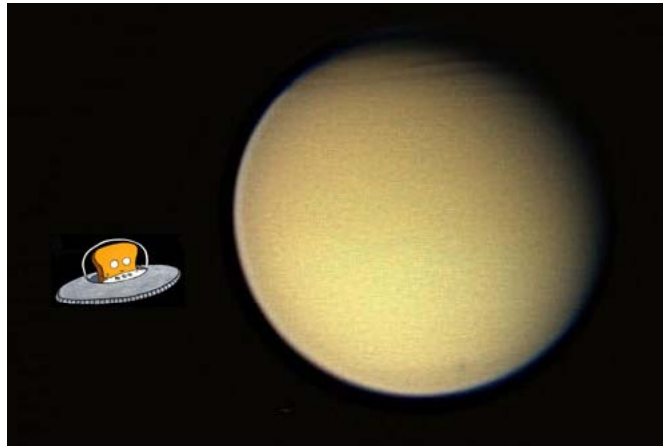


TOST: Integration 133TI (T70) Wrap-Up



October 16, 2009

Kim Steadman, Jo Pitesky, Trina Ray



Segment Basics

Segment times:

BEG: 2010-171T11:11:00

END: 2010-176T21:10:00

This is a long segment with two “caboose” days and a day from the MAG TWT on the end.

Altitude: 880 km

Time of C/A: 2010-172T01:27:17 in CIMS 080806 trajectory
2010-172T01:27:43 090721 trajectory

Epoch: GMB_E133_Titan70



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

Kickoff Meeting

Present

Master Timeline

Discuss

Timeline
Op Modes
Telem Modes
Deadbands for RCS

Homework

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

Detailed Meeting

Present

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

Discuss

Data Volume Cuts

Homework

CCRs
High Level Science Objectives

Wrap-up Meeting

Present

Wrap-up Package Checklist
High Level Science Objectives

Discuss

N/A

Homework

N/A



T70 High-level Science Objectives

- MAG – T70 is the flyby with highest priority for MAG. With an unprecedented altitude of 880 km at closest approach (in the dayside ionosphere), the measurements obtained by MAG will provide important pieces of evidence in favor or against the presence of a dynamo generated magnetic field.
- CAPS –
- CIRS – Composition and temperature at mid-northern latitudes.
- ISS – ISS will ride along with VIMS to observe Adiri at moderate resolutions and will monitor Titan to track clouds and the evolution thereof for an extra two days after the Titan encounter. (0.5-hour illuminated prime observation primarily for photometry.)
- MIMI - Excellent energetic ion and electron energy input to atmosphere
- RPWS – Measure thermal plasmas in Titan's ionosphere and surrounding environment; search for lightning in Titan's atmosphere; investigate the interaction of Titan with Saturn's magnetosphere.
- VIMS - VIMS will ride along with UVIS just after C/A for stellar occultation. Then VIMS will perform a mosaic of Adiri at 20 km per pixel.



UVIS – Stellar occultation outbound from Titan. Occultations by Titan are the most valuable Titan observations for UVIS because they provide detailed vertical profiles of nitrogen (in the EUV channel during solar occultation) and hydrocarbons, HCN, and aerosols (in the FUV channel during stellar occultations). The experiment is self-calibrating (the information comes from a ratio of signal during occultation to signal of the unocculted sun or star just before or after occultation). These profiles probe altitudes between 300 km and 2400 km which fill the gap between CIRS and INMS measurements. Much of the chemistry and aerosol formation occurs in this vertical region. Observations taken over the course of the mission will collectively provide coverage at many latitudes and local times and these will be used to study meridional and local time gradients in the upper atmosphere. Knowledge of these gradients is important for understanding the meridional circulation and other dynamical and chemical processes.

Master Timeline for T70



T70		880					
Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments	
2010-171T11:11:00	2010-171T11:51:00	SP Turn to WP	NEG_Y to Titan, NEG_X to SUN	DFPW Normal	S_N_ER_3		
2010-171T11:51:00	C/A - 13:21:17	OD Uncertainty Dead Time			S_N_ER_3		
C/A - 13:21:17	-13:00	CIRS	Template M4	DFPW Normal	S_N_ER_3		
-13:00	-10:00	CIRS	Template N	DFPW Normal	S_N_ER_3		
-10:00	-09:00	ISS	Template N	DFPW Normal	S_N_ER_3		
-09:00	-05:00	CIRS	Template R	DFPW Normal	S_N_ER_3		
-05:00	-02:15	CIRS	Template T	DFPW Normal	S_N_ER_3		
		begin custom period					
-02:15	-01:15	CIRS	CAPS riding	DFPW Normal	S_N_ER_3	CIRS turns to CAPS attitude	
-01:15	-01:14	RWA to RCS Transition	Suspend SID (SRU violations)	ORS_RCS	S_N_ER_3		
-01:14	-00:29	CAPS	Need to sit-and-stare	ORS_RCS	S_N_ER_3		
-00:29	0	Engineering prime; MAG	Attitude required to be stable	ORS_RCS	S_N_ER_3	ENG does turn from CAPS attitude	
2010-172T01:27:43		CLOSEST APPROACH	Waiting for attitude from AACs.	ORS_RCS	S_N_ER_3		
0	+00:27	Engineering prime; MAG		ORS_RCS	S_N_ER_3	ENG turns to UVIS attitude for occ during transition. Must be at occ attitude by +00:27	
+00:27	+00:48:05	RCS to RWA Transition	Enable SID, UVIS stellar occ	ORS_RCS	S_N_ER_3		
+00:48:05	+01:07	UVIS Stellar Occ		DFPW Normal	S_N_ER_3		
+01:07	+02:00	VIMS		DFPW Normal	S_N_ER_3	VIMS does turn from UVIS att	
		end custom period			S_N_ER_3		
+02:00	+05:00	VIMS	Template Y	DFPW Normal	S_N_ER_3		
+05:00	+08:30	VIMS	Template I	DFPW Normal	S_N_ER_3		
+08:30	+09:00	ISS	Template I	DFPW Normal	S_N_ER_3		
+09:00	+14:00	VIMS	Template V	DFPW Normal	S_N_ER_3		
+14:00	2010-172T15:43:00	OD Uncertainty Dead Time			S_N_ER_3		
2010-172T15:43:00	2010-172T16:23:00	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3		
2010-172T16:23:00	2010-172T22:00:00	M70		DFPW Normal	RTE_N_SPB	G70 is down for extended maintenance.	
2010-172T22:00:00	2010-173T04:56:00	G34 HEF		DFPW Normal	RTE_N_SPB		
2010-173T04:56:00	2010-173T05:36:00	SP Turn to WP		DFPW Normal	S_N_ER_3		
2010-173T05:36:00	2010-173T07:36:00	CAPS	MAGBNPTG (2 hrs)	DFPW Normal	S_N_ER_3		
2010-173T07:36:00	2010-173T17:46:00	ISS	Long CLOUD001 observation (10 hrs)	DFPW Normal	S_N_ER_3		
2010-173T17:46:00	2010-T18:26:00	SP Turn to Earth for downlink	New Waypoint: XBAND to EARTH, POS_X to NEP	DFPW Normal	S_N_ER_3		
2010-173T18:26:00	2010-173T19:56:00	CAPS		DFPW Normal	S_N_ER_3	Bias window	
2010-173T19:56:00	2010-174T04:56:00	G34		DFPW Normal	RTE_N_SPB		
2010-174T04:56:00	2010-174T05:36:00	SP Turn to WP	New Waypoint: NEG_Y to TITAN, NEG_X to SUN	DFPW Normal	S_N_ER_3		
2010-174T05:36:00	2010-174T12:00:00	ISS	Long CLOUD002 observation (6 hr 24 min)	DFPW Normal	S_N_ER_3		
2010-174T12:00:00	2010-174T14:00:00	CAPS	MAGBNPTG (2 hrs)	DFPW Normal	S_N_ER_3		
2010-174T14:00:00	2010-174T15:15:00	ISS	Titan cloud monitoring (1 hr 15 min)	DFPW Normal	S_N_ER_3		
2010-174T15:15:00	2010-175T01:16:00	CIRS	Rings polarization (10 hrs)	DFPW Normal	S_N_ER_3		
2010-175T01:16:00	2010-175T01:56:00	SP Turn to Earth for downlink		DFPW Normal	S_N_ER_3		
2010-175T01:56:00	2010-175T10:56:00	Canberra 70M		DFPW Normal	RTE_N_SPB		

