

Subject: Rev 280 RSS Observations - Status
Date: Friday, June 23, 2017 at 7:30:22 AM Pacific Daylight Time
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To: rss@cgsa.jpl.nasa.gov
Attachments: GravityWave.mov

Hello All,

We're over half way through the Rev 280 observations and so far so good! Periapse was about 2hrs ago. The peri rings occultation completed successfully.

We completed tracks at Madrid (DSS-55), Malargue (DSS-84), and Goldstone (DSS-25). Canberra's DSS-35 and DSS-43 are currently tracking. DSS-35 was tracking in 2-way mode during the periapse period.

A few things to report:

- DSS-55 enabled Conscan for about 25 minutes at the beginning of the support to improve the pointing. A 1.35 jump in X-band signal power was observed. Conscan was disabled and the offsets were kept. When Ka-band was powered on a few minutes later and Monopulse was enabled, no jump in signal power was observed. This took place during the 1-way period before the official start of the gravity observation.
- When Monopulse was first enabled at DSS-25, a 2.9 dB jump in signal power was observed indicating that the pointing model was degraded.
- DSS-25 Ka-band signal levels were slightly fluctuating, likely due to high winds. Some fluctuations were also observed at DSS-35, also likely due to winds.
- Canberra's DSS-35 transmitter on time in the RSS timeline was before the transmitter on limit. The uplink transfer from DSS-25 to DSS-55 was moved from 0720 to 0739. No impact to science.
- There were a couple of brief periods during Ring B when the DST lost lock and we switched to 1-way.
- The large frequency drifts that were observed during the previous observation (Rev 278) were not observed this time. The largest drift at Ka-band was ~15 Hz compared to ~5 KHz during Rev 278! All signals remained within the 1 KHz recording bandwidths throughout the peripase period.
- The DSS-43 S-band spur crossed the recording bandwidth during the peri occultation inbound baseline. It was present for 5 minutes and drifted outside the 16 KHz recording bandwidth ~20mins before Ring C in.

A few project people (Kathryn Weld, SPST, SCO) joined us in the ops room to watch the peri rings occ ... at 5 am on RDO Friday!!! Trina ("RSS Emeritus") organized it. Marty Brennan (SPST) had Cosmographia running in real-time showing the occultation. They cheered and did a "gravity wave" at the end of the peri ring occ :) Movie attached.

I'll keep you posted.

Regards,
Aseel