About the Occultation

- S36 Rev 54 Rings and Saturn atmospheric occultation
  - Rings Occ: Ingress only, Saturn Occ: Ingress and Egress
  - Telemetry OFF, 1-way mode
  - Covered by Madrid

- From Essam Marouf:

  The S36 Rev54 RSS observations include a chord ring occultation (inbound and outbound occultations on the same ring side), as well as an ingress and egress ionospheric and atmospheric Saturn occultations. The ring opening angle of 6.6 degs is the smallest during the prime mission, hence the occultation will provide excellent sensitivity to ring structure of relatively small optical depth. The atmospheric occultations probe southern Saturn latitudes of about 16 and 68 degrees on the ingress and egress sides, respectively. The two 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, complementing several near-equatorial occultations earlier in the mission. They will provide important information about variability with latitude of the thermal structure of the atmosphere, Saturn's zonal winds, abundance of microwave absorbing species, and profiles of the electron number density of the ionosphere.

DSN Antennas

- DSN Coverage

Station	Pre-cal	BOT	EOT	Post-Cal
DSS-55	353/0045	353/0230	353/0710	353/0725
DSS-63	353/0130	353/0230	353/0710	353/0725

- 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   DSS-55

X-RCP   X-RCP
X-LCP   X-LCP

S-RCP   K-RCP   Either KLCP (switch 43 in B position)
S-LCP   K-LCP   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 WVSR1A -> XLCP
				63 WVSR1B -> SLCP
				55 VSR1A -> XLCP
				55 VSR1B -> KLCP

RSSG will be in RS Ops Room at 4:30 pm on Tuesday 12/2/07 (353/0030)

ORTs

ORT on DOY 345 (December 11) over DSS-55, X- and Ka-band   **completed**
07 344 2315 0100 1000 1015 DSS-55 CAS TP RSR53-OCCORT1 3719 N750 1A1
07 345 0000 0100 1000 1015 DSS-63 CAS TKG PASS SEQ   3719 N003 1A1
-    Nominal DSS-55 collected pointing data (monopulse) to update the 4th-order blind pointing model

ORT on DOY 350 (December 16) over DSS-63, X- and S-band
07 350 0715 0815 1715 1730 DSS-15 CAS TP RSR54-OCCORT2 3724 N749 1A1
07 350 0715 0815 1115 1130 DSS-63 CAS TP RSR54-OCCORT2 3724 1639 1A1
-    DSS-15 is prime for telemetry and uplink. S-band support
-    DSS-63 verify S-band and X-band (RCP and LCP)

Also, two GSEs were recently completed over DSS-55. Monopulse data were sent to David.
GSE Passes:
07 337 2315 0100 1030 1045 DSS-55 CAS TP RSR52-KADWN1   3712 N750 1A1
07 339 2215 0000 1045 1100 DSS-55 CAS TP RSR53-TIKDWN2   3714 N750 1A1 07

Misc

Cassini Specific 4th Order Pointing Models
- Name:

  DSS-55   cas55.sem

SNT
- Enable X at DSS-55 only throughout

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
- Status of DSS-63?