Deadband (2, 2, 2)

Dual Playback C/A -00:29 to C/A +00:18

Deadband during outbound transition (0.5, 0.5, 0.5)



T70 Telemetry Mode Report

TELEMETRY MODE REPORT

EPOCH RELATIVE	UTC	DURATION	TELEMETRY MODE	REQUEST
	2010-171T11:11:00.000	001T05:12:00	S_N_ER_3	SP_133NA_M70OBSNON172_NA
	2010-172T16:23:00.000	03:33:00	RTE_N_SPB_142200	SP_133EA_M70METSEQ172_PRIME
	2010-172T19:56:00.000	00:45:00	RTE_N_SPB_124425	SP_133EA_M70METSEQ172_PRIME
	2010-172T20:41:00.000	00:30:00	RTE_N_SPB_110600	SP_133EA_M70METSEQ172_PRIME
	2010-172T21:11:00.000	00:34:00	RTE_N_SPB_82950	SP_133EA_M70METSEQ172_PRIME
	2010-172T21:45:00.000	00:15:00	RTE_N_SPB_66360	SP_133EA_M70METSEQ172_PRIME
	2010-172T22:00:00.000	05:41:00	RTE_N_SPB_35550	SP_133EA_G34HEFSEQ172_PRIME
	2010-173T03:41:00.000	00:45:00	RTE_N_SPB_33180	SP_133EA_G34HEFSEQ172_PRIME
	2010-173T04:26:00.000	00:30:00	RTE_N_SPB_27650	SP_133EA_G34HEFSEQ172_PRIME
	2010-173T04:56:00.000	15:00:00	S_N_ER_3	SP_133NA_G34OBSNON173_NA
	2010-173T19:56:00.000	00:15:00	RTE_N_SPB_22120	SP_133EA_G34BWGSEQ173_PRIME
	2010-173T20:11:00.000	08:15:00	RTE_N_SPB_27650	SP_133EA_G34BWGSEQ173_PRIME
	2010-174T04:26:00.000	00:30:00	RTE_N_SPB_22120	SP_133EA_G34BWGSEQ173_PRIME
	2010-174T04:56:00.000	21:00:00	S_N_ER_3	SP_133NA_C70OBSNON175_NA
	2010-175T01:56:00.000	00:30:00	RTE_N_SPB_82950	SP_133EA_C70METOTP175_PRIME
	2010-175T02:26:00.000	02:00:00	RTE_N_SPB_110600	SP_133EA_C70METOTP175_PRIME
	2010-175T04:26:00.000	04:15:00	RTE_N_SPB_142200	SP_133EA_C70METOTP175_PRIME
	2010-175T08:41:00.000	01:15:00	RTE_N_SPB_124425	SP_133EA_C70METOTP175_PRIME
	2010-175T09:56:00.000	01:00:00	RTE_N_SPB_99540	SP_133EA_C70METOTP175_PRIME
	2010-175T10:56:00.000	001T01:14:00	S_N_ER_3	SP_133NA_M70OBSNON176_NA
	2010-176T12:10:00.000	00:45:00	RTE_N_SPB_99540	SP_133EA_M70METOTB176_PRIME
	2010-176T12:55:00.000	01:00:00	RTE_N_SPB_124425	SP_133EA_M70METOTB176_PRIME
	2010-176T13:55:00.000	05:30:00	RTE_N_SPB_142200	SP_133EA_M70METOTB176_PRIME
	2010-176T19:25:00.000	01:00:00	RTE_N_SPB_124425	SP_133EA_M70METOTB176_PRIME
	2010-176T20:25:00.000	00:45:00	RTE_N_SPB_99540	SP_133EA_M70METOTB176_PRIME



T70 SMT Report

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

DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4			P5	RECORDED	PLAYBACK									
			START (Mb)	SCI (Mb)	HK+E (Mb)	TOTAL (Mb)	CPACTY (Mb)	MRGN (Mb)	OPNAV (Mb)	SCI (Mb)	ENGR (Mb)	TOTAL (Mb)	CPACTY (Mb)	MARGN (Mb)	NET_MARGN (Mb)	CAROVR (%)	CAROVR (Mb)
SP_133EA_M70METSEQ172_PRIME	172 16:23	172 22:00	0	3239	136	3375	3516	141	0	454	33	3862	2152	-1710	40	0%	1710
SP_133EA_G34HEFSEQ172_PRIME	172 22:00	173 04:56	1710	0	0	1710	3516	1806	0	309	41	2059	703	-1357	40	1%	1356
SP_133EA_G34BWGSEQ173_PRIME	173 19:56	174 04:56	1356	860	63	2279	3516	1236	0	390	53	2723	699	-2024	40	1%	2024
SP_133EA_C70METOTP175_PRIME	175 01:56	175 10:56	2024	1363	89	3475	3516	40	0	390	53	3918	2810	-1109	1277	20%	1109
SP_133EA_M70METOTB176_PRIME	176 12:10	176 21:10	1109	749	107	1965	3516	1551	0	292	53	2310	3587	1277	1277	36%	0

SMT Warnings:
None



T70 SMT Report by Instrument

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	171 11:11	172 16:23	506.9	70.7	393.7	20.6	525.0	207.7	131.9	0.0	685.6	77.0	590.0	0.0	134.7	3343.8
SP_133EA_M70METSEQ172_PRIME	172 16:23	172 22:00	80.9	10.6	11.5	2.0	0.0	40.0	24.3	0.0	26.5	1.1	0.0	0.0	253.4	450.2
SP_133EA_G34HEFSEQ172_PRIME	172 22:00	173 04:56	99.8	13.1	74.9	2.5	0.0	49.3	30.0	0.0	32.7	3.8	0.0	0.0	0.0	306.1
DAILY TOTAL SCIENCE	171 11:11	173 04:56	687.6	94.4	480.1	25.1	525.0	297.0	186.1	0.0	744.8	82.0	590.0	0.0	388.1	
OBSERVATION_NOR	173 04:56	173 19:56	216.0	28.3	0.0	5.4	300.0	106.7	64.8	0.0	70.7	0.0	60.0	0.0	62.7	914.6
SP_133EA_G34BWGSEQ173_PRIME	173 19:56	174 04:56	129.6	17.0	86.4	3.2	0.0	64.0	38.9	0.0	42.4	4.9	0.0	0.0	0.0	386.5
DAILY TOTAL SCIENCE	173 04:56	174 04:56	345.6	45.3	86.4	8.6	300.0	170.7	103.7	0.0	113.2	4.9	60.0	0.0	62.7	
OBSERVATION_NOR	174 04:56	175 01:56	302.4	39.6	162.2	7.6	435.0	149.4	90.7	0.0	99.0	4.5	60.0	0.0	87.8	1438.3
SP_133EA_C70METOTP175_PRIME	175 01:56	175 10:56	129.6	17.0	86.4	3.2	0.0	64.0	38.9	0.0	42.4	4.9	0.0	0.0	0.0	386.5
DAILY TOTAL SCIENCE	174 04:56	175 10:56	432.0	56.6	248.6	10.8	435.0	213.4	129.6	0.0	141.5	9.5	60.0	0.0	87.8	
OBSERVATION_NOR	175 10:56	176 12:10	151.0	47.6	79.2	9.1	35.0	179.5	109.0	0.0	119.0	4.5	0.0	0.0	105.5	839.3
SP_133EA_M70METOTB176_PRIME	176 12:10	176 21:10	32.4	17.0	86.4	3.2	0.0	64.0	38.9	0.0	42.4	4.9	0.0	0.0	0.0	289.3
DAILY TOTAL SCIENCE	175 10:56	176 21:10	183.4	64.6	165.6	12.3	35.0	243.5	147.9	0.0	161.4	9.5	0.0	0.0	105.5	
TOTAL RECORDED (OPNAV data not included)			1648.6	260.8	980.7	56.9	1295.0	924.6	567.3	0.0	1160.9	105.8	710.0	0.0		

