CASSINI TOST T105 SEGMENT

Rev 208 Handoff Package

Segment Boundary 2014-264T08:17:00 – 2014-268T08:02:00

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SMT report and SPASS

Science Highlights

Notes & Liens

SMT report

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

			OBSERVATION_PERIOD							DOWNLINK_PASS							
			P4						P5	RECORDED		PLAYBACK					
DOWNLINK PASS NAME	Start doy hh:mm	End doy hh:mm	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 (Mb)
SP_208EA_C70METSEQ265_PRIME	265 22:32	266 09:32	0	2922	162	3084	3322	238	0	304	65	3453	3469	16	16	0%	0
SP_208EA_M70METNON266_PRIME	266 09:32	266 11:32	0	0	0	0	3322	3322	0	437	12	448	405	-44	0	0%	43
SP_208EA_C70METSEQ267_PRIME	267 23:02	268 08:02	43	2555	150	2749	3322	573	0	392	53	3194	3192	-3	0	0%	2

Request	Riders	Start (SCET)	Start (Epoch)	Duration	End (SCET)	Primary	Secondary	Comments
Sequence S85, length = 67 days		2014-212T05:09:00		066T19:52:00	2014-279T01:01:00			
Titan Flyby T105 Segment		2014-264T08:17:00		003T23:45:00	2014-268T08:02:00			
SP_208TI_WAYPTTURN264_PRIME		2014-264T08:17:00		000T00:40:00	2014-264T08:57:00	NEG_Y to Titan	NEG_X to NEP	
NEW WAYPOINT		**2014-264T08:57:00**		**001T12:05:00**	**2014-265T21:02:00**	**NEG_Y to Titan**	**NEG_X to NEP**	
SP_208TI_DEADTIME264_PRIME		**2014-264T08:57:00**		**000T00:14:59**	**2014-264T09:11:59**	**NEG_Y to Titan**	**NEG_X to NEP**	
CIRS_208TI_MIDIRTMAP001_PRIME	I, V	2014-264T09:11:59	GMB_E208_TITAN_T105-000T20:11:20	000T06:11:20	2014-264T15:23:19	CIRS_FPB to Titan	PIC	Collaborative Rider(s): ISS. Template A2: CIRS-ISS
CIRS_208TI_FIRNADCMP001_PRIME	I, U, V	2014-264T15:23:19	GMB_E208_TITAN_T105-000T14:00:00	000T05:00:00	2014-264T20:23:19	CIRS_FP1 to Titan	PIC	
CIRS_208TI_MIRLMBINT001_PRIME	I, V	2014-264T20:23:19	GMB_E208_TITAN_T105-000T09:00:00	000T03:45:00	2014-265T00:08:19	CIRS_FPB to Titan	PIC	
UVIS_208ST_ETAUMATI001_PRIME	C, I, V	2014-265T00:08:19	GMB_E208_TITAN_T105-000T05:15:00	000T02:15:00	2014-265T02:23:19	UVIS_FUV to 206.885/49.313 (0.082,0.0,0.0 deg. offset)	POS_Z to NEP	
UVIS_208TI_EUVFUV001_PRIME	C, I, V	2014-265T02:23:19	GMB_E208_TITAN_T105-000T03:00:00	000T00:45:00	2014-265T03:08:19	UVIS_FUV to Titan	NEG_Z to Earth	
Begin Custom Period		**2014-265T03:08:19**	**GMB_E208_TITAN_T105-000T02:15:00**	**000T00:00:01**	**2014-265T03:08:20**			
VIMS_208TI_HIRES001_PRIME	C, I, M	2014-265T03:08:19	GMB_E208_TITAN_T105-000T02:15:00	000T01:45:00	2014-265T04:53:19	VIMS_IR to Titan	NEG_X to NEP	No Preference to secondary pointing. Pick up at NEG_Y to Titan, NEG_X to NEP; Hand off at VIMS_IR to Titan, NEG_X to NEP. No Preference to secondary pointing
