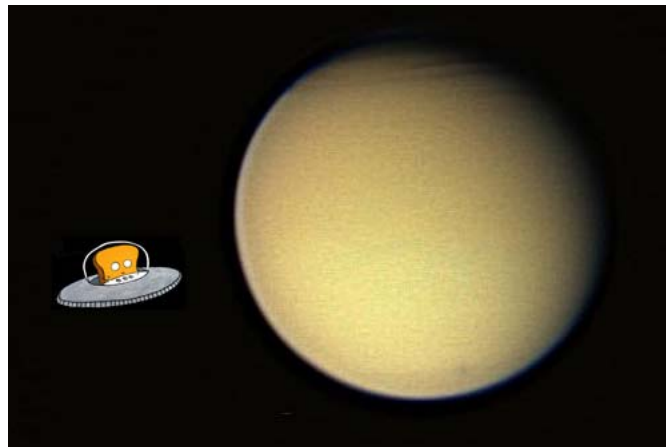




TOST: Integration 111TI (T55) Wrap-Up



August 8, 2008

Nora Kelly, Kim Steadman, Trina Ray, Jo Pitesky



T55 Segment Basics

Segment times:

BEG: 2009-141T06:14:00

END: 2009-143T07:59:00

Altitude: 965 km

Time of C/A: 2009-141T21:26:42 (080520 ref. traj.)

Epoch: GMB_E111_Titan55

Sequence: S50



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

Kickoff Meeting

Present

Master Timeline
Draft Op Modes
Draft Telem Modes
Draft RCS Deadband

Discuss

Timeline
Op Modes
Telem Modes
Deadbands for RCS

Homework

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

Detailed Meeting

Present

Master Timeline
SMT Report
Timeline Graphic
TOL
SPASS
DSN Reports
Dual Playback Science
Draft Data Volume Cuts

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



T55 High-level Science Objectives

CIRS – Surface temperature mapping; continued composition integrations and stratospheric temperature maps.

ISS – ISS will acquire a full-disk mosaic of eastern Tsegihi and ride along with CIRS to monitor clouds.

VIMS – On the inbound, the phase angle is much larger than 90 degrees and VIMS ridealong observations will provide information on Titan's atmosphere composition. After C/A, VIMS will observe the South Pole region riding along with CIRS far from Titan. Only cloud monitoring will be possible.

UVIS – UVIS will obtain an image cube of Titan's atmosphere at EUV and FUV wavelengths by sweeping its slit across the disk. These cubes provide spectral and spatial information on nitrogen emissions, H emission and absorption, absorption by simple hydrocarbons, and the scattering properties of haze aerosols. This is one of many such cubes gathered over the course of the mission to provide latitude and seasonal coverage of Titan's middle atmosphere and stratosphere.

RADAR - Scatterometry, altimetry, SAR, altimetry, scatterometry, SAR begins S hemisphere mapping sequence. Swath sweeps across NW Shangri-La dunefields.

MIMI – Energetic ion and electron energy input to atmosphere

MAG – T55 is another flank-out, post-dusk flyby, with a minimum altitude of *1000 km*. Therefore, the measurements will provide a description of the draping and the pileup of the external magnetic field around Titan on the nightside hemisphere. It will be also a good complement to T52, T53 and T54 in order to characterize the background field for a similar local time with respect to Saturn and different SKR longitudes.

INMS – On T55, INMS will be riding with RADAR, obtaining nightside coverage at low Southern latitudes. Provides coverage for the outer flank of the magnetospheric interaction region.



Master Timeline for T55

| T55 | | 965 | | | | | |
|-------------------|-------------------|-------------------------------|------------------------------|---------------------------|---------------------------------------|---|--|
| Start Time | End Time | Prime Activity | Obs. Detail | Op Mode | TLM Mode | Comments | |
| 2009-141T06:14:00 | 2009-141T06:54:00 | SP Turn to WP | | DFPW Normal | S_N_ER_3 | NEG_Y to Titan; NEG_X to RA/Dec (62/17) | |
| 2009-141T06:54:00 | C/A - 14:16:52 | OD Uncertainty Dead Time | | | S_N_ER_3 | | |
| C/A - 14:16:52 | -13:00 | CIRS | Template M4 | DFPW Normal | S_N_ER_3 | | |
| -13:00 | -09:00 | VIMS Cloud Map | Template O | DFPW Normal | S_N_ER_3 | | |
| -09:00 | -02:30 | UVIS | Template X | RADWU @ -09:00:00 | S_N_ER_5a for 15 min. (else S_N_ER_3) | | |
| -02:30 | -02:00 | Turn to RADAR Attitude | | RADWU | S_N_ER_8 | | |
| -02:00 | -01:12 | RADAR | Scatterometry/Radiometry | RADRWA @ -02:00:44 | S_N_ER_8 | | |
| -01:12 | -00:50 | RWA to RCS Transition | | RADRWA -> RADRCS @ -01:12 | S_N_ER_8 | deadband (2,2,20) | |
| -00:50 | -00:30 | RADAR | Hi-SAR | RADRCS | S_N_ER_8 | | |
| -00:30 | -00:18 | RADAR | Altimetry | RADRCS | S_N_ER_8 | | |
| -00:18 | 0 | RADAR SAR | | RADRCS | S_N_ER_8 | | |
| 2009-141T21:26:42 | | CLOSEST APPROACH | Neg_Z to Titan, Neg_X to RAM | RADRCS | S_N_ER_8 | | |
| 0 | +00:18 | RADAR SAR | | RADRCS | S_N_ER_8 | | |
| +00:18 | +00:30 | RADAR | Altimetry | RADRCS | S_N_ER_8 | | |
| +00:30 | +00:50 | RADAR | Hi-SAR | RADRCS | S_N_ER_8 | | |
| +00:50 | +01:14 | RCS to RWA Transition | | RADRCS -> RADRWA @ +00:50 | S_N_ER_8 | deadband (2,2,20) during transition | |
| +01:14 | +02:00 | RADAR | Scatterometry/Radiometry | RADRWA | S_N_ER_8 | | |
| +02:00 | +02:30 | Turn to CIRS attitude | | RADRWA | S_N_ER_8 | | |
| +02:30 | +05:00 | CIRS | Template E | DFPW Normal @ +02:30 | S_N_ER_3 | | |
| +05:00 | +09:00 | CIRS | Template F | DFPW Normal | S_N_ER_3 | | |
| +09:00 | +12:00 | CIRS | Template D2 | DFPW Normal | S_N_ER_3 | | |
| +12:00 | +14:00 | ISS | Template D2 | DFPW Normal | S_N_ER_3 | | |
| +14:00 | C/A + 22 | CIRS | Template A | DFPW Normal | S_N_ER_3 | | |
| C/A + 22 | 2009-142T20:19 | OD Uncertainty Dead Time | | | S_N_ER_3 | | |
| 2009-142T20:19 | 2009-142T20:59:00 | SP Turn to Earth for downlink | | DFPW Normal | S_N_ER_3 | | |
| 2009-142T20:59:00 | 2009-143T05:59:00 | 70-m Array | | DFPW Normal | RTE_N_SPB | G70 | |
| 2009-143T05:59:00 | 2009-143T07:59:00 | | | DFPW Normal | RTE_N_SPB | C70 | |