T70 DSN Report



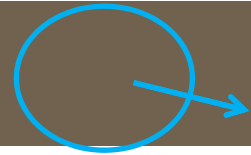
CASSINI DOWNLINK/DSN COVERAGE SUMMARY for /www/mp/tmp/133TI_T70_091013.apf on 2009-Oct-13 15:16:42
(+ = pass overlaps with previous pass; * = conflicts with DSN maintenance; o = overlaps occultation)

DOWNLINK PASS					DSN PASS						
NAME	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	DATA_RATES kbps	ID	START_TO_END SCET	START_TO_END ERT	DUR hh:mm	CALS min	LABEL	CNFG
M70METSEQ172	172T16:23-22:00	172T17:42-23:19	05:37	142,124,110,82,66	63	172T16:23-22:00	172T17:40-23:20	05:40	60 /15	TP	N750
+G34HEFSEQ172	172T22:00-04:56	172T23:19-06:15	06:56	35,33,27	15	172T21:45-04:56	172T23:00-06:15	07:15	60 /15	TP	N003
G34BWGSEQ173	173T19:56-04:56	173T21:15-06:15	09:00	22,27,22	25	173T19:56-04:56	173T21:15-06:15	09:00	60 /15	TP	N748
C70METOTP175	175T01:56-10:56	175T03:15-12:15	09:00	82,110,142,124,99	43	175T01:56-10:56	175T03:15-12:15	09:00	60 /15	TP	N003
M70METOTB176	176T12:10-21:10	176T13:30-22:30	09:00	99,124,142,124,99	63	176T12:10-21:10	176T13:30-22:30	09:00	60 /15	TP	N003

No overlap with maintenance.

T70 SPASS pg 1

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S60, length = 34 days		2010-137T13:31:00		039T07:39:00	2010-176T21:10:00			
Titan Flyby T70 Segment		2010-171T11:11:00		005T09:59:00	2010-176T21:10:00			
SP_133TI_WAYPTTURN171_PRIME	M	2010-171T11:11:00		000T00:40:00	2010-171T11:51:00	NEG_Y to Titan	NEG_X to Sun	
NEW WAYPOINT		2010-171T11:51:00		002T06:35:00	2010-173T18:26:00	NEG_Y to Titan	NEG_X to Sun	
SP_133TI_DEADTIME171_PRIME	M	2010-171T11:51:00		000T00:15:01	2010-171T12:06:01	NEG_Y to Titan	NEG_X to Sun	
CIRS_133TI_FIRNADCMP001_PRIME	I, M, V	2010-171T12:06:01	GMB_E133_Titan70-000T13:21:17	000T03:21:17	2010-171T15:27:18	CIRS_FP1 to Titan (-1.604,0.0,0.0	PIC	
ISS_133TI_PHOTOMWAC001_PRIME	C, M, V	2010-171T15:27:18	GMB_E133_Titan70-000T10:00:00	000T01:00:00	2010-171T16:27:18	ISS_NAC to Titan	NEG_X to Sun	Secondary orientation: NEG_X to Sun preferred, but flexible
CIRS_133TI_MIRLMBMAP001_PRIME	I, M, V	2010-171T16:27:18	GMB_E133_Titan70-000T09:00:00	000T04:00:00	2010-171T20:27:18	CIRS_FP2 to Titan	PIC	
CIRS_133TI_FIRNADMAP001_PRIME	I, M, V	2010-171T20:27:18	GMB_E133_Titan70-000T05:00:00	000T02:45:00	2010-171T23:12:18	CIRS_FP1 to Titan (0.917,0.0,-1.2	POS_Z to 144.8/-55.0	
Begin Custom Period		2010-171T23:12:18	GMB_E133_Titan70-000T02:15:00	000T00:00:01	2010-171T23:12:19	NEG_Y to Titan	NEG_X to Sun	
CIRS_133TI_FIRLMBINT001_PRIME	I, M, V	2010-171T23:12:18	GMB_E133_Titan70-000T02:15:00	000T01:00:00	2010-172T00:12:18	CIRS_FP1 to Titan	NEG_X to Sun	Pick up at NEG_Y to Titan, NEG_X to Sun; Hand off at POS_Y to COROT, NEG_X to Sun.
ENGR_133SC_ORSRCS172_PRIME	M	2010-172T00:12:18	GMB_E133_Titan70-000T01:15:00	000T00:01:00	2010-172T00:13:18	POS_Y to COROT	NEG_X to Sun	Pick up at POS_Y to COROT, NEG_X to Sun; Hand off at POS_Y to COROT, NEG_X to Sun. deadband=(2,2,2)
CAPS_133TI_T70INPTG001_PRIME	C, M	2010-172T00:13:18	GMB_E133_Titan70-000T01:14:00	000T00:45:00	2010-172T00:58:18	POS_Y to COROT	NEG_X to Sun	Pick up at POS_Y to COROT, NEG_X to Sun; Hand off at POS_Y to COROT, NEG_X to Sun.
Begin Dual Playback Science		2010-172T00:58:18	GMB_E133_Titan70-000T00:29:00	000T00:00:01	2010-172T00:58:19			
ENGR_133SC_T70CA001_AACS	C, M	2010-172T00:58:18	GMB_E133_Titan70-000T00:29:00	000T00:56:00	2010-172T01:54:18			Pick up at POS_Y to COROT, NEG_X to Sun; Hand off at UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48. c/a pointing = cp-cm to RAM, -x to Titan with 20 deg twist, talk to Sam Sarani for more info.
133TI (t) T70 TITAN Outbou...		2010-172T01:27:43		000T00:00:01	2010-172T01:27:44			
End Dual Playback Science		2010-172T01:45:18	GMB_E133_Titan70+000T00:18:00	000T00:00:01	2010-172T01:45:19			
ENGR_133SC_DFPWBIAS172_PPS	C, M, U, V	2010-172T01:54:18	GMB_E133_Titan70+000T00:27:00	000T00:21:05	2010-172T02:15:23	UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48		Pick up at UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48; Hand off at UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48. Deadband=(0.5,0.5,0.5)
UVIS_133ST_ALPVIRT001_PRIME	C, M, V	2010-172T02:15:23	GMB_E133_Titan70+000T00:48:05	000T00:18:55	2010-172T02:34:18	UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48		Pick up at UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48; Hand off at UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48.
VIMS_133TI_REGMAP001_PRIME	C, I, M	2010-172T02:34:18	GMB_E133_Titan70+000T01:07:00	000T00:53:00	2010-172T03:27:18	VIMS_IR to Titan	NEG_X to Sun	Pick up at UVIS_FUV to 201.298/-11.161 (-1.375,0.0,0.0 deg. offset), NEG_X to 215.68/-5.48; Hand off at NEG_Y to Titan, NEG_X to Sun.
End Custom Period		2010-172T03:27:18	GMB_E133_Titan70+000T02:00:00	000T00:00:01	2010-172T03:27:19	NEG_Y to Titan	NEG_X to Sun	



Pointing for c/a is specified in the comments field.

