About the Gravity Observation

- S45 Rev93 Saturn Gravity Observation
  - Telemetry ON, Coherent mode (2-way and 3-way)
  - One Segments that includes Closest Approach (periapse)
  - Covered by Canberra (DSS-34) and Madrid (DSS-55)
    - Uplink from DSS-34

- Science Highlights – From Nicole Rappaport:

  The Rev93 Saturn gravity flyby is the third flyby of the Cassini mission, and the first of the Equinox mission, dedicated to the determination of Saturn's gravity field. RSS has already determined the coefficients J2, J4 and J6 with great accuracy. The Rev93 results will be combined with those of Rev28 and Rev68 to improve the determination of these coefficients. This will allow RSS to infer constraints on the interior of Saturn.

DSN Antennas

- DSN Coverage

Station	Pre-cal	BOT	EOT	Post-Cal	
DSS-34	321/1525	321/1655	322/0255	322/0310	*uplink*
DSS-55	322/0040	322/0210	322/0415	322/0430	

- Receivers scheduled
- 2 closed-loop receivers per BWG antenna
- Open-loop receivers
- Closed-loop data are prime. Open-loop data are backup
- LCP not required. Only RCP

ORT

All completed

- DSS-55, X & Ka-band on DOY 311 (11/6):

08 311 0230 0400 1300 1315 DSS-55 CAS TP RSR92-GRVORT1 4051 N750 1A1

- Also prime tracking pass
- Nominal monopulse
- No oscillations visible, but only beginning of pass was monitored in real-time

- DSS-55 and DSS-34, X & Ka-band on DOY 312 (11/7):

08 312 0835 1005 1405 1420 DSS-55 CAS TP RSR92-GRVORT2 4052 N750 1A1

08 312 1030 1130 1915 1930 DSS-14 CAS TKG PASS 4052 N003 1A1

08 312 1555 1725 1915 1930 DSS-34 CAS RSS ORT 4053 N750 1A1

- DSS-14 prime tracking pass
- Nominal monopulse

Misc

- No Gravity Science Enhancement (GSE) passes around this gravity observation
- Pointing Plan
  - Use Monopulse throughout
  - Watch for early monopulse enable (low elevation angles) at Madrid
- SNT
  - Enabled at all throughout
- DSS-55 Oscillations
- LQG Coefficients?
  - Short DSS-55 support
  - At BOT (0210), AZ is 87.8 degrees. At EOT (0415), AZ is 109.5
    - Less than 260 degrees. Can us LQG if needed
- SPS Predicts
  - Unramped?