- Dual playback: ± 18 min (689 Mb)
- Deadband (2,2,20) for observations and transition



T55 Telemetry Mode Report

TELEMETRY MODE REPORT

| EPOCH RELATIVE | UTC | DURATION | TELEMETRY MODE | REQUEST |
|-------------------------------|-----------------------|----------|------------------|-----------------------------|
| GMB_E111_Titan55-000T09:00:00 | 2009-141T06:14:00.000 | 06:12:42 | S_N_ER_3 | SP_111NA_G70OBSNON142_NA |
| GMB_E111_Titan55-000T08:45:00 | 2009-141T12:26:42.000 | 00:15:00 | S_N_ER_5A | SP_111NA_G70OBSNON142_NA |
| GMB_E111_Titan55-000T02:30:00 | 2009-141T12:41:42.000 | 06:15:00 | S_N_ER_3 | SP_111NA_G70OBSNON142_NA |
| GMB_E111_Titan55+000T02:30:00 | 2009-141T18:56:42.000 | 05:00:00 | S_N_ER_8 | SP_111NA_G70OBSNON142_NA |
| | 2009-141T23:56:42.000 | 21:02:18 | S_N_ER_3 | SP_111NA_G70OBSNON142_NA |
| | 2009-142T20:59:00.000 | 00:45:00 | RTE_N_SPB_124425 | SP_111EA_G70METNON142_PRIME |
| | 2009-142T21:44:00.000 | 08:00:00 | RTE_N_SPB_142200 | SP_111EA_G70METNON142_PRIME |
| | 2009-143T05:44:00.000 | 00:15:00 | RTE_N_SPB_124425 | SP_111EA_G70METNON142_PRIME |
| | 2009-143T05:59:00.000 | 02:00:00 | RTE_N_SPB_142200 | SP_111EA_C70METNON143_PRIME |

Reminder: Telemetry mode change during ISS activity
ISS_111TI_EUVFUV001_UVIS starting at 2009-141T12:26:42
(ISS agreed to be in S&ER-5A for the first 15 min. for RADAR warm-up,
then we are back in S&ER-3)



T55 SMT Report

07/31/08 SMT report -- not run with special config file to model P5

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

| DOWNLINK PASS NAME | Start doy hh:mm | End doy hh:mm | OBSERVATION_PERIOD | | | | | | | DOWNLINK_PASS | | | | | | | |
|-----------------------------|--------------------|------------------|--------------------|-------------|--------------|---------------|----------------|---------------|---------------|---------------|--------------|---------------|----------------|---------------|-------------------|------------------|---------------|
| | | | P4 | | | P5 | | | | RECORDED | | | PLAYBACK | | | | |
| | | | START (Mb) | SCI (Mb) | HK+E (Mb) | TOTAL (Mb) | CPACTY (Mb) | MARGN (Mb) | OPNAV (Mb) | SCI (Mb) | ENGR (Mb) | TOTAL (Mb) | CPACTY (Mb) | MARGN (Mb) | NET_MARGN (Mb) | NET_MARGN (%) | CAROV (Mb) |
| SP_111EA_G70METNON142_PRIME | 142 20:59 | 143 05:59 | 0 | 3380 | 179 | 3559 | 3552 | -6 | 0 | 237 | 53 | 3842 | 3848 | 5 | 127 | 3% | 0 |
| SP_111EA_C70METNON143_PRIME | 143 05:59 | 143 07:59 | 0 | 0 | 689 | 689 | 3552 | 2863 | 0 | 48 | 12 | 749 | 870 | 121 | 121 | 14% | 0 |

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 | 141 06:14 | 142 20:59 | 236.7 | 57.0 | 304.4 | 34.1 | 432.0 | 97.7 | 108.2 | 959.2 | 506.5 | 146.7 | 445.0 | 0.0 | 46.3 | 3373.9 |
| OBSERVATION_SI | 141 06:14 | 142 20:59 | 0.0 | 0.0 | 22.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22.0 |
| SP_111EA_G70METNON142_PRIME | 142 20:59 | 143 05:59 | 32.4 | 17.0 | 86.4 | 3.2 | 0.0 | 19.4 | 29.2 | 0.0 | 42.4 | 4.9 | 0.0 | 0.0 | 0.0 | 235.0 |
| OBSERVATION_NOR | 141 06:14 | 143 05:59 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 688.9 | 688.9 |
| SP_111EA_C70METNON143_PRIME | 143 05:59 | 143 07:59 | 7.2 | 3.8 | 14.4 | 0.7 | 0.0 | 4.3 | 7.1 | 0.0 | 9.4 | 1.1 | 0.0 | 0.0 | 0.0 | 48.0 |
| DAILY TOTAL SCIENCE | 141 06:14 | 143 07:59 | 276.3 | 77.8 | 427.2 | 38.0 | 432.0 | 121.4 | 144.4 | 959.2 | 558.4 | 152.8 | 445.0 | 0.0 | | |

| | CAPS (Mb) | CDA (Mb) | CIRS (Mb) | INMS (Mb) | ISS (Mb) | MAG (Mb) | MIMI (Mb) | RADAR (Mb) | RPWS (Mb) | UVIS (Mb) | VIMS (Mb) | PROBE (Mb) |
|--|--------------|-------------|--------------|--------------|-------------|-------------|--------------|---------------|--------------|--------------|--------------|---------------|
| TOTAL RECORDED (OPNAV data not included) | 276.3 | 77.8 | 427.2 | 38.0 | 432.0 | 121.4 | 144.4 | 959.2 | 558.4 | 152.8 | 445.0 | 0.0 |

Looking good. Still waiting for INMS to cut the agreed to 7 Mb.
(Or for TOST to decide it is unnecessary.)