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Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
VIMS_133TI_REGMAP002_PRIME	C, I, M	2010-172T03:27:18	GMB_E133_Titan70+000T02:00:00	000T03:00:00	2010-172T06:27:18	VIMS_IR to Titan	NEG_X to Sun	
VIMS_133TI_MEDRES001_PRIME	C, I, M	2010-172T06:27:18	GMB_E133_Titan70+000T05:00:00	000T03:30:00	2010-172T09:57:18	VIMS_IR to Titan	NEG_X to Sun	
ISS_133TI_PHOTOMWAC002_PRIME	C, M, V	2010-172T09:57:18	GMB_E133_Titan70+000T08:30:00	000T00:30:00	2010-172T10:27:18	ISS_NAC to Titan	NEG_X to Sun	Secondary orientation: NEG_X to Sun preferred, but flexible
VIMS_133TI_GLOBMAP001_PRIME	C, I, M	2010-172T10:27:18	GMB_E133_Titan70+000T09:00:00	000T05:00:00	2010-172T15:27:18	VIMS_IR to Titan	NEG_X to Sun	
SP_133TI_DEADTIME172_PRIME	M	2010-172T15:27:18	GMB_E133_Titan70+000T14:00:00	000T00:15:42	2010-172T15:43:00	NEG_Y to Titan	NEG_X to Sun	
SP_133EA_DLTURN172_PRIME	M	2010-172T15:43:00		000T00:40:00	2010-172T16:23:00	XBAND to Earth	POS_X to NEP	
Pointer Reset in preparatio...		2010-172T16:23:00		000T00:00:01	2010-172T16:23:01			
SP_133EA_M70METSEQ172_PRIME	C, E, M	2010-172T16:23:00		000T05:37:00	2010-172T22:00:00	XBAND to Earth	POS_X to NEP	
SP_133EA_G34HEFSEQ172_PRIME	C, M	2010-172T22:00:00		000T06:56:00	2010-173T04:56:00	XBAND to Earth	POS_X to NEP	
SP_133TI_WAYPTTURN173_PRIME	M	2010-173T04:56:00		000T00:40:00	2010-173T05:36:00	NEG_Y to Titan	NEG_X to Sun	
CAPS_133SA_MAGBNDPTG004_PRIMM		2010-173T05:36:00		000T02:00:00	2010-173T07:36:00	NEG_Y to Titan (0.0,50.0,-90.0 de	NEG_X to Sun	
ISS_133TI_CLOUD001_PRIME	M, V	2010-173T07:36:00		000T10:10:00	2010-173T17:46:00	ISS_NAC to Titan	NEG_X to Sun	Secondary orientation: NEG_X to Sun preferred, but flexible
SP_133EA_DLTURN173_PRIME	M	2010-173T17:46:00		000T00:40:00	2010-173T18:26:00	XBAND to Earth	POS_X to NEP	
NEW WAYPOINT		2010-173T18:26:00		000T11:10:00	2010-174T05:36:00	XBAND to Earth	POS_X to NEP	
CAPS_133SA_MAGBNDPTG007_PRIME, M, V		2010-173T18:26:00		000T01:30:00	2010-173T19:56:00	XBAND to Earth (45.0,-32.0,0.0 de	POS_X to NEP	
SP_133EA_G34BWGSEQ173_PRIME	C, M	2010-173T19:56:00		000T09:00:00	2010-174T04:56:00	XBAND to Earth	Rolling/SRU	
SP_133TI_WAYPTTURN174_PRIME	M	2010-174T04:56:00		000T00:40:00	2010-174T05:36:00	NEG_Y to Titan	NEG_X to Sun	
NEW WAYPOINT		2010-174T05:36:00		000T20:20:00	2010-175T01:56:00	NEG_Y to Titan	NEG_X to Sun	
ISS_133TI_CLOUD002_PRIME	M	2010-174T05:36:00		000T06:24:00	2010-174T12:00:00	ISS_NAC to Titan	NEG_X to Sun	Secondary orientation: NEG_X to Sun preferred, but flexible
CAPS_133SA_MAGBNDPTG005_PRIMM		2010-174T12:00:00		000T02:00:00	2010-174T14:00:00	NEG_Y to Titan (0.0,36.0,-90.0 de	NEG_X to Sun	
ISS_133TI_M60R1CLD174_PRIME	C, M, U	2010-174T14:00:00	E133_M60R1CLD174+000T00:00:00	000T01:15:00	2010-174T15:15:00	ISS_NAC to Titan	NEG_Z to Sun	
CIRS_133RI_POLARIZ173_PRIME	M, V	2010-174T15:15:00		000T10:01:00	2010-175T01:16:00	CIRS_FP1 to Rings	PIC	
SP_133EA_DLTURN175_PRIME	M	2010-175T01:16:00		000T00:40:00	2010-175T01:56:00	XBAND to Earth	NEG_Y to 269.0/2.0	
NEW WAYPOINT		2010-175T01:56:00		001T19:14:00	2010-176T21:10:00	XBAND to Earth	NEG_Y to 269.0/2.0	
SP_133EA_C70METOTP175_PRIME	C, M, N	2010-175T01:56:00		000T09:00:00	2010-175T10:56:00	XBAND to Earth	4_Hr_Rolling	NEG_Y to 269/2 (Saturn, (0,0,-9.5)); MIMI,CAPS,CDA
ISS_133TI_M60R2CLD175_PRIME	C, M, U	2010-175T10:56:00	E133_M60R2CLD175+000T00:00:00	000T01:15:00	2010-175T12:11:00	ISS_NAC to Titan	NEG_Z to Sun	
MAG_133SU_CALROLL001_PRIME	M	2010-175T12:11:00		000T06:45:00	2010-175T18:56:00	NEG_X to Sun (0.0,0.0,-30.0 deg.	Rolling	
CIRS_133RI_EQLBS001_PRIME	C, M	2010-175T18:56:00		000T04:15:00	2010-175T23:11:00	CIRS_FP1 to Rings	POS_X to 137.8/73.1	
CAPS_133SA_MAGBNDPTG006_PRIMM		2010-175T23:11:00		000T04:49:00	2010-176T04:00:00	POS_Y to COROT (0.0,0.0,43.0 de	POS_X to NSP	
CDA_133DR_ISD006_PRIME	M	2010-176T04:00:00		000T08:10:00	2010-176T12:10:00	NEG_Z to Earth (0.0,0.0,-10.0 deg	NEG_X to NSP	
SP_133EA_M70METOTB176_PRIME	C, M, N	2010-176T12:10:00		000T09:00:00	2010-176T21:10:00	XBAND to Earth	5_Hr_Rolling	NEG_Y to 269/2 (Saturn, (0,0,-9.5)); MIMI,CAPS,CDA