Begin Dual Playback Science		2014-265T04:53:19	GMB_E208_TITAN_T105-000T00:30:00	000T00:00:01	2014-265T04:53:20			
VIMS_208TI_HIRES002_PRIME	C, I, M	2014-265T04:53:19	GMB_E208_TITAN_T105-000T00:30:00	000T01:00:00	2014-265T05:53:19	VIMS_IR to Titan	NEG_X to NEP	No Preference to secondary pointing. Pick up at VIMS_IR to Titan, NEG_X to NEP; Hand off at NEG_Y to Titan, NEG_X to 341.0/25.0. No Preference to secondary pointing
208TI (t) T105 TITAN Outbou...		2014-265T05:23:19		000T00:00:01	2014-265T05:23:20			
End Dual Playback Science		2014-265T05:53:19	GMB_E208_TITAN_T105+000T00:30:00	000T00:00:01	2014-265T05:53:20			
CIRS_208TI_FIRLMBAER001_PRIME	M, V	2014-265T05:53:19	GMB_E208_TITAN_T105+000T00:30:00	000T00:45:00	2014-265T06:38:19	CIRS_FP1 to Titan	PIC	Pick up at NEG_Y to Titan, NEG_X to 341.0/25.0; Hand off at CIRS_FP1 to Titan, PIC.
CIRS_208TI_FIRLMBINT002_PRIME	I, M, V	2014-265T06:38:19	GMB_E208_TITAN_T105+000T01:15:00	000T01:00:00	2014-265T07:38:19	CIRS_FP1 to Titan	PIC	Pick up at CIRS_FP1 to Titan, PIC; Hand off at CIRS_FP1 to Titan, PIC.
CIRS_208TI_FIRNADMAP002_PRIME	V	2014-265T07:38:19	GMB_E208_TITAN_T105+000T02:15:00	000T03:30:00	2014-265T11:08:19	CIRS_FP1 to Titan	PIC	Collaborative Rider(s): VIMS. Pick up at CIRS_FP1 to Titan, PIC; Hand off at NEG_Y to Titan, NEG_X to NEP. Collaborative Rider(s): VIMS
End custom period		**2014-265T11:08:19**	**GMB_E208_TITAN_T105+000T05:45:00**	**000T00:00:01**	**2014-265T11:08:20**			
UVIS_208TI_EUVFUV002_PRIME	C, I, V	2014-265T11:08:19	GMB_E208_TITAN_T105+000T05:45:00	000T01:30:00	2014-265T12:38:19	UVIS_FUV to Titan	NEG_Z to Earth	
CIRS_208TI_MIRLMBMAP002_PRIME	V	2014-265T12:38:19	GMB_E208_TITAN_T105+000T07:15:00	000T02:00:00	2014-265T14:38:19	CIRS_FPB to Titan	PIC	
CIRS_208TI_FIRNADCMP002_PRIME	I, U, V	2014-265T14:38:19	GMB_E208_TITAN_T105+000T09:15:00	000T02:45:00	2014-265T17:23:19	CIRS_FP1 to Titan	PIC	
CIRS_208TI_MIDIRTMAP002_PRIME	I, V	2014-265T17:23:19	GMB_E208_TITAN_T105+000T12:00:00	000T02:43:40	2014-265T20:06:59	CIRS_FPB to Titan	PIC	Template A2: CIRS-ISS
SP_208TI_DEADTIME265_PRIME		**2014-265T20:06:59**	**GMB_E208_TITAN_T105+000T14:43:40**	**000T00:15:01**	**2014-265T20:22:00**	**NEG_Y to Titan**	**NEG_X to NEP**	
SP_208EA_DLTURN265_PRIME		2014-265T20:22:00		000T00:40:00	2014-265T21:02:00	XBAND to Earth (0.0,0.0,-9.5 deg. offset)	NEG_Y to Saturn	
