

T61	970
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Start Time	End Time	Prime Activity	Obs. Detail	Op Mode	TLM Mode	Comments
2009-237T00:04:00	2009-237T00:10:00	S53 IVP	XBAND to Earth; POS_X to NEP	DFPW Normal	S_N_ER_3	
2009-237T00:10:00	2009-237T00:44:00	SP Turn to WP	No FR violations. 24.0 min	DFPW Normal	S_N_ER_3	NEG_Y to Titan (-10.5, 0, 0), NEG_X to Sun.
2009-237T00:44:00	C/A - 11:51:48	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
				DFPW Normal	S_N_ER_3	
C/A - 11:51:48	-09:00	ISS	Replaced VIMS (found a safe observation)	DFPW Normal	S_N_ER_3	
-09:00	-05:10	CIRS	Template R	DFPW Normal > RADWU @ -05:25	S_N_ER_3, then S_N_ER_5a for last 15 min. (@ -05:25)	Last 15 min. for RADAR warm-up
-05:10	-02:20	VIMS	Template Y	RADWU	S_N_ER_3	
-02:20	-01:12	RADAR	Scatterometry/Radiometry	RADWU > RADRWA @ -02:20	S_N_ER_8	Includes turn from waypoint
-01:12	-00:30	RADAR	HI-SAR	RADRCSS	S_N_ER_8	
-00:30	-00:29	RWA to RCS Transition		RADRWA > RADRCS @ -01:12	S_N_ER_8	deadband (2,2,2)
-00:29	-00:18	RADAR		RADRCSS	S_N_ER_8	
-00:18	0	RADAR	SAR over landing site/Stereo on Dunes	RADRCSS	S_N_ER_8	
2009-237T12:51:38	(080806 ref traj.)	CLOSEST APPROACH	NEG_Z to Titan, NEG_X to Titan_SC_RAM	RADRCSS	S_N_ER_8	
0	+00:15	RADAR	SAR	RADRCSS	S_N_ER_8	
+00:15	+00:23	Turn back to WP	Check turn times Neg_Y to Titan (-10.5, 0, 0), NEG_X to Sun	RADRCSS	S_N_ER_8	
+00:23	+00:44:05	RCS to RWA Transition		RADRCSS > ORSRCSS end by +00:23 ORSRCSS > DFPW Normal @ +00:23	S_N_ER_3	deadband (2,2,2) during transition (necessary as per L.Burke, 12/23)
+00:44:05	+02:00	VIMS		DFPW Normal	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	C/A + 25	VIMS	Template B	DFPW Normal	S_N_ER_3	
C/A + 25	2009-238T14:24:00	OD Uncertainty Dead Time		DFPW Normal	S_N_ER_3	
2009-238T14:24:00	2009-238T15:04:00	SP Turn to Earth for downlink	XBAND to Earth; NEG_X to NEP (Safe, 26.2 min)	DFPW Normal	S_N_ER_3	
2009-238T15:04:00	2009-239T00:04:00	70-m Array	Rolling	DFPW Normal	RTE_N_SPB	G70
2009-239T00:04:00	2009-239T02:04:00		Rolling	DFPW Normal	RTE_N_SPB	C70

** NOTE: RWA to RCS transition was moved to C/A - 30 min. after hand-off to S53. See the following e-mail from 3/17/09, and corresponding times in RED above.

Subject: RE: S53: a RWA-RCS transition request

Date: Tuesday, March 17, 2009 2:26 PM

From: Anderson, Yanhua Z <yanhua.z.anderson@jpl.nasa.gov>

To: "Zorn, Torsten T" <torsten.zorn@jpl.nasa.gov>, "Burk, Thomas A" <thomas.a.burk@jpl.nasa.gov>, "Lee, Allan Y" <allan.y.lee@jpl.nasa.gov>, "Vandermey, Nancy" <nancy.vandermey@jpl.nasa.gov>, "s53_leads@cda.jpl.nasa.gov" <s53_leads@dcs04.jpl.nasa.gov>

Cc: tost_leads <tost_leads_01@dcs04.jpl.nasa.gov>, "Kelleher, Kathleen" <kathleen.kelleher@jpl.nasa.gov>

Conversation: S53: a RWA-RCS transition request

Torsten,
I made the CIMS changes accordingly.

Thanks!

Yanhua Anderson
Cassini RADAR Operations
818-393-7718
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From: Zorn, Torsten T
Sent: Tuesday, March 17, 2009 2:05 PM
To: Anderson, Yanhua Z; Burk, Thomas A; Lee, Allan Y; Vandermey, Nancy; s53_leads@cda.jpl.nasa.gov
Cc: tost_leads; Kelleher, Kathleen
Subject: Re: S53: a RWA-RCS transition request

Hello Yanhua,

From a SCO perspective, we are comfortable moving the transition to RCS 30 minutes before c/a. AACs, Systems and Power have all approved the change. I have updated the CIMS requests as follows:

CIMS-ID	Start Time
ENGR_117SC_AACSDUAL001_CDS	2009-237T12:18:38
ENGR_117SC_RADRCS237_PPS	2009-237T12:21:38
ENGR_117SC_RADRCS237_PRIME	2009-237T12:21:38

For reference time of closest approach is: 2009-237T12:51:38

Please update the timing of RADAR_117TI_T61INALT001_PRIME as the request overlaps our prime opmode request under the current implementation.

Torsten

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Torsten Zorn
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On 3/16/09AD 10:46 AM, "Anderson, Yanhua Z" <yanhua.z.anderson@jpl.nasa.gov> wrote:

Tom, Allan, and S53 leads,
There is a special issue in T61 that I'd like to ask you.

We would like to request moving the T61 RWA to RCS transition (currently at -1:12:0 of c/a) to as late as possible. The question is how late can we move the transition to, 30 min or 25 min prior to c/a?

T61 is a 970 km equatorial flyby. It provides a good opportunity for observing dunes on Titan, particularly during the period of RADAR_117TI_T61IHISAR001_PRIME, which currently starts from -1:11:0 of c/a. In order to observe the dunes at a wide range of incidence angle and azimuth angle, there will be a lot of fast scans (more than a dozen)

during RADAR_117TI_T61IHISAR001_PRIME. We are conscience about hydrozine usage with these scans if they were done on thrusters.

So, it's probably better to move the RWA-RCS transition after RADAR_117TI_T61IHISAR001_PRIME is done.

We could ask to move the transition to -30 min of c/a.

But since we would like to expand RADAR_117TI_T61IHISAR001_PRIME as much as possible, the question is what is the latest time that AACS can do the transition before the flyby? Then we can move the transition to whatever the latest time that AACS feels comfortable with. If -30 min is the latest, that's okay.

Thanks,
Yanhua

Yanhua Anderson
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