T55 DSN Report

CASSINI DOWNLINK/DSN COVERAGE SUMMARY for 111TI_T55_080723.apf on 2008-Jul-23 13:19:11
(+ = 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 |
| G70METNON142 | 142T20:59-05:59 | 142T22:15-07:15 | 09:00 | 124,142,124 | 14 | 142T20:59-05:59 | 142T22:15-07:15 | 09:00 | 60 /15 | TP | N003 |
| +C70METNON143 | 143T05:59-07:59 | 143T07:15-09:15 | 02:00 | 142 | 43 | 143T05:39-07:59 | 143T06:55-09:15 | 02:20 | 60 /15 | TP | N003 |

T55 SPASS



| Request | Riders | Start (SCET) | Start (Epoch) | Duration | End (SCET) | Primary | Secondary | Comments |
|-----------------------------------|------------|--------------------------|--------------------------------------|---------------------|--------------------------|--|---------------------------|------------------------------------|
| Sequence S50, length = 39 days | | 2009-125T07:16:00 | | 038T21:25:00 | 2009-164T04:41:00 | | | |
| Titan Flyby T55 Segment | | 2009-141T06:14:00 | | 002T01:45:00 | 2009-143T07:59:00 | | | |
| SP_111TI_WAYPTTURN141_PRIME | | 2009-141T06:14:00 | | 000T00:40:00 | 2009-141T06:54:00 | NEG_Y to Titan | NEG_X to 62.0/17.0 | Neg_Y to Titan, Neg_X RA/DEC 62/17 |
| NEW WAYPOINT | | 2009-141T06:54:00 | | 002T01:05:00 | 2009-143T07:59:00 | NEG_Y to Titan | NEG_X to 62.0/17.0 | |
| SP_111TI_DEADTIME141_PRIME | | 2009-141T06:54:00 | | 000T00:15:50 | 2009-141T07:09:50 | NEG_Y to Titan | NEG_X to 62.0/17.0 | |
| CIRS_111TI_MIDIRTMAP001_PRIME | C, I, V | 2009-141T07:09:50 | GMB_E111_Titan55-000T14:16:52 | 000T01:16:52 | 2009-141T08:26:42 | CIRS_FPB to Titan | POS_X to North_Pole_Dir | |
| VIMS_111TI_CLOUDMAP001_PRIME | C, I | 2009-141T08:26:42 | GMB_E111_Titan55-000T13:00:00 | 000T04:00:00 | 2009-141T12:26:42 | VIMS_IR to Titan | NEG_X to Sun | |
| UVIS_111TI_EUVFUV001_PRIME | C, I, R, V | 2009-141T12:26:42 | GMB_E111_Titan55-000T09:00:00 | 000T06:30:00 | 2009-141T18:56:42 | UVIS_FUV to Titan | NEG_X to 62.0/17.0 | |
| RADAR_111TI_T55INSCAT001_PRIME | M | 2009-141T18:56:42 | GMB_E111_Titan55-000T02:30:00 | 000T01:18:00 | 2009-141T20:14:42 | NEG_Z to Titan | NEG_X to NTP | |
| ENGR_111SC_RADRCS141_PRIME | M | 2009-141T20:14:42 | GMB_E111_Titan55-000T01:12:00 | 000T00:01:00 | 2009-141T20:15:42 | NEG_Z to Titan | NEG_X to Titan_SC_RAM | Deadband (2,2,20) |
| RADAR_111TI_T55HISAR001_PRIME | M | 2009-141T20:15:42 | GMB_E111_Titan55-000T01:11:00 | 000T00:41:00 | 2009-141T20:56:42 | NEG_Z to Titan | NEG_X to NTP | |
| RADAR_111TI_T55INALT001_PRIME | M | 2009-141T20:56:42 | GMB_E111_Titan55-000T00:30:00 | 000T00:12:00 | 2009-141T21:08:42 | NEG_Z to Titan (0.0,0.0,-30.0 deg. offset) | NEG_X to Titan_SC_RAM | |
| Begin Dual Playback Science | | 2009-141T21:08:42 | GMB_E111_Titan55-000T00:18:00 | 000T00:00:01 | 2009-141T21:08:43 | | | |
| RADAR_111TI_T55INOSAR001_PRIME | M | 2009-141T21:08:42 | GMB_E111_Titan55-000T00:18:00 | 000T00:36:00 | 2009-141T21:44:42 | NEG_Z to Titan | NEG_X to Titan_SC_RAM | |
| 111TI (t) T55 TITAN Inbou... | | 2009-141T21:26:42 | | 000T00:00:01 | 2009-141T21:26:43 | | | |
| End Dual Playback Science | | 2009-141T21:44:42 | GMB_E111_Titan55+000T00:18:00 | 000T00:00:01 | 2009-141T21:44:43 | | | |
| RADAR_111TI_T55OUTALT001_PRIME | M | 2009-141T21:44:42 | GMB_E111_Titan55+000T00:18:00 | 000T00:12:00 | 2009-141T21:56:42 | NEG_Z to Titan | POS_Y to NTP | |
| RADAR_111TI_T55OHISAR001_PRIME | M | 2009-141T21:56:42 | GMB_E111_Titan55+000T00:30:00 | 000T00:20:00 | 2009-141T22:16:42 | NEG_Z to Titan | POS_Y to NTP | |
| ENGR_111SC_RADRWBIAS141_PPS | M | 2009-141T22:16:42 | GMB_E111_Titan55+000T00:50:00 | 000T00:21:41 | 2009-141T22:38:23 | NEG_Z to Titan | NEG_X to Titan_SC_RAM | (2,2,20) through the transition |
| RADAR_111TI_T55OUTSCT001_PRIME | M | 2009-141T22:38:23 | GMB_E111_Titan55+000T01:11:41 | 000T01:18:19 | 2009-141T23:56:42 | NEG_Z to Titan | POS_Y to NTP | |
| CIRS_111TI_FIRNADMAP002_PRIME | C, I, M, V | 2009-141T23:56:42 | GMB_E111_Titan55+000T02:30:00 | 000T02:30:00 | 2009-142T02:26:42 | CIRS_FP1 to Titan | POS_X to North_Pole_Dir | |
| CIRS_111TI_MIRLMBINT002_PRIME | C, I, U, V | 2009-142T02:26:42 | GMB_E111_Titan55+000T05:00:00 | 000T04:00:00 | 2009-142T06:26:42 | CIRS_FPB to Titan | PIC | |
| CIRS_111TI_FIRNADCMP002_PRIME | C, I, U, V | 2009-142T06:26:42 | GMB_E111_Titan55+000T09:00:00 | 000T03:00:00 | 2009-142T09:26:42 | CIRS_FP1 to Titan | PIC | |
| ISS_111TI_MONITORNA001_PRIME | C, V | 2009-142T09:26:42 | GMB_E111_Titan55+000T12:00:00 | 000T02:00:00 | 2009-142T11:26:42 | ISS_NAC to Titan | NEG_X to Sun | |
| CIRS_111TI_MIDIRTMAP002_PRIME | C, I, V | 2009-142T11:26:42 | GMB_E111_Titan55+000T14:00:00 | 000T08:00:00 | 2009-142T19:26:42 | CIRS_FPB to Titan | POS_X to North_Pole_Dir | |
| SP_111TI_DEADTIME142_PRIME | | 2009-142T19:26:42 | GMB_E111_Titan55+000T22:00:00 | 000T00:52:18 | 2009-142T20:19:00 | NEG_Y to Titan | NEG_X to 62.0/17.0 | |
| SP_111EA_DLTURN142_PRIME | | 2009-142T20:19:00 | | 000T00:40:00 | 2009-142T20:59:00 | XBAND to Earth | NEG_X to NEP | |
| SP_111EA_G70METNON142_PRIME | C | 2009-142T20:59:00 | | 000T09:00:00 | 2009-143T05:59:00 | XBAND to Earth | Rolling/Bias | POS_X to NEP |
| Pointer Reset in preparatio... | | 2009-143T05:59:00 | | 000T00:00:01 | 2009-143T05:59:01 | | | |
| SP_111EA_C70METNON143_PRIME | C | 2009-143T05:59:00 | | 000T02:00:00 | 2009-143T07:59:00 | XBAND to Earth | Rolling | POS_X to NEP |