NEW WAYPOINT		**2014-265T21:02:00**		**000T15:10:00**	**2014-266T12:12:00**	**XBAND to Earth (0.0,0.0,-9.5 deg. offset)**	**NEG_Y to Saturn**	
SP_208EA_YGAP265_PRIME	E	2014-265T21:02:00		000T01:30:00	2014-265T22:32:00	XBAND to Earth (0.0,0.0,-9.5 deg. offset)	NEG_Y to Saturn	
SP_208EA_C70METSEQ265_PRIME	C	2014-265T22:32:00		000T11:00:00	2014-266T09:32:00	XBAND to Earth (0.0,0.0,-9.5	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5).
Pointer Reset in preparatio...		2014-266T09:32:00		000T00:00:01	2014-266T09:32:01			
SP_208EA_M70METNON266_PRIME	C	2014-266T09:32:00		000T02:00:00	2014-266T11:32:00	XBAND to Earth (0.0,0.0,-9.5	Rolling	MIMI. NEG_Y to Saturn (0,0,-9.5).
SP_208TI_WAYPTTURN266_PRIME		2014-266T11:32:00		000T00:40:00	2014-266T12:12:00	NEG_Y to Titan	NEG_X to NEP	
NEW WAYPOINT		**2014-266T12:12:00**		**001T09:20:00**	**2014-267T21:32:00**	**NEG_Y to Titan**	**NEG_X to NEP**	
ISS_208TI_CLOUD001_PRIME	C, U, V	2014-266T12:12:00		000T04:20:00	2014-266T16:32:00	ISS_NAC to Titan	NEG_X to Sun	
RADAR_208TI_RADIOMCAL131_PRIME		2014-266T16:32:00		000T02:00:00	2014-266T18:32:00	NEG_Z to Titan	NEG_X to NEP	No Preference to secondary pointing
ISS_208TI_CLOUD002_PRIME	C, U, V	2014-266T18:32:00		000T02:00:00	2014-266T20:32:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_208TI_CLOUD003_PRIME	C, U, V	2014-266T20:32:00		000T04:00:00	2014-267T00:32:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_208TI_CLOUD004_PRIME	C, U, V	2014-267T00:32:00		000T04:00:00	2014-267T04:32:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_208TI_CLOUD005_PRIME	C, U, V	2014-267T04:32:00		000T04:00:00	2014-267T08:32:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_208TI_CLOUD006_PRIME	C, U, V	2014-267T08:32:00		000T04:00:00	2014-267T12:32:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_208TI_CLOUD007_PRIME	C, U, V	2014-267T12:32:00		000T04:00:00	2014-267T16:32:00	ISS_NAC to Titan	NEG_X to Sun	
ISS_208TI_CLOUD008_PRIME	C, U, V	2014-267T16:32:00		000T04:20:00	2014-267T20:52:00	ISS_NAC to Titan	NEG_X to Sun	
SP_208EA_DLTURN267_PRIME		2014-267T20:52:00		000T00:40:00	2014-267T21:32:00	XBAND to Earth	NEG_X to 307.0/26.0	
NEW WAYPOINT		**2014-267T21:32:00**		**000T10:30:00**	**2014-268T08:02:00**	**XBAND to Earth**	**NEG_X to 307.0/26.0**	
SP_208EA_YGAP267_PRIME	E	2014-267T21:32:00		000T01:30:00	2014-267T23:02:00	XBAND to Earth	NEG_X to 307.0/26.0	
SP_208EA_C70METSEQ267_PRIME	C	2014-267T23:02:00		000T09:00:00	2014-268T08:02:00	XBAND to Earth	Rolling	CDA. NEG_X to (307/26).

