About the Occultation

- S36 Rev 58 Rings and Saturn atmospheric occultation
  - Rings Occ: Chord Ingress, Saturn Atmospheric Occ: Ingress and Egress
  - Telemetry OFF, 1-way mode
  - Covered by Canberra and Madrid

- From Essam Marouf:

  The S37 Rev 58 RSS observations include a chord ring occultation as well as ingress and egress ionospheric and atmospheric Saturn occultations. The ring opening angle is 7.8 degrees. The ring occultation probes all major ring features (A, Cassini Division, B, and C) on the way in, but probes only Ring C and Ring B on the way out. The measured optical depth profiles will complement others measured at different longitudes and ring opening angle to help characterize radial and vertical ring structure. The ingress ionospheric and atmospheric occultations are mostly mixed with the rings. The egress ones are free of the rings and cover a high southern Saturn latitude of 67 degrees (near the top of the atmosphere). The egress occultations are part of a campaign of occultations during the last year of the prime mission that probe low, mid, and high southern latitudes of Saturn. Collectively, they will provide important information about physical properties of the neutral atmosphere and ionosphere over the southern hemisphere of Saturn.
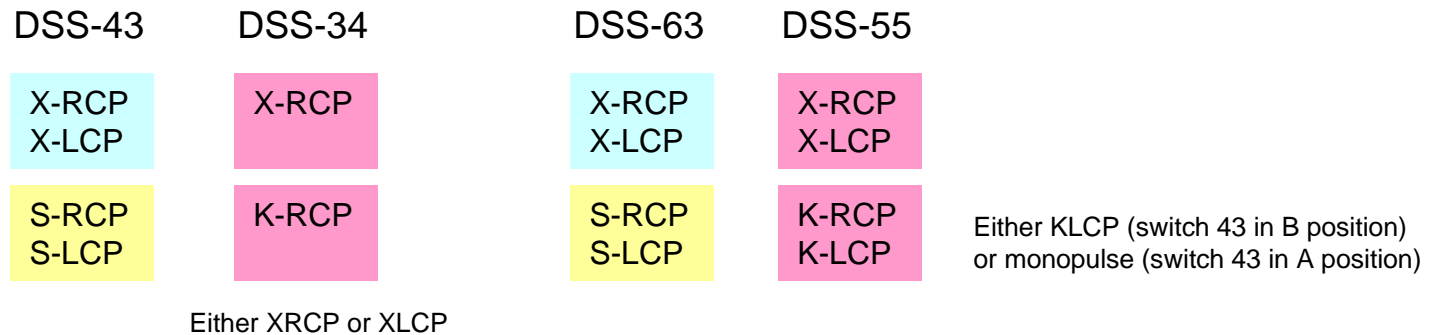
DSN Antennas

- DSN Coverage

Station	Pre-cal	BOT	EOT	Post-Cal
DSS-34	039/1445	039/1630	039/2020	039/2035
DSS-43	039/1530	039/1630	039/2020	039/2035
DSS-55	039/1805	039/1935	039/2040	039/2055
DSS-63	039/1835	039/1935	039/2040	039/2055

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

- Antennas Band and Polarization Capabilities

DSS-43	DSS-34		DSS-63	DSS-55	
X-RCP X-LCP	X-RCP		X-RCP X-LCP	X-RCP X-LCP	
S-RCP S-LCP	K-RCP		S-RCP S-LCP	K-RCP K-LCP	Either KLCP (switch 43 in B position) or monopulse (switch 43 in A position)

Either XRCP or XLCP

  - LCP data are enhancement. Prime are RCP

RSR/VSR/WVSR Assignment

Aseel: VOCA
Roberto: Displays

DSS	Operator	Station	Open-Loop Receiver	RSR Assignment
43	Danny	rsops1	RSR1	RSR1A -> XRCP
				RSR1B -> SRCP
63	Danny	rsops1	RSR1	RSR1A -> XRCP
				RSR1B -> SRCP
34	Elias	rsops2	RSR2	RSR2A -> XRCP
				RSR2B -> KRCP
55	Elias	rsops2	RSR2	RSR2A -> XRCP
				RSR2B -> KRCP
43 LCP	Don	rsops3	WVSR1	43 WVSR1A -> XLCP
				43 WVSR1B -> SLCP
63/55 LCP	Don	rsops3	WVSR1 & VSR1	63 WVSR1A -> XLCP
				63 WVSR1B -> SLCP
				55 VSR1A -> XLCP
				55 VSR1B -> KLCP

RSSG will be in RS Ops Room at 6:30 am on Friday 2/8/08 (039/1430)

ORTs

ORT on DOY 030 (January 30) over DSS-34, X- and Ka-band **completed**
08 030 0415 0515 1415 1430 DSS-24 CAS TKG PASS   3769 N006 1A1
08 030 1010 1140 1415 1430 DSS-34 CAS TP RSR57-OCCORT1 3770 N750 1A1
- DSS-24 was prime
- Nominal DSS-34 support
- Collected pointing data (monopulse) to update the 4th-order blind pointing model

ORT on DOY 033 (February 2) over DSS-34, X- and Ka-band **completed**
08 033 0315 0500 1405 1420 DSS-25 CAS TP RSR57-BORUSO2 3772 N748 1A1
08 033 0955 1125 1405 1420 DSS-34 CAS TP RSR57-PIM1 3773   N750 1A1
- DSS-25 was prime
- Nominal DSS-34 support
- Collected pointing data (monopulse) to update the 4th-order blind pointing model

ORT on DOY 006 (January 6) over DSS-63, X- and S-band **completed**
08 036 0345 0445 1345 1400 DSS-15 CAS TKG PASS 3775   N006 1A1
08 036 1000 1100 1345 1400 DSS-43 CAS TP RSR58-OCCORT3 3776 1639 1A1
- DSS-25 was prime
- DSS-43 verify S-band and X-band (RCP and LCP)

No ORTs over Madrid were conducted

Misc

Oscillations at DSS-55

Cassini Specific 4th Order Pointing Models
- Status
- Which model to use at Madrid (default?)

SNT
- Enable X only at DSS-34 and DSS-55 throughout
- Conduct SNT measurements

DSS-43 and DSS-63 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