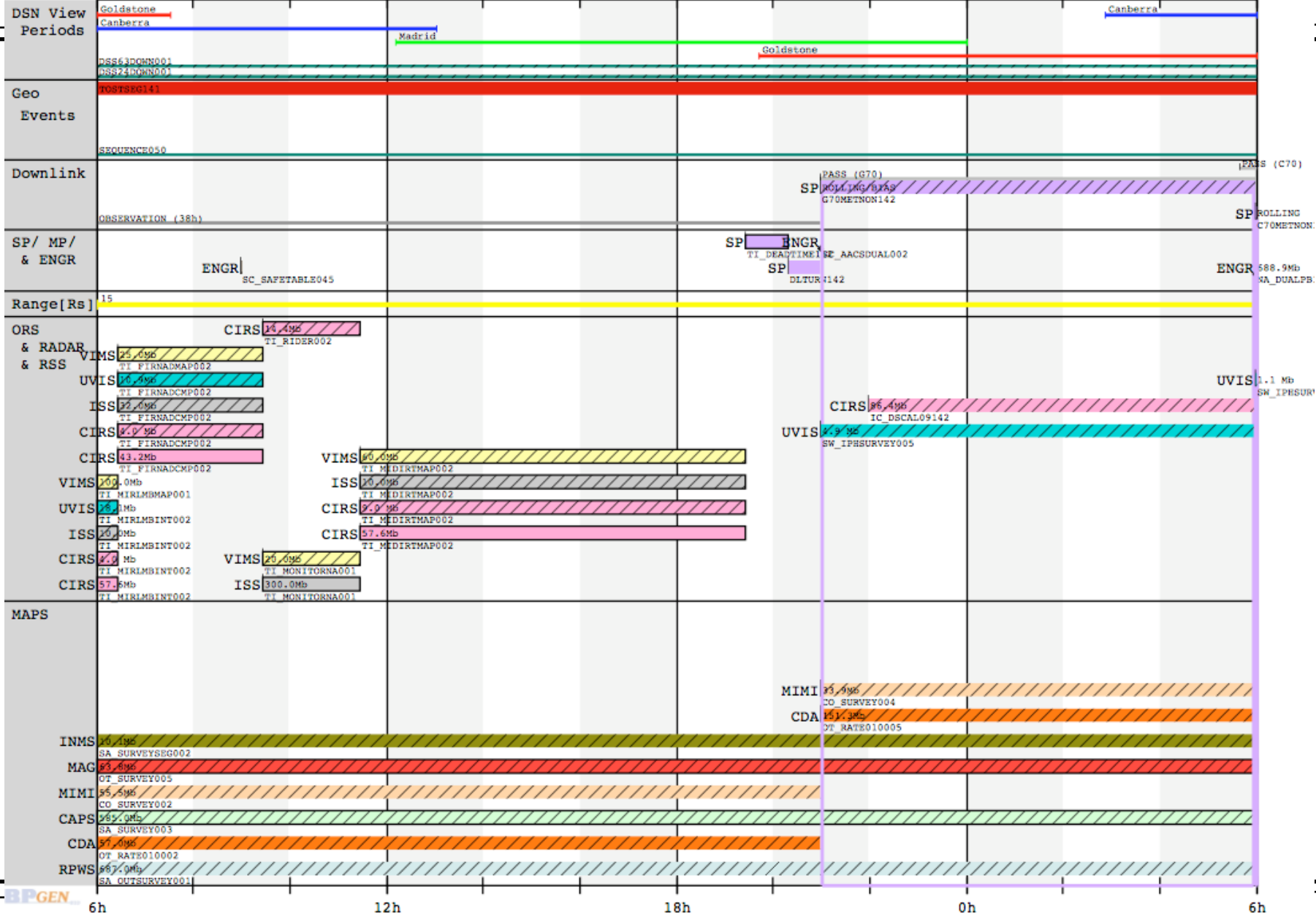


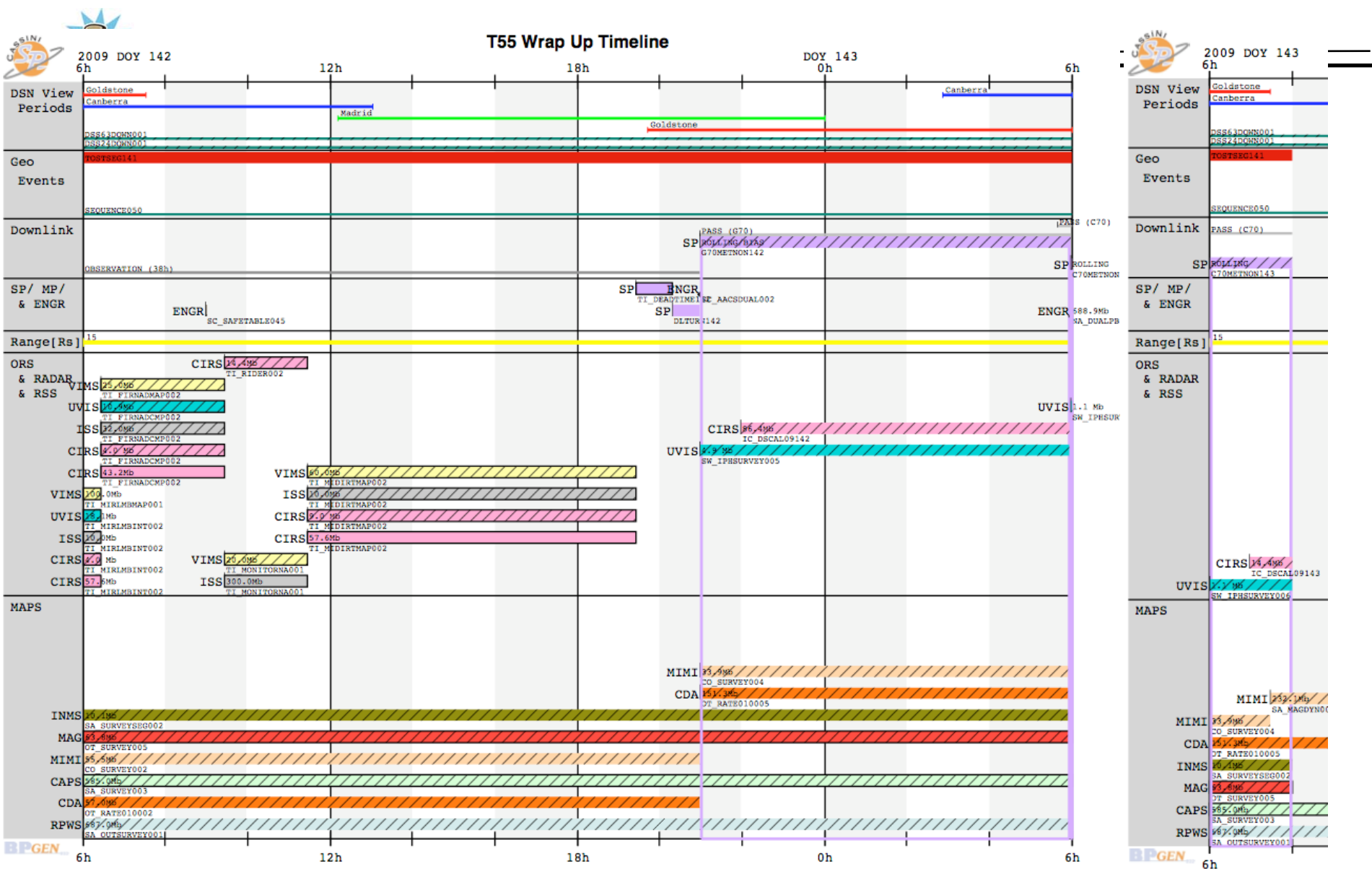
T55 Wrap Up Timeline

2009 DOY 142
6h

DOY 143
0h

6h





T55 Wrap Up TOL page 1



| Request | Start Time | Epoch | Duration | End Time | Rate | Data Volume | SPASS Type | Primary Pointing | Secondary Pointing |
|--------------------------------|-------------------|-------------------------------|--------------|-------------------|----------|-------------|--------------|--|-------------------------|
| MP 107NA DSS24DOWN001 NA | 2009-088722:49:39 | | 062723:52:11 | 2009-151722:41:50 | 0 | 0 | Non-SPASS | | |
| MP 110NA DSS63DOWN001 NA | 2009-123722:46:27 | | 090723:47:40 | 2009-214722:34:07 | 0 | 0 | Non-SPASS | | |
| MP 110NA SEQUENCE050 NA | 2009-125707:16:00 | | 038721:25:00 | 2009-164704:41:00 | 0 | 0 | SPASS Note | | |
| RPWS 111SA OUTSURVEY001 PRIME | 2009-137713:44:00 | | 006701:40:00 | 2009-143715:24:00 | 1310 | 686.971 | Non-SPASS | | |
| CAPS 111SA SURVEY002 PRIME | 2009-140709:02:00 | | 001710:39:42 | 2009-141719:41:42 | 1000 | 124.782 | Non-SPASS | | |
| CDA 111OT RATE010002 RIDER | 2009-141706:14:00 | | 001714:45:00 | 2009-142720:59:00 | 408.7 | 57.016 | Non-SPASS | | |
| INMS 111SA SURVEYSEG001 INMS | 2009-141706:14:00 | | 000714:12:42 | 2009-141720:26:42 | 100 | 5.116 | Non-SPASS | | |
| MAG 111OT SURVEY004 PRIME | 2009-141706:14:00 | | 000710:12:42 | 2009-141716:26:42 | 600 | 22.057 | Non-SPASS | | |
| MIMI 111CO SURVEY005 RIDER | 2009-141706:14:00 | | 000714:12:42 | 2009-141720:26:42 | 750 | 38.371 | Non-SPASS | | |
| SP 111NA G700BSNON142 NA | 2009-141706:14:00 | | 001714:45:00 | 2009-142720:59:00 | 0 | 0 | Non-SPASS | | |
| SP 111NA TOSTSEG141 NA | 2009-141706:14:00 | | 002701:45:00 | 2009-143707:59:00 | 0 | 0 | SPASS Note | | |
| SP 111TI WAYPTTURN141 PRIME | 2009-141706:14:00 | | 000700:40:00 | 2009-141706:54:00 | 0 | 0 | New Waypoint | NEG Y to Titan | NEG X to 62.0/17.0 |
| SP 111TI DEADTIME141 PRIME | 2009-141706:54:00 | | 000700:15:50 | 2009-141707:09:50 | 0 | 0 | Prime | NEG Y to Titan | NEG X to 62.0/17.0 |
| CIRS 111TI MIDIRMAP001 PRIME | 2009-141707:09:50 | GMB E111 Titan55-000714:16:52 | 000701:16:52 | 2009-141708:26:42 | 2000 | 9.224 | Prime | CIRS FPB to Titan | POS X to North Pole Dir |
| CIRS 111TI MIDIRMAP001 SI | 2009-141707:09:50 | GMB E111 Titan55-000714:16:52 | 000701:16:52 | 2009-141708:26:42 | 0 | 2 | SPASS Rider | | |
| ISS 111TI MIDIRMAP001 CIRS | 2009-141707:09:50 | GMB E111 Titan55-000714:16:52 | 000701:16:52 | 2009-141708:26:42 | 0 | 10 | SPASS Rider | | |
| VIMS 111TI MIDIRMAP001 CIRS | 2009-141707:09:50 | GMB E111 Titan55-000714:16:52 | 000701:16:52 | 2009-141708:26:42 | 2168.3 | 10 | SPASS Rider | | |
| CIRS 111TI RIDER001 VIMS | 2009-141708:26:42 | GMB E111 Titan55-000713:00:00 | 000704:00:00 | 2009-141712:26:42 | 4000 | 57.6 | SPASS Rider | | |
| ISS 111TI CLOUDMAP001 VIMS | 2009-141708:26:42 | GMB E111 Titan55-000713:00:00 | 000704:00:00 | 2009-141712:26:42 | 0 | 50 | SPASS Rider | | |
