			

Data Volume

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4				P5	RECORDED		PLAYBACK							
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL CPACTY MRGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	CAROVR (%)	CAROVR (Mb)		
SP_035EA_M34HEFNON346_PRIME	347 01:36	347 05:03	0	3406	122	3528	3567	39	0	105	20	3652	415	-3238	0	0%	3237
SP_035EA_G70METNON347_PRIME	347 05:03	347 10:48	3237	0	0	3237	3567	329	0	78	34	3349	2624	-725	0	0%	725

ISS still has to move a 247Mb request into this observation period

We need to cut 995Mb

DATA VOLUME REPORT --- TRANSFER FRAME OVERHEAD NOT INCLUDED

Event	Start doy hh:mm	End doy hh:mm	CAPS (Mb)	CDA (Mb)	CIRS (Mb)	INMS (Mb)	ISS (Mb)	MAG (Mb)	MIMI (Mb)	RADAR (Mb)	RPWS (Mb)	UVIS (Mb)	VIMS (Mb)	PROBE (Mb)	ENGR (Mb)	TOTAL (Mb)
OBSERVATION_NOR	345 15:17	347 01:36	254.6	18.5	328.7	20.6	567.0	113.8	129.1	549.6	656.8	192.3	529.0	0.0	4.7	3364.8
OBSERVATION_SI	345 15:17	347 01:36	0.0	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0
SP_035EA_M34HEFNON346_PRIME	347 01:36	347 05:03	12.4	1.9	49.7	0.6	0.0	7.5	14.9	0.0	16.3	0.9	0.0	0.0	0.0	104.2
SP_035EA_G70METNON347_PRIME	347 05:03	347 10:48	20.7	1.5	18.0	0.5	0.0	10.7	11.9	0.0	13.0	0.8	0.0	0.0	0.0	77.0
DAILY TOTAL SCIENCE	345 15:17	347 10:48	287.8	21.9	411.4	21.7	567.0	131.9	155.9	549.6	686.1	194.0	529.0	0.0		