Science Highlights

DOY 264 (Sept. 21): CIRS resumes far-infrared vertical sounding to retrieve aerosols and haze opacities. ISS will ride along with CIRS to image Titan's surface and atmosphere at mid-southern latitudes. VIMS will ride along with CIRS to monitor the evolution of the vortex at the South Pole and the cloud activity at high latitudes. VIMS will also acquire low resolution (100 km/pixel at best) images of Titan while riding along with CIRS.

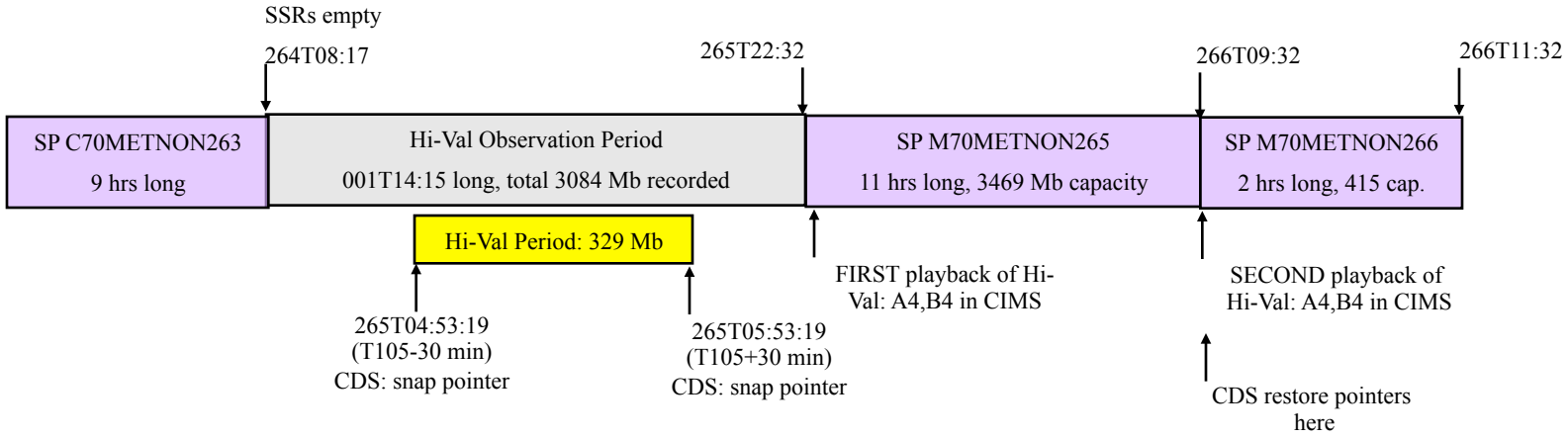
DOY 265 (Sept. 22): UVIS observes stellar occultation of Eta Ursa Majoris in Titan's southern hemisphere. VIMS will acquire medium resolution images (20 to 5 km per pixel) for a mosaic of Tsegihi and the dune fields of Fensal. A high-resolution image of Sinlap crater may be possible before recording a high resolution South-North swath right at closest approach across the mid-northern latitudes. CIRS resumes far-infrared vertical sounding, focusing on 40N latitude, to retrieve aerosols and haze opacities. VIMS will observe the seas and lakes of the northern polar area, including Kraken and Ligeia at resolution better than 5 km/pixel. It will look for the evolution of evaporitic material. While VIMS is riding along with CIRS, it will look for specular reflection on Kraken Mare and look for wave activity on this large sea. ISS will ride along with all observations.

DOY 266 (Sept 23): Flyby data are downlinked to Earth. Following that, ISS will monitor Titan's northern latitudes, where it will be important to track clouds and the evolution thereof as summer approaches.

Dual Playback-VIMS

Flyby	BEGHIVAL	ENDHIVAL	P4 Dual Playback Data Volume	SSR empty before hi-val observation period? (if not verify any carryover on A fits with Hi-Val data)	SSR-A empty after first playback?	PPL set to A4,B4 for first AND second playbacks?	SSRs empty after second playback? (if not does any Hi-Val data carry over?)
T105	T105-30 min	T105+30 min	329 Mb	Yes	Yes	Yes	Yes

Playbacks contiguous:



Reminder - ALL instruments' data is played back twice during P4 dual playback periods

Notes

- Pointing:
  - Waypoint goes bad from 2014-265Y05:22:00 until 05:57:00 (custom period)
  - RBOT-friendly waypoints didn't work for segment
- Data Volume:
  - Dual playback
  - 2 Mb carryover expected to disappear with data compression
- DSN:
  - C70METNON265 pass overlaps maintenance; requesting waiver
  - Short overlap between C70METNON265 and M70METNON266 so Madrid pass treated as stand-alone with 5 minute playback delay
- Resource checker:
  - Telemetry change during ISS observation ISS_208TI_CLOUD001_PRIME OK with ISS
  - CIRS handing off to itself in custom period, will replace PIC during implementation
  - Odd SSR order due to dual PB
- Opmodes:
  - Nothing unusual
- Hydrazine:
  - n/a
- Special Activities:
  - Nothing

Liens

Sequence Liens (should all be SPLAT items):

- Liens to be worked in SIP
  - dual playback & DSN negotiations