

About the Occultation

- S40 Rev 67 Rings occultation
 - Rings Occ (chord)
 - Telemetry OFF, 1-way mode
 - Covered by Goldstone

- From Essam Marouf:

The rev 67 ring occultation is the last ring occultation during the Cassini nominal mission. It's a chord occultation that probes all major ring features (A, Cassini Division, B, and C) on the inbound and outbound sides. The ring opening angle is 9.9 degrees. The occultation completes a set of chord occultations that sampled the rings when they were moderately closed (opening angle of ~7 to 10 degrees). Together with earlier occultations, they provide valuable information regarding radial and vertical ring structure and other ring physical properties.

DSN Antennas

- DSN Coverage

Station	Pre-cal	BOT	EOT	Post-Cal
DSS-25	130/2125	130/2225	130/0145	130/0200
DSS-14	130/2140	130/2240	130/0145	130/0200
DSS-26	130/2140	130/2240	130/0145	130/0200

25 and 26 scheduled as downlink only passes

- Receivers scheduled

- 2 closed-loop receivers per antenna
- Six RSRs at 10, One VSR (A&B) and One WVSR (A&B)
 - Total: 8 open-loop receivers at Goldstone
- Open-loop data are prime. Closed-loop data are backup

- Antennas Band and Polarization Capabilities

DSS-14	DSS-25	DSS-26*
X-RCP X-LCP	X-RCP X-LCP	X-RCP X-LCP
S-RCP S-LCP	K-RCP	K-RCP K-LCP

*Either KLCP (switch 43 in B position)
or monopulse (switch 43 in A position)

- LCP data are enhancement. Prime are RCP. No antenna w/ K-LCP capability this time!

RSR/VSR/WVSR Assignment

Aseel: VOCA

Danny: Displays

DSS	Operator	Station	Open-Loop Receiver	RSR Assignment
14	Danny	rsops1	RSR3	RSR3A -> XRCP
				RS3B -> SRCP
25	Danny	rsops1	RSR1	RSR1A -> XRCP
				RSR1B -> KRCP
26	Elias	rsops2	RSR2	RSR2A -> XRCP
				RSR2B -> KRCP
14 LCP	Don	rsops3	WVSR1	14 WVSR1A -> XLCP
				14 WVSR1B -> SLCP
26 LCP	Don	rsops3	VSR1	26 VSR1A -> XLCP
				26 VSR1B -> KLCP

RSSG will be in RS Ops Room at 1:30 pm on Friday 5/9/08 (130/2030)

ORTs

ORT on DOY 118 (April 27) over DSS-26, X- and Ka-band

completed

08 118 2130 2300 0805 0820 DSS-26 CAS TP RSR66-OCCORT1 3858 N750 1A1
08 118 2200 2300 0205 0220 DSS-54 CAS RTS KA DEMO D/L 3858 N71L 2C3

- DSS-26 was prime
- DSS-54 first Ka-band demo
- Monopulse enabled but no corrections applied to antenna (DR G108556). No pointing data acquired!

ORT on DOY 119 (April 28) over DSS-25, X- and Ka-band

completed

08 119 2115 2245 0745 0800 DSS-25 CAS TP RSR66-OCCORT2 3859 N748 1A1
08 119 2145 2245 0200 0215 DSS-54 CAS RTS KA DEMO D/L 3859 N71L 2C3

- DSS-25 was prime
- DSS-54 Ka-band demo
- DSS-25 collected pointing data (monopulse) to update the 4th-order blind pointing model
 - Took a few minutes for DMD displays to show monopulse offsets
 - Queried monitor data, and monopulse values didn't look right at beginning. Good values 20 minutes into pass

ORT on DOY 124 (May 3) over DSS-25, X- and Ka-band

completed

08 124 2120 2250 0730 0745 DSS-25 CAS TP RSR66-OCCORT3 3864 N748 1A1

- DSS-25 collected pointing data (monopulse) to update the 4th-order blind pointing model

ORT on DOY 125 (May 4) over DSS-25, X- and Ka-band

completed

08 125 2100 2230 0730 0745 DSS-26 CAS TP RSR66-OCCORT4 3865 N750 1A1

- DSS-26 collected pointing data (monopulse) to update the 4th-order blind pointing model
- Also DSS-47 proficiency test

ORT on DOY 098 (April 7) over DSS-14 and DSS-43, X- and S-band

08 127 1405 1505 2345 0000 DSS-63 CAS TP RSR67-OCCORT5 3867 1639 1A1
08 127 2040 2110 2345 0000 DSS-15 CAS RTS RS DEMO D/L 3867 1732 2C3
08 127 2205 2235 2345 0000 DSS-14 CAS TP RSR67-ORT D/L 3867 1650 1A1

- DSS-14 prime
- All to verify S-band and X-band (RCP and LCP). DSS-63 ORT for Rev68 Occ

Boresight on DOY 126 (May 5) over DSS-25, X- and Ka-band

completed

08 126 2000 2130 0730 0745 DSS-25 CAS TP RSR67-PIM1 3866 N748 1A1

- Boresight from 127/0130-0230, Ka-band off at end of Boresight

Misc

Goldstone Monopulse

- Status

Cassini Specific 4th Order Pointing Models

- Status

SNT

- Enable X only at DSS-26 throughout
- Conduct SNT measurements

DSS-14 Microwave Configuration

- Configure SRCP low noise to the SP MASER to the 01 output
- Configure SLCP through the diplexer to the SB HEMT to the 02 output
- Status of DSS-14