| VIMS 111TI CLOUDMAP001 PRIME | 2009-141708:26:42 | GMB E111 Titan55-000713:00:00 | 000704:00:00 | 2009-141712:26:42 | 2777.8 | 40 | Prime | VIMS IR to Titan | NEG X to Sun |
| CIRS 111TI RIDER001 UVIS | 2009-141712:26:42 | GMB E111 Titan55-000709:00:00 | 000706:30:00 | 2009-141718:56:42 | 2000 | 46.8 | SPASS Rider | | |
| ENGR 111SC RADWU141 PPS | 2009-141712:26:42 | GMB E111 Titan55-000709:00:00 | 000700:00:07 | 2009-141712:26:49 | 0 | 0 | Non-SPASS | | |
| ISS 111TI EUVFUV001 UVIS | 2009-141712:26:42 | GMB E111 Titan55-000709:00:00 | 000706:30:00 | 2009-141718:56:42 | 0 | 10 | SPASS Rider | | |
| RADAR 111TI T55WARMUP001 RIDER | 2009-141712:26:42 | GMB E111 Titan55-000709:00:00 | 000706:30:00 | 2009-141718:56:42 | 474.2 | 11.097 | SPASS Rider | | |
| UVIS 111TI EUVFUV001 PRIME | 2009-141712:26:42 | GMB E111 Titan55-000709:00:00 | 000706:30:00 | 2009-141718:56:42 | 5032 | 117.749 | Prime | UVIS FUV to Titan | |
| VIMS 111TI EUVFUV001 UVIS | 2009-141712:26:42 | GMB E111 Titan55-000709:00:00 | 000706:30:00 | 2009-141718:56:42 | 4273.5 | 100 | SPASS Rider | | NEG X to 62.0/17.0 |
| MAG 111TI MAGTITAN001 PRIME | 2009-141716:26:42 | GMB E111 Titan55-000705:00:00 | 000710:00:00 | 2009-142702:26:42 | 988 | 35.568 | Non-SPASS | | |
| RADAR 111TI T55INSCAT001 PRIME | 2009-141718:56:42 | GMB E111 Titan55-000702:30:00 | 000701:18:00 | 2009-141720:14:42 | 20002 | 93.609 | Prime | NEG Z to Titan | NEG X to NTP |
| ENGR 111SC RADRWAI41 PPS | 2009-141719:26:42 | GMB E111 Titan55-000702:00:44 | 000700:00:44 | 2009-141719:26:42 | 0 | 0 | Non-SPASS | | |
| RPWS 111TI TIINTRMED001 PRIME | 2009-141719:26:42 | GMB E111 Titan55-000702:00:00 | 000701:30:00 | 2009-141720:56:42 | 9992.2 | 53.958 | Non-SPASS | | |
| CAPS 111TI T55INBND001 PRIME | 2009-141719:41:42 | GMB E111 Titan55-000701:45:00 | 000701:00:00 | 2009-141720:41:42 | 4000 | 14.4 | SPASS Rider | | |
| ENGR 111SC AACSDUAL001 CDS | 2009-141720:11:42 | GMB E111 Titan55-000701:15:00 | 000702:29:00 | 2009-141722:40:42 | 1638 | 14.644 | Non-SPASS | | |
| ENGR 111SC RADRCS141 PPS | 2009-141720:14:42 | GMB E111 Titan55-000701:12:00 | 000700:21:15 | 2009-141720:35:57 | 0 | 0 | Non-SPASS | | |
| ENGR 111SC RADRCS141 PRIME | 2009-141720:14:42 | GMB E111 Titan55-000701:12:00 | 000700:01:00 | 2009-141720:15:42 | 0 | 0 | Prime | NEG Z to Titan | NEG X to Titan SC RAM |
| RADAR 111TI T55IHISAR001 PRIME | 2009-141720:15:42 | GMB E111 Titan55-000701:11:00 | 000700:41:00 | 2009-141720:56:42 | 60009.6 | 147.624 | Prime | NEG Z to Titan | NEG X to NTP |
| INMS 111TI TITAN55001 INMS | 2009-141720:26:42 | GMB E111 Titan55-000701:00:00 | 000700:40:00 | 2009-141721:06:42 | 1498 | 3.595 | Non-SPASS | | |
| MIMI 111TI TITANIN001 RIDER | 2009-141720:26:42 | | 000701:00:00 | 2009-141721:26:42 | 1000 | 3.6 | SPASS Rider | | |
| CAPS 111TI T55CLOSE001 PRIME | 2009-141720:41:42 | GMB E111 Titan55-000700:45:00 | 000701:30:00 | 2009-141722:11:42 | 16000 | 86.4 | SPASS Rider | | |