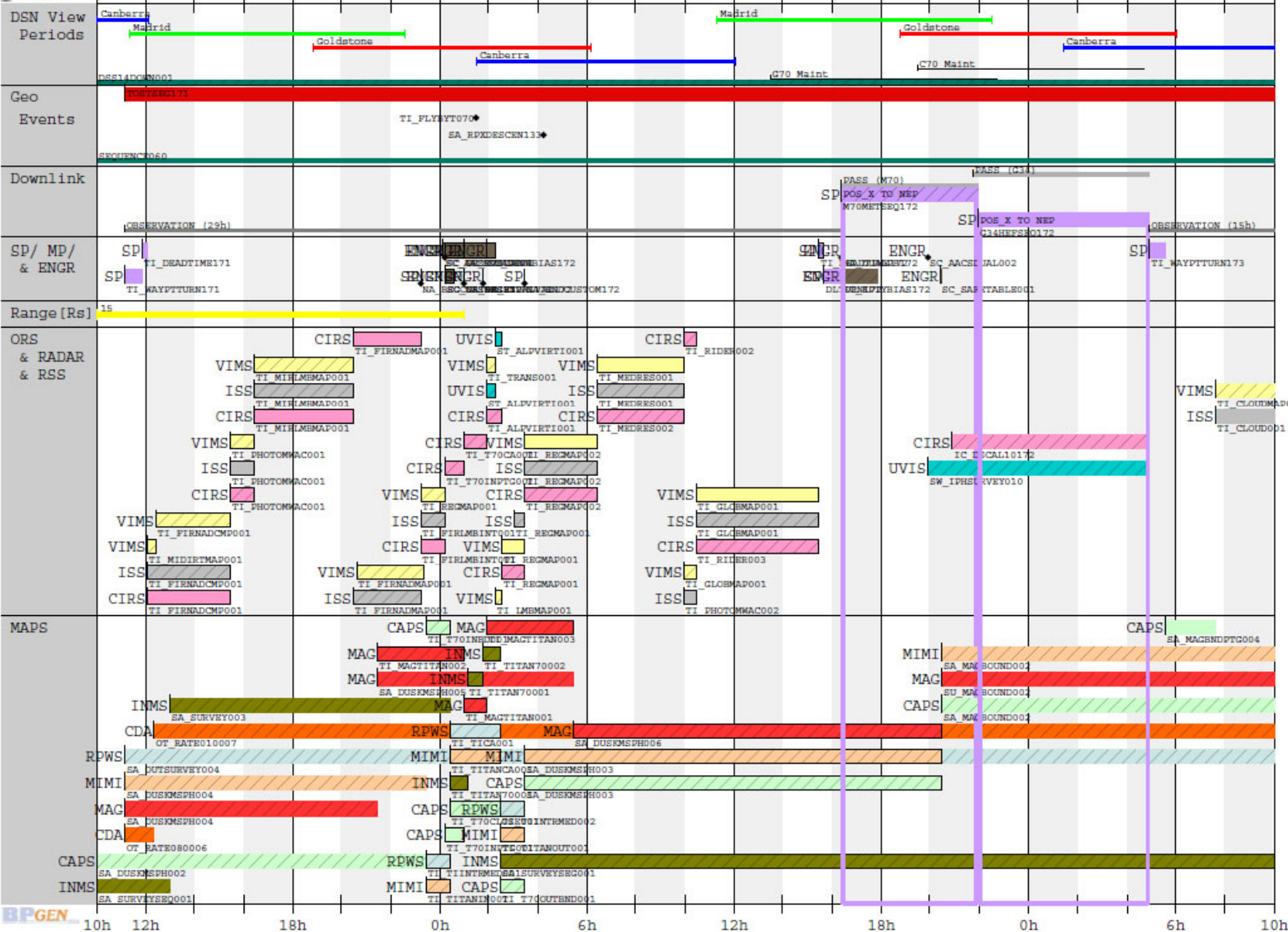


2010 DOY 171
10h 12h 18h

DOY 172
0h 6h 12h 18h

T70 Wrap-Up

DOY 173
0h 6h 10h



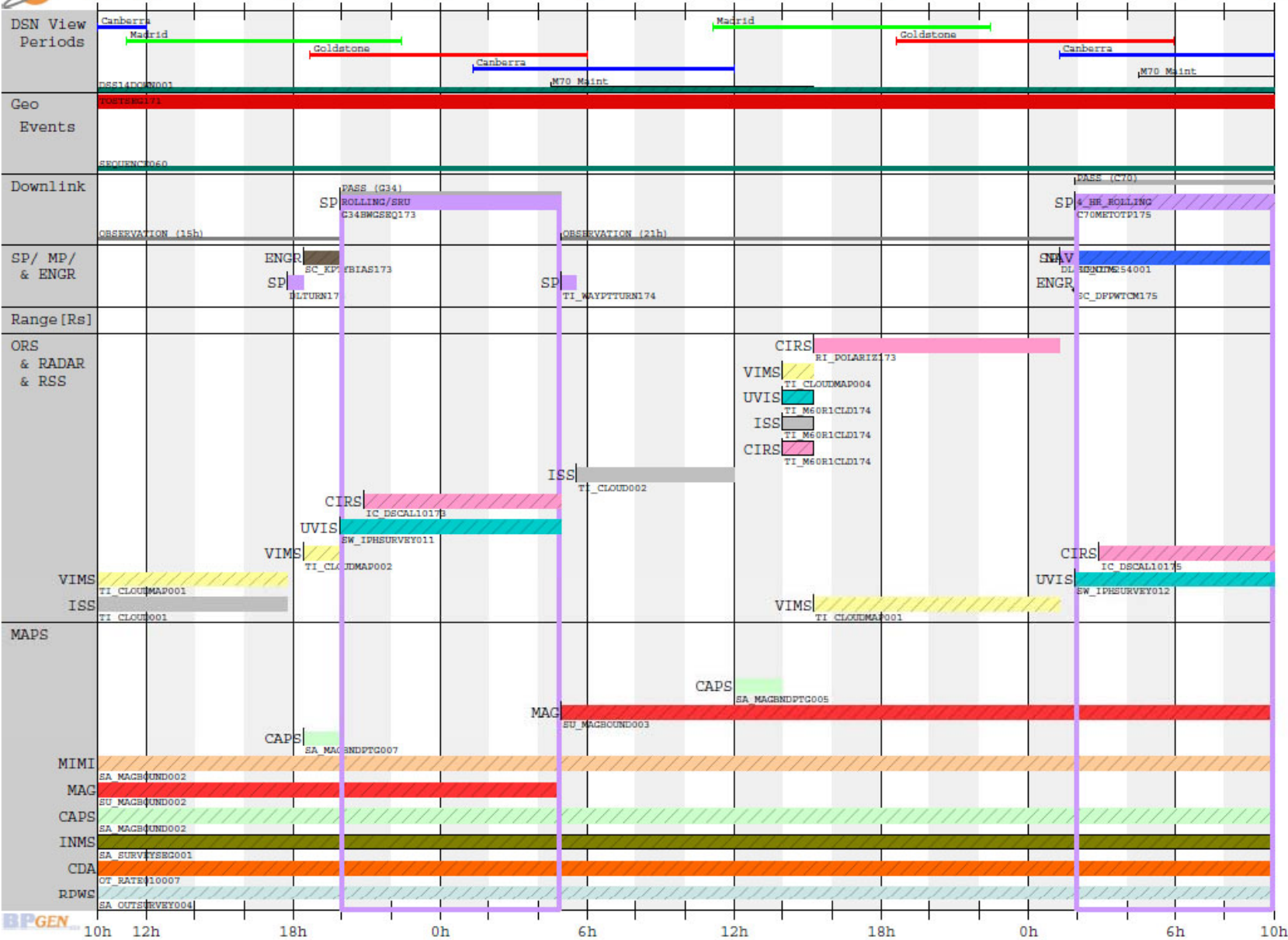


2010 DOY 173
10h 12h 18h

DOY 174
0h 6h 12h 18h

T70 Wrap-Up

DOY 175
0h 6h 10h



10h 12h 18h 0h 6h 12h 18h 0h 6h 10h

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MP_127NA_DSS14DOWN001_NA	MILESTONE	2010-066T22:49:02		216T23:42:12	2010-283T22:31:14	0	0	Non-SPASS		
MP_131NA_SEQUENCE060_NA	MILESTONE	2010-137T13:31:00		039T07:39:00	2010-176T21:10:00	0	0	SPASS Note		
INMS_133SA_SURVEYSEQ001_INMS	INMS_1498	2010-170T20:00:00		000T17:01:59	2010-171T13:01:59	100	6.132	Non-SPASS		
CAPS_133SA_DUSKMSPH002_PRIME	CAPS_16000	2010-171T09:40:00		000T13:47:18	2010-171T23:27:18	4000	198.552	SPASS Rider		
CDA_133OT_RATE080006 RIDER	CDA_524	2010-171T11:11:00		000T01:11:03	2010-171T12:22:03	4192	17.87	Non-SPASS		
MAG_133SA_DUSKMSPH004_MAPS	MAG_1976	2010-171T11:11:00		000T10:16:18	2010-171T21:27:18	1976	73.069	Non-SPASS		
MIMI_133SA_DUSKMSPH004 RIDER	MIMI_8000	2010-171T11:11:00		000T12:16:18	2010-171T23:27:18	1200	53.014	SPASS Rider		
RPWS_133SA_OUTSURVEY004_PRIME	RPWS_30464	2010-171T11:11:00		005T09:59:00	2010-176T21:10:00	1310	613.007	Non-SPASS		
SP_133NA_M700BSNON172_NA	OBSERVATIO	2010-171T11:11:00		001T05:12:00	2010-172T16:23:00	0	0	Non-SPASS		
SP_133NA_TOSTSEG171_NA	MILESTONE	2010-171T11:11:00		005T09:59:00	2010-176T21:10:00	0	0	SPASS Note		
SP_133TI_WAYPTTURN171_PRIME	MILESTONE	2010-171T11:11:00		000T00:40:00	2010-171T11:51:00	0	0	New Waypoi	NEG_Y to Titan	NEG_X to Sun
SP_133TI_DEADTIME171_PRIME	MILESTONE	2010-171T11:51:00		000T00:15:01	2010-171T12:06:01	0	0	Prime	NEG_Y to Titan	NEG_X to Sun
CIRS_133TI_FIRNADCMPO01_PRIME	CIRS_4000	2010-171T12:06:01	GMB_E133_Titan70-000T13:21:17	000T03:21:17	2010-171T15:27:18	4000	48.308	Prime	CIRS_FP1 to Titan (-1.604,0.0,0.0 deg. offset)	PIC
ISS_133TI_FIRNADCMPO01_CIRS	ISS_Phot_1	2010-171T12:06:01	GMB_E133_Titan70-000T13:21:17	000T03:21:17	2010-171T15:27:18	0	50	SPASS Rider		
VIMS_133TI_MIDIRTMAP001_CIRS	VIMS_18432	2010-171T12:06:01	GMB_E133_Titan70-000T13:21:17	000T00:21:17	2010-171T12:27:18	11746.3	15	SPASS Rider		
CDA_133OT_RATE010007 RIDER	CDA_524	2010-171T12:22:03		006T17:00:57	2010-178T05:23:00	524	303.74	Non-SPASS		
VIMS_133TI_FIRNADCMPO01_CIRS	VIMS_18432	2010-171T12:27:18	GMB_E133_Titan70-000T13:00:00	000T03:00:00	2010-171T15:27:18	2777.8	30	SPASS Rider		
INMS_133SA_SURVEY003_INMS	INMS_1498	2010-171T13:01:59		000T11:25:19	2010-172T00:27:18	100	4.112	Non-SPASS		
CIRS_133TI_PHOTOMWAC001_ISS	CIRS_4000	2010-171T15:27:18	GMB_E133_Titan70-000T10:00:00	000T01:00:00	2010-171T16:27:18	4000	14.4	SPASS Rider		
ISS_133TI_PHOTOMWAC001_PRIME	ISS_Phot_1	2010-171T15:27:18	GMB_E133_Titan70-000T10:00:00	000T01:00:00	2010-171T16:27:18	0	100	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_133TI_PHOTOMWAC001_ISS	VIMS_18432	2010-171T15:27:18	GMB_E133_Titan70-000T10:00:00	000T01:00:00	2010-171T16:27:18	4166.7	15	SPASS Rider		
CIRS_133TI_MIRLMBMAP001_PRIME	CIRS_4000	2010-171T16:27:18	GMB_E133_Titan70-000T09:00:00	000T04:00:00	2010-171T20:27:18	4000	57.6	Prime	CIRS_FPB to Titan	PIC
ISS_133TI_MIRLMBMAP001_CIRS	ISS_Phot_1	2010-171T16:27:18	GMB_E133_Titan70-000T09:00:00	000T04:00:00	2010-171T20:27:18	0	25	SPASS Rider		
VIMS_133TI_MIRLMBMAP001_CIRS	VIMS_18432	2010-171T16:27:18	GMB_E133_Titan70-000T09:00:00	000T04:00:00	2010-171T20:27:18	2777.8	40	SPASS Rider		
