About the Gravity Observation

- S56 Rev124 Saturn Gravity Observation
  - Telemetry ON, Coherent mode (3-way and 2-way)
  - One Segments that includes Closest Approach (periapse)
  - Covered by Canberra (DSS-34) and Madrid (DSS-55)
    - Canberra for uplink only

- Science Highlights

  The Rev124 Saturn gravity flyby is the fourth flyby of the Cassini mission, and the second 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 Rev124 results will be combined with those of Rev28, Rev68 and Rev91 to improve the determination of these coefficients. This will allow RSS to infer constraints on the interior of Saturn.

DSN Antennas

- DSN Coverage

		Pre	BOT	EOT	Post							
10	010	2050	2220	0020	0035	DSS-34	CAS	TP	RS124-SAGRV1	4483	N750	1A1
10	010	2220	2350	0830	0845	DSS-55	CAS	TP	RS124-SAGRV1	4483	N750	1A1

DSS-34 for uplink only

- 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

RSSG will be in Ops Room at 12:30 pm on Sunday, Jan 10th (010/2030)

ORT

Completed

DSS-55, X & Ka-band on DOY 004 (1/4, 3 local):
10 003 2325 0100 0645 0700 DSS-55 CAS TP RS124-USOORT1 4476 N750 1A1
10 003 2330 0100 1000 1015 DSS-54 CAS TP RS124-USOORT1 4476 N748 1A1

- Also USO Characterization activity
- Nominal monopulse
- Ka-band power fluctuations at both stations – Due to weather?

Remaining

DSS-34, X & Ka-band on DOY 008 (1/8):
10 008 1315 1445 2345 0000 DSS-34 CAS TP RS124-GRVORT2 4481 N750 1A1

- Also prime tracking pass

Misc

- Outbound only Gravity Science Enhancement (GSE) passes – No inbound

10 011 2300 0030 0930 0945 DSS-54 CAS TP RS124-SAKDWN1 4484 N748 1A1
10 011 2330 0030 0930 0945 DSS-63 CAS TKG PASS 4484 N003 1A1

- Pointing Plan
  - Use Monopulse throughout
  - Watch for early monopulse enable (low elevation angles) at Madrid
- SNT
  - Enabled at all throughout
- DSS-55 uplink
- LQG Coefficients?
  - At BOT (2350), AZ is xxx degrees. At EOT (0830), AZ is xxx
    - Can use LQG if needed?
- Ramped SPS Predicts