| RADAR 111TI T55INALT001 PRIME | 2009-141720:56:42 | GMB E111 Titan55-000700:30:00 | 000700:12:00 | 2009-141721:08:42 | 30001.2 | 21.601 | Prime | NEG Z to Titan (0,0,0,-30.0 deg. offset) | NEG X to Titan SC RAM |
| RPWS 111TI TICAO01 PRIME | 2009-141720:56:42 | GMB E111 Titan55-000700:30:00 | 000701:00:00 | 2009-141721:56:42 | 59953.2 | 215.831 | Non-SPASS | | |
| INMS 111TI TITAN55001 RIDER | 2009-141721:06:42 | GMB E111 Titan55-000700:20:00 | 000700:40:00 | 2009-141721:46:42 | 1498 | 3.595 | Non-SPASS | | |
| ENGR 111NA BEGHIVAL141 CDS | 2009-141721:08:42 | GMB E111 Titan55-000700:18:00 | 000700:00:01 | 2009-141721:08:43 | 0 | 0 | SPASS Note | | |
| RADAR 111TI T55INOSAR001 PRIME | 2009-141721:08:42 | GMB E111 Titan55-000700:18:00 | 000700:36:00 | 2009-141721:44:42 | 236109.5 | 509.997 | Prime | NEG Z to Titan | NEG X to Titan SC RAM |
| MP 111EA OCCTITAN111 NA | 2009-141721:11:07 | | 000700:00:01 | 2009-141721:11:08 | 0 | 0 | Non-SPASS | | |
| MP 111SU OCCTITAN111 NA | 2009-141721:12:02 | | 000700:00:01 | 2009-141721:12:03 | 0 | 0 | Non-SPASS | | |
| MIMI 111TI TITANCA001 RIDER | 2009-141721:26:42 | | 000702:00:00 | 2009-141723:26:42 | 1000 | 7.2 | SPASS Rider | | |
| MP 111TI FLYBYT055 NA | 2009-141721:26:42 | | 000700:00:01 | 2009-141721:26:43 | 0 | 0 | SPASS Note | | |
| ENGR 111NA ENDHIVAL141 CDS | 2009-141721:44:42 | GMB E111 Titan55+000700:18:00 | 000700:00:01 | 2009-141721:44:43 | 0 | 0 | SPASS Note | | |
| RADAR 111TI T55OULTAL001 PRIME | 2009-141721:44:42 | GMB E111 Titan55+000700:18:00 | 000700:12:00 | 2009-141721:56:42 | 30001.2 | 21.601 | Prime | NEG Z to Titan | POS Y to NTP |
| INMS 111TI TITAN55002 INMS | 2009-141721:46:42 | GMB E111 Titan55+000700:20:00 | 000700:40:00 | 2009-141722:26:42 | 1498 | 3.595 | Non-SPASS | | |
| MP 111SA RXPDESCEN111 NA | 2009-141721:46:42 | | 000700:00:01 | 2009-141721:46:47 | 0 | 0 | Non-SPASS | | |
| RADAR 111TI T55OHISAR001 PRIME | 2009-141721:56:42 | GMB E111 Titan55+000700:30:00 | 000700:20:00 | 2009-141722:16:42 | 60009.6 | 72.012 | Prime | NEG Z to Titan | POS Y to NTP |
| RPWS 111TI TIINTRMED002 PRIME | 2009-141721:56:42 | GMB E111 Titan55+000700:30:00 | 000701:30:00 | 2009-141723:26:42 | 9992.2 | 53.958 | Non-SPASS | | |
| CAPS 111TI T55OUTBND001 PRIME | 2009-141722:11:42 | GMB E111 Titan55+000700:45:00 | 000700:30:00 | 2009-141722:41:42 | 4000 | 7.2 | SPASS Rider | | |
| ENGR 111SC RADRWBIAS141 PPS | 2009-141722:16:42 | GMB E111 Titan55+000700:50:00 | 000700:21:41 | 2009-141722:38:23 | 0 | 0 | Prime | NEG Z to Titan | NEG X to Titan SC RAM |
| INMS 111SA SURVEY001 INMS | 2009-141722:26:42 | GMB E111 Titan55+000701:00:00 | 000703:33:18 | 2009-142702:00:00 | 100 | 1.28 | Non-SPASS | | |
| RADAR 111TI T55OVSCT001 PRIME | 2009-141722:38:23 | GMB E111 Titan55+000701:11:41 | 000701:18:19 | 2009-141723:56:42 | 19659.1 | 92.378 | Prime | NEG Z to Titan | POS Y to NTP |
| CAPS 111SA SURVEY003 PRIME | 2009-141722:41:42 | GMB E111 Titan55+000701:15:00 | 006718:30:18 | 2009-148717:12:00 | 1000 | 585.018 | Non-SPASS | | |