CIRS_133TI_FIRNADMAP001_PRIME	CIRS_4000	2010-171T20:27:18	GMB_E133_Titan70-000T05:00:00	000T02:45:00	2010-171T23:12:18	4000	39.6	Prime	CIRS_FP1 to Titan (0.917,0.0,-1.261 deg. offset)	POS_Z to 144.8/-55.0
ISS_133TI_FIRNADMAP001_CIRS	ISS_Phot_1	2010-171T20:27:18	GMB_E133_Titan70-000T05:00:00	000T02:45:00	2010-171T23:12:18	0	25	SPASS Rider		
VIMS_133TI_FIRNADMAP001_CIRS	VIMS_18432	2010-171T20:37:18	GMB_E133_Titan70-000T04:50:00	000T02:45:00	2010-171T23:22:18	4040.4	40	SPASS Rider		
MAG_133SA_DUSKMSPH005_MAPS	MAG_1976	2010-171T21:27:18		000T08:00:00	2010-172T05:27:18	0	0	Non-SPASS		
MAG_133TI_MAGTITAN002_PRIME	MAG_1976	2010-171T21:27:18	GMB_E133_Titan70-000T04:00:00	000T03:31:00	2010-172T00:58:18	1976	25.016	Non-SPASS		
CIRS_133TI_FIRLMBINT001_PRIME	CIRS_4000	2010-171T23:12:18	GMB_E133_Titan70-000T02:15:00	000T01:00:00	2010-172T00:12:18	4000	14.4	Prime	CIRS_FP1 to Titan	NEG_X to Sun
ISS_133TI_FIRLMBINT001_CIRS	ISS_Phot_1	2010-171T23:12:18	GMB_E133_Titan70-000T02:15:00	000T01:00:00	2010-172T00:12:18	0	25	SPASS Rider		
SP_133NA_BEGCUSTOM171_NA	MILESTONE	2010-171T23:12:18	GMB_E133_Titan70-000T02:15:00	000T00:00:01	2010-171T23:12:19	0	0	SPASS Note		
VIMS_133TI_REGMAP001_CIRS	VIMS_18432	2010-171T23:12:18	GMB_E133_Titan70-000T02:15:00	000T01:00:00	2010-172T00:12:18	13888.9	50	SPASS Rider		
CAPS_133TI_T70INBD001_PRIME	CAPS_16000	2010-171T23:27:18	GMB_E133_Titan70-000T02:00:00	000T01:00:00	2010-172T00:27:18	4000	14.4	SPASS Rider		
MIMI_133TI_TITANIN001 RIDER	MIMI_8000	2010-171T23:27:18	GMB_E133_Titan70-000T02:00:00	000T01:00:00	2010-172T00:27:18	1200	4.32	SPASS Rider		
RPWS_133TI_THINTRMED001_PRIME	RPWS_30464	2010-171T23:27:18	GMB_E133_Titan70-000T02:00:00	000T01:00:00	2010-172T00:27:18	15232	54.835	Non-SPASS		
ENGR_133SC_AACSDUAL001_CDS	ENGR_1638	2010-172T00:09:18	GMB_E133_Titan70-000T01:18:00	000T02:09:00	2010-172T02:18:18	1638	12.678	Non-SPASS		
ENGR_133SC_ORSRC172_PPS	OpMode	2010-172T00:12:18	GMB_E133_Titan70-000T01:15:00	000T00:20:51	2010-172T00:33:09	0	0	Non-SPASS		
ENGR_133SC_ORSRC172_PRIME	MILESTONE	2010-172T00:12:18	GMB_E133_Titan70-000T01:15:00	000T00:01:00	2010-172T00:13:18	0	0	Prime	POS_Y to COROT	NEG_X to Sun
CAPS_133TI_T70INPTG001_PRIME	CAPS_16000	2010-172T00:13:18	GMB_E133_Titan70-000T01:14:00	000T00:45:00	2010-172T00:58:18	0	0	Prime	POS_Y to COROT	NEG_X to Sun
CIRS_133TI_T70INPTG001_CAPS	CIRS_4000	2010-172T00:13:18	GMB_E133_Titan70-000T01:14:00	000T00:45:00	2010-172T00:58:18	4000	10.8	SPASS Rider		
CAPS_133TI_T70CLOSE001_PRIME	CAPS_16000	2010-172T00:27:18	GMB_E133_Titan70-000T01:00:00	000T02:00:00	2010-172T02:27:18	16000	115.2	SPASS Rider		
INMS_133TI_TITAN70001_INMS	INMS_1498	2010-172T00:27:18	GMB_E133_Titan70-000T01:00:00	000T00:40:00	2010-172T01:07:18	1498	3.595	Non-SPASS		
MIMI_133TI_TITANCA001 RIDER	MIMI_8000	2010-172T00:27:18	GMB_E133_Titan70-000T01:00:00	000T02:00:00	2010-172T02:27:18	2000	14.4	SPASS Rider		
RPWS_133TI_TICA001_PRIME	RPWS_18278	2010-172T00:27:18	GMB_E133_Titan70-000T01:00:00	000T02:00:00	2010-172T02:27:18	60867.1	438.243	Non-SPASS		
CIRS_133TI_T70CA001_ENGR	CIRS_4000	2010-172T00:58:18	GMB_E133_Titan70-000T00:29:00	000T00:56:00	2010-172T01:54:18	4000	13.44	SPASS Rider		
ENGR_133NA_BEGHIVAL172_CDS	MILESTONE	2010-172T00:58:18	GMB_E133_Titan70-000T00:29:00	000T00:00:01	2010-172T00:58:19	0	0	SPASS Note		
ENGR_133SC_T70CA001_AACS	MILESTONE	2010-172T00:58:18	GMB_E133_Titan70-000T00:29:00	000T00:56:00	2010-172T01:54:18	0	0	Prime		