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S026, length = 42 ...		2006-328T16:30:00	E033_SEQUENCE_026+00	041T21:20:00	2007-005T13:50:00			
TOST rev 35 Segment		2006-345T15:17:00		001T19:31:00	2006-347T10:48:00			
SP_035TI_WAYPTTURN345_PRIME		2006-345T15:17:00		000T00:30:00	2006-345T15:47:00	NEG_Y to Titan	NEG_X to Sun	
NEW WAYPOINT		2006-345T15:47:00		001T19:01:00	2006-347T10:48:00	NEG_Y to Titan	NEG_X to Sun	
SP_035TI_DEADTIME345_PRIME		2006-345T15:47:00		000T00:21:31	2006-345T16:08:31	NEG_Y to Titan	NEG_X to Sun	
CIRS_035TI_MIDIRMAP006_PRIME	C, I, V	2006-345T16:08:31	GMB_E035_Titan21-000T19:33:00	000T04:03:00	2006-345T20:11:31	CIRS_FPB to Titan	POS_X to North_Pole_Dir	
ISS_035TI_NIGHTNAC001_PRIME	C, I, V	2006-345T20:11:31	GMB_E035_Titan21-000T15:30:00	000T01:00:00	2006-345T21:11:31	ISS_NAC to Titan	NEG_X to Sun	
CIRS_035TI_FIRNADCOMP003_PRIME	C, I, V	2006-345T21:11:31	GMB_E035_Titan21-000T14:30:00	000T05:30:00	2006-346T02:41:31	CIRS_FP1 to Titan	PIC	
CIRS_035TI_MIRLMBINT004_PRIME	C, I, V	2006-346T02:41:31	GMB_E035_Titan21-000T09:00:00	000T01:30:00	2006-346T04:11:31	CIRS_FPB to Titan	PIC	
UVIS_035TI_EUVFUV001_PRIME	C, I, R, V	2006-346T04:11:31	GMB_E035_Titan21-000T07:30:00	000T05:00:00	2006-346T09:11:31	ISS_NAC to Titan	NEG_X to Sun	
ISS_035TI_NIGHTWAC001_PRIME	C, M, R, V	2006-346T09:11:31	GMB_E035_Titan21-000T02:30:00	000T01:20:00	2006-346T10:31:31	ISS_NAC to Titan	NEG_X to Sun	
Begin Custom Period		2006-346T10:31:31	GMB_E035_Titan21-000T01:10:00	000T00:00:01	2006-346T10:31:32			
UVIS_035ST_ALPERID02_PRIME	C, M, R	2006-346T10:31:31	GMB_E035_Titan21-000T01:10:00	000T00:26:00	2006-346T10:57:31	UVIS_FUV to 24.429f-57.237	NEG_X to Sun	Pick up at NEG_Y to Titan, NEG_X to Sun; Hand off at UVIS_FUV to 24.429f-57.237, NEG_X to Sun.
ENGR_035SC_RADRCS346_PPS	M, R, U	2006-346T10:57:31	GMB_E035_Titan21-000T00:44:00	000T00:20:50	2006-346T11:18:21			Pick up at UVIS_FUV to 24.429f-57.237, NEG_X to Sun; Hand off at UVIS_FUV to 24.429f-57.237, NEG_X to Sun. Deadband = (5,2,-5)
Set deadband to (2,2,20) fo...		2006-346T11:18:31	GMB_E035_Titan21-000T00:23:00	000T00:00:01	2006-346T11:18:32			Deadband = (2,2,20)
INMS_035TI_T21RMPNT001_PRIME	M, R	2006-346T11:18:31	GMB_E035_Titan21-000T00:23:00	000T00:23:00	2006-346T11:41:31	NEG_X to Titan_SC_RAM	NEG_Z to Titan	Pick up at UVIS_FUV to 24.429f-57.237, NEG_X to Sun; Hand off at NEG_X to Titan_SC_RAM, NEG_Z to Titan.
35TI (t) T21 TITAN Inbound...		2006-346T11:41:31		000T00:00:01	2006-346T11:41:32			
RADAR_035TI_T210THSAR001_PRIME	M	2006-346T11:41:31	GMB_E035_Titan21+000T00:00:00	000T00:07:00	2006-346T11:48:31	NEG_Z to Titan	NEG_X to Titan_SC_RAM	Pick up at NEG_X to Titan_SC_RAM, NEG_Z to Titan; Hand off at NEG_Z to Titan, NEG_X to Titan_SC_RAM.
RADAR_035TI_T210TLSAR001_PRIME	M	2006-346T11:48:31	GMB_E035_Titan21+000T00:07:00	000T00:08:00	2006-346T11:56:31	NEG_Z to Titan	NEG_X to Titan_SC_RAM	Pick up at NEG_Z to Titan, NEG_X to Titan_SC_RAM; Hand off at NEG_Z to Titan, NEG_X to Titan_SC_RAM.
RADAR_035TI_T210OUTALT001_PRIME	M	2006-346T11:56:31	GMB_E035_Titan21+000T00:15:00	000T00:15:00	2006-346T12:11:31	NEG_Z to Titan	POS_X to North_Pole_Dir	Pick up at NEG_Z to Titan, NEG_X to Titan_SC_RAM; Hand off at NEG_Z to Titan, POS_X to North_Pole_Dir.
ENGR_035SC_RADRWBIAS346_PPS	M	2006-346T12:11:31	GMB_E035_Titan21+000T00:30:00	000T00:21:41	2006-346T12:33:12			Pick up at NEG_Z to Titan, POS_X to North_Pole_Dir; Hand off at NEG_Z to Titan, POS_X to North_Pole_Dir.
RADAR_035TI_T210TSCAT001_PRIME	M	2006-346T12:33:31	GMB_E035_Titan21+000T00:52:00	000T00:45:00	2006-346T13:18:31	NEG_Z to Titan	POS_X to North_Pole_Dir	Pick up at NEG_Z to Titan, POS_X to North_Pole_Dir; Hand off at NEG_Z to Titan, POS_X to North_Pole_Dir.
RADAR_035TI_T210OUTRAD001_PRIME	C, M	2006-346T13:18:31	GMB_E035_Titan21+000T01:37:00	000T02:23:00	2006-346T15:41:31	NEG_Z to Titan	POS_X to North_Pole_Dir	Pick up at NEG_Z to Titan, POS_X to North_Pole_Dir; Hand off at NEG_Y to Titan, NEG_X to Sun. Start 2nd polarization +Y to NTP as late as possible for CAPS.
End Custom Period		2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T00:00:01	2006-346T15:41:32			
ISS_035TI_GLOBMAPNAD001_PRIME	C, V	2006-346T15:41:31	GMB_E035_Titan21+000T04:00:00	000T03:00:00	2006-346T18:41:31	ISS_NAC to Titan	NEG_X to Sun	
CIRS_035TI_MIRLMBINT003_PRIME	C, I, V	2006-346T18:41:31	GMB_E035_Titan21+000T07:00:00	000T02:00:00	2006-346T20:41:31	CIRS_FPB to Titan	PIC	
ISS_035TI_MONITORNAD001_PRIME	C, V	2006-346T20:41:31	GMB_E035_Titan21+000T09:00:00	000T01:28:00	2006-346T22:09:31	ISS_NAC to Titan	NEG_X to Sun	
CIRS_035TI_COMPMAPO23_PRIME	C, M, U	2006-346T22:09:31	GMB_E035_Titan21+000T10:28:00	000T03:00:00	2006-347T01:09:31	CIRS_FPB to Titan	NEG_Z to North_Pole_Dir	
SP_035TI_DEADTIME346_PRIME	C, M	2006-347T01:09:31	GMB_E035_Titan21+000T13:28:00	000T00:05:29	2006-347T01:15:00	NEG_Y to Titan	NEG_X to Sun	
SP_035EA_DLTURN346_PRIME	C, M	2006-347T01:15:00		000T00:21:00	2006-347T01:36:00	XBAND to Earth	NEG_X to NEP	
SP_035EA_M34HEFNON346_PRIME	C, M	2006-347T01:36:00		000T03:27:00	2006-347T05:03:00	XBAND to Earth	5_Hr_Rolling	
SP_035EA_G70METNON347_PRIME	C, M	2006-347T05:03:00		000T05:45:00	2006-347T10:48:00	XBAND to Earth	NEG_X to NEP	

