

About the Occultation

- S34 Rev 51 Saturn Atmospheric occultation
 - Ingress and Egress Atmospheric occ
 - Telemetry OFF, 1-way mode
 - Covered by Madrid
- From Essam Marouf:

The Rev 51 occultation is the only Cassini Saturn occultation to probe nearly equal mid-Southern latitudes on both the ingress and egress sides, providing unique characterization of the atmosphere at similar latitudes but at widely separated longitudes.

DSN Antennas

- DSN Coverage

Station	Pre-cal	BOT	EOT	Post-Cal
DSS-55	297/0330	297/0515	297/1015	297/1030
DSS-63	297/0415	297/0515	297/1015	297/1030

- Receivers scheduled

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

- Antennas Band and Polarization Capabilities

DSS-63

X-RCP
X-LCP

S-RCP
S-LCP

DSS-55

X-RCP
X-LCP

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

RSR/VSR/WVSR Assignment

Aseel: VOCA

Roberto: Displays

DSS	Operator	Station	Open-Loop Receiver	RSR Assignment
63	Danny	rsops1	RSR1	RSR1A -> XRCP
				RSR1B -> SRCP
55	Elias	rsops2	RSR2	RSR2A -> XRCP
				RSR2B -> KRCP
63/55 LCP	Don	rsops3	VSR1 and WVSR1	63 VSR1A -> XLCP
				63 VSR1B -> SLCP
				55 WVSR1A -> XLCP
				55 WVSR1B -> KLCP

RSSG will be in RS Ops Room at 8 pm on Tuesday 10/23/07 (297/0300)

ORTs

Completed: Two DSS-55 ORTs completed, One DSS-63

Remaining: One DSS-55 ORT

ORT on DOY 274 (October 1) over DSS-55, X- and Ka-band

07 274 0345 0515 1415 1430 DSS-55 CAS TP RSR51-OCCORT 3648 N750 1A1

07 274 0415 0515 1415 1430 DSS-63 CAS TP PASS 3648 N003 1A1

- DSS-63 was prime for telemetry
- DSS-55 collected pointing data (monopulse) to update the 4th-order blind pointing model
- DSS-55 subreflector problems (power supply) impacted Ka-band. S/R not moving most of 1-way period. degraded Ka-band. Small data loss when the station halted the antenna to reengage the subreflector after repairs were completed, and at RTL later
- Monopulse performance was better after s/r problem fixed, particularly after going 2-way

ORT on DOY 276 (October 3) over DSS-55, X- and Ka-band

07 276 0355 0540 1545 1600 DSS-55 CAS TP RSORT ARRAY-S 3650 N750 1A1 A

07 276 0410 0540 0800 0815 DSS-63 CAS TP T36PB ARRAY-R 3650 N500 1A1 A

- DSS-55 collected pointing data (monopulse) to update the 4th-order blind pointing model
- Weather problems degraded Ka-band data

ORT on DOY 292 (October 19) over DSS-63, X- and S-band

07 292 1045 1145 2045 2100 DSS-26 CAS TKG PASS 3666 N003 1A1

07 292 1045 1145 1450 1505 DSS-63 CAS TP RSR51-OCCORT 3666 N71E 1A1

- DSS-26 prime
- DSS-14 to verify S- and X-band (RCP and LCP)

Early Sunday Morning

ORT on DOY 294 (October 21) over DSS-55, X- and Ka-band

07 294 1000 1145 1440 1455 DSS-55 CAS RSS ORT 3668 N750 1A1

07 294 1045 1145 2045 2100 DSS-14 CAS TKG PASS 3668 N003 1A1

- DSS-14 is prime for telemetry and uplink
- DSS-55 to collected pointing data (monopulse) and to verify the 4th-order blind pointing model

Misc

Cassini Specific 4th Order Pointing Models

- Name:
DSS-55 cas55.sem

SNT

- Enable X at DSS-55 only during occultation