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
CAPS_133SA_MAGBNPTG004_PRIME	CAPS_16000	2010-173T05:36:00		000T02:00:00	2010-173T07:36:00	0	0	Prime	NEG_Y to Titan (0.0,50.0,-90.0 deg. offset)	NEG_X to Sun
ISS_133TI_CLOUD001_PRIME	ISS_Phot_1	2010-173T07:36:00		000T10:10:00	2010-173T17:46:00	0	300	Prime	ISS_NAC to Titan	NEG_X to Sun
VIMS_133TI_CLOUDMAP001_ISS	VIMS_18432	2010-173T07:36:00		000T10:10:00	2010-173T17:46:00	1092.9	40	SPASS Rider		
SP_133EA_DLTURN173_PRIME	MILESTONE	2010-173T17:46:00		000T00:40:00	2010-173T18:26:00	0	0	New Waypoi	XBAND to Earth	POS_X to NEP
CAPS_133SA_MAGBNPTG007_PRIME	CAPS_16000	2010-173T18:26:00		000T01:30:00	2010-173T19:56:00	0	0	Prime	XBAND to Earth (45.0,-32.0,0.0 deg. offset)	POS_X to NEP
ENGR_133SC_KPTYBIAS173_AACS	MILESTONE	2010-173T18:26:00		000T01:30:00	2010-173T19:56:00	0	0	SPASS Rider		
VIMS_133TI_CLOUDMAP002_ISS	VIMS_18432	2010-173T18:26:00		000T01:30:00	2010-173T19:56:00	3703.7	20	SPASS Rider		
SP_133EA_G34BWGSEQ173_PRIME	DOWNLINK	2010-173T19:56:00		000T09:00:00	2010-174T04:56:00	0	0	Prime	XBAND to Earth	Rolling/SRU
SP_133NA_G34BWGSEQ173_SP	DSN_PASS	2010-173T19:56:00		000T09:00:00	2010-174T04:56:00	0	0	Non-SPASS		
UVIS_133SW_IPHSURVEY011_RIDER	UVIS_5032	2010-173T19:56:00		000T09:00:00	2010-174T04:56:00	152.5	4.94	Non-SPASS		
CIRS_133IC_DSCAL10173_SP	CIRS_4000	2010-173T20:56:00		000T08:00:00	2010-174T04:56:00	3000	86.4	SPASS Rider		
MAG_133SU_MAGBOUND003_MAPS	MAG_1976	2010-174T04:56:00		001T07:15:00	2010-175T12:11:00	1976	222.3	Non-SPASS		
SP_133NA_C70OBSNON175_NA	OBSERVATIO	2010-174T04:56:00		000T21:00:00	2010-175T01:56:00	0	0	Non-SPASS		
SP_133TI_WAYPTTURN174_PRIME	MILESTONE	2010-174T04:56:00		000T00:40:00	2010-174T05:36:00	0	0	New Waypoi	NEG_Y to Titan	NEG_X to Sun
ISS_133TI_CLOUD002_PRIME	ISS_Phot_1	2010-174T05:36:00		000T06:24:00	2010-174T12:00:00	0	400	Prime	ISS_NAC to Titan	NEG_X to Sun
CAPS_133SA_MAGBNPTG005_PRIME	CAPS_16000	2010-174T12:00:00		000T02:00:00	2010-174T14:00:00	0	0	Prime	NEG_Y to Titan (0.0,36.0,-90.0 deg. offset)	NEG_X to Sun
CIRS_133TI_M60R1CLD174_ISS	CIRS_4000	2010-174T14:00:00	E133_M60R1CLD174+000T00:00:00	000T01:15:00	2010-174T15:15:00	4000	18	SPASS Rider		
ISS_133TI_M60R1CLD174_PRIME	ISS_Phot_1	2010-174T14:00:00	E133_M60R1CLD174+000T00:00:00	000T01:15:00	2010-174T15:15:00	0	35	Prime	ISS_NAC to Titan	NEG_Z to Sun
UVIS_133TI_M60R1CLD174_ISS	UVIS_5032	2010-174T14:00:00	E133_M60R1CLD174+000T00:00:00	000T01:15:00	2010-174T15:15:00	1006.4	4.529	SPASS Rider		
VIMS_133TI_CLOUDMAP004_ISS	VIMS_18432	2010-174T14:00:00		000T01:15:00	2010-174T15:15:00	4444.4	20	SPASS Rider		
CIRS_133RI_POLARIZ173_PRIME	CIRS_4000	2010-174T15:15:00		000T10:01:00	2010-175T01:16:00	4019	144.925	Prime	CIRS_FP1 to Rings	PIC
VIMS_133TI_CLOUDMAP001_CIRS	VIMS_18432	2010-174T15:15:00		000T10:00:00	2010-175T01:15:00	1111.1	40	SPASS Rider		
SP_133EA_DLTURN175_PRIME	MILESTONE	2010-175T01:16:00		000T00:40:00	2010-175T01:56:00	0	0	New Waypoi	XBAND to Earth	NEG_Y to 269.0/2.0
ENGR_133SC_DFPWTCM175_PPS	OpMode	2010-175T01:55:02		000T00:00:58	2010-175T01:56:00	0	0	Non-SPASS		
NAV_133SC_OTM254001_PRIME	MILESTONE	2010-175T01:56:00		000T09:00:00	2010-175T10:56:00	0	0	SPASS Rider		
SP_133EA_C70METOTP175_PRIME	DOWNLINK	2010-175T01:56:00		000T09:00:00	2010-175T10:56:00	0	0	Prime	XBAND to Earth	4_Hr_Rolling
SP_133NA_C70METNON175_SP	DSN_PASS	2010-175T01:56:00		000T09:00:00	2010-175T10:56:00	0	0	Non-SPASS		
UVIS_133SW_IPHSURVEY012_RIDER	UVIS_5032	2010-175T01:56:00		000T09:00:00	2010-175T10:56:00	152.5	4.94	Non-SPASS		
CIRS_133IC_DSCAL10175_SP	CIRS_4000	2010-175T02:56:00		000T08:00:00	2010-175T10:56:00	3000	86.4	SPASS Rider		
ENGR_133SC_DFPW175_PPS	OpMode	2010-175T10:54:00		000T00:00:47	2010-175T10:54:47	0	0	Non-SPASS		
CIRS_133TI_M60R2CLD175_ISS	CIRS_4000	2010-175T10:56:00	E133_M60R2CLD175+000T00:00:00	000T01:15:00	2010-175T12:11:00	4000	18	SPASS Rider		
INMS_133SA_SURVPOTM254_INMS	INMS_1498	2010-175T10:56:00		001T10:14:00	2010-176T21:10:00	100	12.325	Non-SPASS		
ISS_133TI_M60R2CLD175_PRIME	ISS_Phot_1	2010-175T10:56:00	E133_M60R2CLD175+000T00:00:00	000T01:15:00	2010-175T12:11:00	0	35	Prime	ISS_NAC to Titan	NEG_Z to Sun