DSN

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for T21_060728.apf on 2006-Jul-28 14:43:14

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

DOWNLINK PASS					DSN PASS						
NAME	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	DATA_RATES kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	CALS min	LABEL	CNFG
M34HEFNON346	347T01:36-05:03	347T02:48-06:15	03:27	41	65	347T01:36-05:18	347T02:45-06:30	03:45	60/15	Ranging_	X_up_on
+G70METNON347	347T05:03-10:48	347T06:15-12:00	05:45	82,110,124,142,165	14	347T05:03-10:48	347T06:15-12:00	05:45	15/15	TP	N000

NAV

CASSINI NAVIGATION SUMMARY for T21_060728.apf on 2006-Jul-28 14:44:08

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

ON EARTH-LINE FOR DOWNLINK			TRACKING SUPPORT								
NAME	START_TO_END SCET	DUR hh:mm	ID	BOT_TO_EOT UTC	GND_UPLINK UTC	ARRIV_SC SCET	RCV_GND ERT	2-WAY hh:mm	DOP OK?	RNG OK?	
-(missing)--	-----	-----	gap in doppler data of 38 hours					-----	-----	NO	NO
M34HEFNON346	347T01:36-05:03	03:27	65	347T02:45-06:30	02:55-06:25	04:07-05:03	05:19-06:15	00:56	NO	Y?	
+G70METNON347	347T05:03-10:48	05:45	14	347T06:15-12:00	06:25-11:55	07:37-10:48	08:49-12:00	03:11	NO	Y?	

