

STEREO MOC Status Report

Time Period: 2023:023 (Jan 23) - 2023:029 (Jan 29)

STEREO Ahead (STA) Status:

1. The following Ground System anomalies/events occurred during this reporting period:

- On day 024 (Jan 24), during the DSS-25 support, the antenna was declared red, due to a mechanical problem. Maintenance fixed the antenna just prior to EOT and the MOC received seven minutes of telemetry. This anomaly resulted in the loss of 1.3 hours of real-time telemetry and command. The canceled DSN DTT v15.1 PIT is rescheduled for day 044 (Feb 13). See DR #G123443 for more information.
- On day 025 (Jan 25), the APL 18 meter antenna successfully performed a track from 1840z to 2000z to analyze the downlink performance at the 160 Kbps and 240 Kbps rates. The 160 kbps downlink locked with 4.8 dB margin and 240 Kbps downlink locked with 2.4 dB margin. The test confirmed the link margin calculations and that the 18 meter antenna can downlink at the 720 Kbps rate at a distance less than 20,000,000 km.
- On day 027 (Jan 27), during the DSS-36 support, turbo decoder lock was lost briefly at 1009z. This anomaly resulted in the loss of four frames of SSR data. The MOPs team repositioned the SSR pointers during the subsequent DSS-26 track and recovered all the affected data. Also, ranging dropped lock unexpectedly at 1043z to 1048z. See DR #C117063 for more information.

2. The following spacecraft/instrument events occurred during this week. The Ahead observatory operated nominally during this week.

- On day 026 (Jan 26), the 153rd momentum dump was executed successfully at 1500z, which imparted an estimated delta V of 0.060 m/sec. This was the 72nd momentum dump conducted without gyro use. After thruster operations completed, there was a 0.5 degree of roll angle error. Fine pointing stabilized 3.2 minutes after completion of the momentum dump.
- As of day 029 (Jan 29), all PLASTIC systems are behaving well, except there is a moderate background count rate, which the team is continuing to monitor.
- The average daily science data return for Ahead was 6.2 Gbits during this week.