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Request	AGPEN	Start Time	Epoch	Duration	End Time	Rate	Data Volume	SPASS Type	Primary Pointing	Secondary Pointing
MIMI_133SA_SWAURORA002_CAPS	MIMI_8000	2010-175T10:56:00		002T18:28:00	2010-178T05:24:00	1200	287.136	SPASS Rider		
SP_133NA_M70OBSNON176_NA	OBSERVATIO	2010-175T10:56:00		001T01:14:00	2010-176T12:10:00	0	0	Non-SPASS		
UVIS_133TI_M60R2CLD175_ISS	UVIS_5032	2010-175T10:56:00	E133_M60R2CLD175+000T00:00:00	000T01:15:00	2010-175T12:11:00	1006.4	4.529	SPASS Rider		
CDA_133DR_ISD005_PRIME	CDA_524	2010-175T12:00:00		000T08:00:00	2010-175T20:00:00	0	0	SPASS Rider		
MAG_133SU_CALROLL001_PRIME	MAG_1976	2010-175T12:11:00		000T06:45:00	2010-175T18:56:00	1976	48.017	Prime	NEG_X to Sun (0.0,0.0,-30.0 deg. offset)	Rolling
MAG_133SU_MAGBOUND004_MAPS	MAG_1976	2010-175T12:11:00		000T06:45:00	2010-175T18:56:00	0	0	Non-SPASS		
CAPS_133SW_SWAURORA001_PRIME	CAPS_16000	2010-175T16:30:00		006T21:30:00	2010-182T14:00:00	1000	595.8	SPASS Rider		
CIRS_133RI_EQLBS001_PRIME	CIRS_4000	2010-175T18:56:00		000T04:15:00	2010-175T23:11:00	4000	61.2	Prime	CIRS_FP1 to Rings	POS_X to 137.8/73.1
CIRS_133RI_EQLBS001_SI	ISS_SUPPOR	2010-175T18:56:00		000T04:15:00	2010-175T23:11:00	0	8.5	SPASS Rider		
MAG_133SU_MAGBOUND005_MAPS	MAG_1976	2010-175T18:56:00		001T02:14:00	2010-176T21:10:00	1976	186.613	Non-SPASS		
CAPS_133SA_MAGBNDPTG006_PRIME	CAPS_16000	2010-175T23:11:00		000T04:49:00	2010-176T04:00:00	0	0	Prime	POS_Y to COROT (0.0,0.0,43.0 deg. offset)	POS_X to NSP
CDA_133DR_ISD006_PRIME	CDA_524	2010-176T04:00:00		000T08:10:00	2010-176T12:10:00	0	0	Prime	NEG_Z to Earth (0.0,0.0,-10.0 deg. offset)	NEG_X to NSP
ENGR_133SC_DFPWTCM176_PPS	OpMode	2010-176T12:09:02		000T00:00:58	2010-176T12:10:00	0	0	Non-SPASS		
NAV_133SC_OTM254BU001_PRIME	MILESTONE	2010-176T12:10:00		000T09:00:00	2010-176T21:10:00	0	0	SPASS Rider		
SP_133EA_M70METOTB176_PRIME	DOWNLINK	2010-176T12:10:00		000T09:00:00	2010-176T21:10:00	0	0	Prime	XBAND to Earth	5_Hr_Rolling
SP_133NA_M70METNON176_SP	DSN_PASS	2010-176T12:10:00		000T09:00:00	2010-176T21:10:00	0	0	Non-SPASS		
UVIS_133SW_IPHSURVEY013_RIDER	UVIS_5032	2010-176T12:10:00		000T09:00:00	2010-176T21:10:00	152.5	4.94	Non-SPASS		
CIRS_133IC_DSCAL10176_SP	CIRS_4000	2010-176T13:10:00		000T08:00:00	2010-176T21:10:00	3000	86.4	SPASS Rider		
ENGR_133SC_DFPW176_PPS	OpMode	2010-176T21:08:00		000T00:00:47	2010-176T21:08:47	0	0	Non-SPASS		



T70 Liens and Open Issues

- Need CAPS Science Objectives
- Pointing for C/A.
 - AACCS is doing the turns for the mag observation at C/A.
 - Pointing at C/A = $C_p - c_m$ to RAM, -X to Titan with -20 degree twist offset (0.790 deg, -10.862 deg, 16.774 deg). For more information see Sam Sarani.
 - This pointing isn't possible to put into CIMS the usual way, so it's in the pointing agreement field.