Telemetry Mode Report

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2006-345T15:17:00.000	17:39:31	S_N_ER_3	SP_035NA_M34OBSNON346_NA
GMB_E035_Titan21-000T02:45:00	2006-346T08:56:31.000	00:15:00	S_N_ER_5A	SP_035NA_M34OBSNON346_NA
GMB_E035_Titan21-000T02:30:00	2006-346T09:11:31.000	01:46:00	S_N_ER_3	SP_035NA_M34OBSNON346_NA
GMB_E035_Titan21-000T00:44:00	2006-346T10:57:31.000	00:37:00	S_N_ER_2	SP_035NA_M34OBSNON346_NA
GMB_E035_Titan21-000T00:07:00	2006-346T11:34:31.000	04:07:00	S_N_ER_8	SP_035NA_M34OBSNON346_NA
GMB_E035_Titan21+000T04:00:00	2006-346T15:41:31.000	09:54:29	S_N_ER_3	SP_035NA_M34OBSNON346_NA
	2006-347T01:36:00.000	03:27:00	RTE_N_SPB_41475	SP_035EA_M34HEFNON346_PRIME
	2006-347T05:03:00.000	00:15:00	RTE_N_SPB_82950	SP_035EA_G70METNON347_PRIME
	2006-347T05:18:00.000	00:30:00	RTE_N_SPB_110600	SP_035EA_G70METNON347_PRIME
	2006-347T05:48:00.000	00:15:00	RTE_N_SPB_124425	SP_035EA_G70METNON347_PRIME
	2006-347T06:03:00.000	01:15:00	RTE_N_SPB_142200	SP_035EA_G70METNON347_PRIME
	2006-347T07:18:00.000	03:30:00	RTE_N_SPB_165900	SP_035EA_G70METNON347_PRIME

Open Issues

- Data Volume

TWT/OST Integration Constraint and Guideline Checklist

Below are Target Working Team (TWT) and Orbiter Science Team (OST) constraints that must be followed during segment implementation. Any exceptions to constraint numbers 3, 4, 6, or 7 must be approved by the Science Planning Manager.

C=Comply

V=Violate

N/A=Not Applicable

Constraint	Disposition	Comments
1. A. SP has checked all waypoints turns to and from waypoints. B. All initial downlink attitudes have been checked as waypoints.	C	
2. All turns to and from waypoints checked for violations and margins. <input type="checkbox"/> CAPS <input type="checkbox"/> CDA <input type="checkbox"/> CIRS <input type="checkbox"/> INMS <input type="checkbox"/> ISS <input type="checkbox"/> MIMI <input type="checkbox"/> MAG <input type="checkbox"/> NAV <input type="checkbox"/> RADAR <input type="checkbox"/> RPWS <input type="checkbox"/> RSS <input type="checkbox"/> UVIS <input type="checkbox"/> VIMS Each Prime Instrument agrees to accept a reduction in observation time during implementation if problems arise.	C	
3. Custom handoffs limited to: A. ±3 hours from targeted Icy Satellite flyby B. ±3 hours from targeted Titan Flyby C. OpNavs preceding/following a downlink	N/A	
4. Minimum 30. min SPASS Prime request duration outside ±5 min. from targeted satellite flyby (5 min. integer duration if >30 min.)	C	
5. Live and Ground Movable Blocks include appropriate time margins.	C	K. Klaasen's margin for flyby T21 is 15 min. according to memo dated .
6. Waypoints changes are ?3 per day A. All turns that accomplish the waypoint strategy are requested by SP or OpNav.	C	
7. Live Movable Blocks limited to the following orbits: 7, 8, 9, 10, 12, 28, 51, 56, 57, 60, 63, 64	N/A	

Guideline	Yes / No	Comments
1. Were repeatable/reusable templates used where possible?	Yes	
2. During Pre-Integration: Was 30 min. used for 90° RWA turns and/or 10 min. for RCS turns?	No	9 min was used for an RCS turn

(DOUBLE-CLICK TO MAKE CHANGES)