T55 Wrap Up TOL page 2



| Request | Start Time | Epoch | Duration | End Time | Rate | Data Volume | SPASS Type | Primary Pointing | Secondary Pointing |
|--------------------------------|-------------------|-------------------------------|--------------|-------------------|-----------|-------------|-------------|-------------------|-------------------------|
| MIMI 111TI TITANOUT001 RIDER | 2009-141T23:26:42 | | 000T01:00:00 | 2009-142T00:26:42 | 1000 | 3.6 | SPASS Rider | | |
| CIRS 111TI FIRNADMAP002 PRIME | 2009-141T23:56:42 | GMB E111 Titan55+000T02:30:00 | 000T02:30:00 | 2009-142T02:26:42 | 2000 | 18 | Prime | CIRS_FP1 to Titan | POS X to North_Pole_Dir |
| CIRS 111TI FIRNADMAP002 SI | 2009-141T23:56:42 | GMB E111 Titan55+000T02:30:00 | 000T02:30:00 | 2009-142T02:26:42 | 0 | 3 | SPASS Rider | | |
| ENGR 111SC DFPW141 PPS | 2009-141T23:56:42 | GMB E111 Titan55+000T02:30:00 | 000T00:00:37 | 2009-141T23:57:19 | 0 | 0 | Non-SPASS | | |
| ISS 111TI FIRNADMAP002 CIRS | 2009-141T23:56:42 | GMB E111 Titan55+000T02:30:00 | 000T02:30:00 | 2009-142T02:26:42 | 0 | 10 | SPASS Rider | | |
| VIMS 111TI FIRNADMAP001 CIRS | 2009-141T23:56:42 | GMB E111 Titan55+000T02:30:00 | 000T02:30:00 | 2009-142T02:26:42 | 10000 | 90 | SPASS Rider | | |
| MIMI 111CO SURVEY002 RIDER | 2009-142T00:26:42 | | 000T20:32:18 | 2009-142T20:59:00 | 750 | 55.453 | Non-SPASS | | |
| INMS 111TI TTINTORUS001 INMS | 2009-142T02:00:00 | | 000T02:00:00 | 2009-142T04:00:00 | 1498 | 10.786 | Non-SPASS | | |
| CIRS 111TI MIRLMBINT002 PRIME | 2009-142T02:26:42 | GMB E111 Titan55+000T05:00:00 | 000T04:00:00 | 2009-142T06:26:42 | 4000 | 57.6 | Prime | CIRS_FP1 to Titan | PIC |
| CIRS 111TI MIRLMBINT002 SI | 2009-142T02:26:42 | GMB E111 Titan55+000T05:00:00 | 000T04:00:00 | 2009-142T06:26:42 | 0 | 4 | SPASS Rider | | |
| ISS 111TI MIRLMBINT002 CIRS | 2009-142T02:26:42 | GMB E111 Titan55+000T05:00:00 | 000T04:00:00 | 2009-142T06:26:42 | 0 | 10 | SPASS Rider | | |
| MAG 111OT SURVEY005 PRIME | 2009-142T02:26:42 | GMB E111 Titan55+000T05:00:00 | 001T05:32:18 | 2009-143T07:59:00 | 600 | 63.803 | Non-SPASS | | |
| UVIS 111TI MIRLMBINT002 CIRS | 2009-142T02:26:42 | GMB E111 Titan55+000T05:00:00 | 000T04:00:00 | 2009-142T06:26:42 | 1258 | 18.115 | SPASS Rider | | |
| VIMS 111TI MIRLMBMAP001 CIRS | 2009-142T02:26:42 | GMB E111 Titan55+000T05:00:00 | 000T04:00:00 | 2009-142T06:26:42 | 6944.4 | 100 | SPASS Rider | | |
| INMS 111SA SURVEYSEG002 INMS | 2009-142T04:00:00 | | 001T03:59:00 | 2009-143T07:59:00 | 100 | 10.074 | Non-SPASS | | |
| CIRS 111TI FIRNADCOMP002 PRIME | 2009-142T06:26:42 | GMB E111 Titan55+000T09:00:00 | 000T03:00:00 | 2009-142T09:26:42 | 4000 | 43.2 | Prime | CIRS_FP1 to Titan | PIC |
| CIRS 111TI FIRNADCOMP002 SI | 2009-142T06:26:42 | GMB E111 Titan55+000T09:00:00 | 000T03:00:00 | 2009-142T09:26:42 | 0 | 4 | SPASS Rider | | |
| ISS 111TI FIRNADCOMP002 CIRS | 2009-142T06:26:42 | GMB E111 Titan55+000T09:00:00 | 000T03:00:00 | 2009-142T09:26:42 | 0 | 32 | SPASS Rider | | |
| UVIS 111TI FIRNADCOMP002 CIRS | 2009-142T06:26:42 | GMB E111 Titan55+000T09:00:00 | 000T03:00:00 | 2009-142T09:26:42 | 1006.4 | 10.869 | SPASS Rider | | |
| VIMS 111TI FIRNADMAP002 CIRS | 2009-142T06:26:42 | GMB E111 Titan55+000T09:00:00 | 000T03:00:00 | 2009-142T09:26:42 | 2314.8 | 25 | SPASS Rider | | |
| ENGR 111SC SAFETABLE045 AACs | 2009-142T09:00:00 | | 000T00:01:00 | 2009-142T09:01:00 | 0 | 0 | Non-SPASS | | |
| CIRS 111TI RIDER002 ISS | 2009-142T09:26:42 | GMB E111 Titan55+000T12:00:00 | 000T02:00:00 | 2009-142T11:26:42 | 2000 | 14.4 | SPASS Rider | | |
| ISS 111TI MONITORNA001 PRIME | 2009-142T09:26:42 | GMB E111 Titan55+000T12:00:00 | 000T02:00:00 | 2009-142T11:26:42 | 0 | 300 | Prime | ISS_NAC to Titan | NEG X to Sun |
| VIMS 111TI MONITORNA001 ISS | 2009-142T09:26:42 | GMB E111 Titan55+000T12:00:00 | 000T02:00:00 | 2009-142T11:26:42 | 2777.8 | 20 | SPASS Rider | | |
| CIRS 111TI MIDIRTMAP002 PRIME | 2009-142T11:26:42 | GMB E111 Titan55+000T14:00:00 | 000T08:00:00 | 2009-142T19:26:42 | 2000 | 57.6 | Prime | CIRS_FP1 to Titan | POS X to North_Pole_Dir |
| CIRS 111TI MIDIRTMAP002 SI | 2009-142T11:26:42 | GMB E111 Titan55+000T14:00:00 | 000T08:00:00 | 2009-142T19:26:42 | 0 | 9 | SPASS Rider | | |
| ISS 111TI MIDIRTMAP002 CIRS | 2009-142T11:26:42 | GMB E111 Titan55+000T14:00:00 | 000T08:00:00 | 2009-142T19:26:42 | 0 | 10 | SPASS Rider | | |
| VIMS 111TI MIDIRTMAP002 CIRS | 2009-142T11:26:42 | GMB E111 Titan55+000T14:00:00 | 000T08:00:00 | 2009-142T19:26:42 | 2083.3 | 60 | SPASS Rider | | |
| SP 111TI DEADTIME142 PRIME | 2009-142T19:26:42 | GMB E111 Titan55+000T22:00:00 | 000T00:52:18 | 2009-142T20:19:00 | 0 | 0 | Prime | NEG Y to Titan | NEG X to 62.0/17.0 |
| SP 111EA DLTURN142 PRIME | 2009-142T20:19:00 | | 000T00:40:00 | 2009-142T20:59:00 | 0 | 0 | Prime | XBAND to Earth | NEG X to NEP |
| ENGR 111SC AACSDUAL002 CDS | 2009-142T20:58:47 | | 000T00:00:02 | 2009-142T20:58:49 | 0 | 0 | Non-SPASS | | |
| CDA 111OT RATE010005 RIDER | 2009-142T20:59:00 | | 003T08:12:59 | 2009-146T05:11:59 | 524 | 151.32 | Non-SPASS | | |
| MIMI 111CO SURVEY004 RIDER | 2009-142T20:59:00 | | 000T10:28:04 | 2009-143T07:27:04 | 900 | 33.916 | Non-SPASS | | |
| SP 111EA G70METNON142 PRIME | 2009-142T20:59:00 | | 000T09:00:00 | 2009-143T05:59:00 | 0 | 0 | Prime | XBAND to Earth | Rolling/Bias |
| SP 111NA G70METNON142 SP | 2009-142T20:59:00 | | 000T09:00:00 | 2009-143T05:59:00 | 0 | 0 | Non-SPASS | | |
| UVIS 111SW IPHSURVEY005 RIDER | 2009-142T20:59:00 | | 000T09:00:00 | 2009-143T05:59:00 | 152.5 | 4.94 | Non-SPASS | | |
| CIRS 111IC DSCAL09142 SP | 2009-142T21:59:00 | | 000T08:00:00 | 2009-143T05:59:00 | 3000 | 86.4 | SPASS Rider | | |
| SP 111NA C70METNON143 SP | 2009-143T05:39:00 | | 000T02:20:00 | 2009-143T07:59:00 | 0 | 0 | Non-SPASS | | |
| ENGR 111NA DUALPB141 CDS | 2009-143T05:59:00 | | 000T00:00:01 | 2009-143T05:59:01 | 688948608 | 688.949 | SPASS Note | | |
| SP 111EA C70METNON143 PRIME | 2009-143T05:59:00 | | 000T02:00:00 | 2009-143T07:59:00 | 0 | 0 | Prime | XBAND to Earth | Rolling |
| UVIS 111SW IPHSURVEY006 RIDER | 2009-143T05:59:00 | | 000T02:00:00 | 2009-143T07:59:00 | 152.5 | 1.098 | Non-SPASS | | |
| CIRS 111IC DSCAL09143 SP | 2009-143T06:59:00 | | 000T01:00:00 | 2009-143T07:59:00 | 4000 | 14.4 | SPASS Rider | | |
| MIMI 111SA MAGDYN002 RIDER | 2009-143T07:27:04 | | 002T05:43:28 | 2009-145T13:10:32 | 1200 | 232.09 | Non-SPASS | | |



T55 Liens & Open Issues

- SMT warnings (all are acceptable):
 - RADAR, 2009-141T12:26:42, RADAR_111TI_T55WARMUP001_RIDER
Found an activity whose data are NOT recorded in this telemetry mode "S_N_ER_3" commanded at 2009-141T12:41:42. Volume of 10.6704 Mb not given data policing space. Ensure compatibility between this activity and telemetry mode.
(S&ER-5A for 1st 15 min. of warm-up, then to S&ER-3.)
 - RADAR, 2009-141T22:38:23, RADAR_111TI_T55OUTSCT001_PRIME
Found an activity whose data are NOT recorded in this telemetry mode "S_N_ER_3" commanded at 2009-141T23:56:42. Volume of 7.724083e-10 Mb not given data policing space.
(S&ER-8 to S&ER-3 transition occurs at 2009-141T23:56:42.)
- Clean segment!
- There is a telemetry mode change during an ISS observation for RADAR warm-up. ISS is ok with this.
- Waiting for INMS to cut 7 Mb before the DL at 2009-142T20:59:00 (or TOST to decide that the cut is unnecessary).