STEREO MOC Status Report
Time Period: 2007:351 - 2007:357

STEREO Ahead (STA) Status:

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

- None.

2. Ahead spacecraft performance continues to be very good with all subsystems performing nominally. IMU 2 continues to be used nominally on the Ahead spacecraft. The following list summarizes the spacecraft/instrument events which occurred during this week:

- The average daily SSR playback volume for Ahead was 6.9 Gbits during this week.
- On day 354, the 10^{th} momentum dump on the Ahead spacecraft was successfully conducted at 14:00Z. Due to the momentum dump, the PLASTIC partition did not complete it’s second playback attempt resulting in the partition space not being re-allocated as free. This resulted in approximately 12 hours and 30 minutes gap in the PLASTIC data beginning at 355-02:34Z.

STEREO Behind (STB) Status:

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

- On day 353, during the track with DSS-55, the station was unable to bring up the command link as the transmitter was locked out due to a temperature alarm. Maintenance was called in and the problem was resolved and two way communication established one hour and 49 minutes after BOT. Approximately 10 minutes of SECCHI data (ApID 400 from 353-12:06-353-12:16) was lost during the uplink sweep. DR #M104568 was written on this problem.
- On day 354, approximately 2 hours prior to the track with DSS-45 at 06:00Z, the DSN Ops Chief called to inform MOPS that the station was down and the track would not occur. Telemetry was actually received at the MOC at 09:09Z giving approximately 51 minutes of telemetry. No SSR data was lost.

2. The Behind spacecraft experienced a significant Star Tracker anomaly this week on day 355. The following list summarizes the spacecraft data return and the star tracker anomaly which occurred during this week:

- The average daily SSR playback volume for Behind was 5.9 Gbits during this week.
- On day 355 at 10:10Z the star tracker went into Init mode due to currently unknown reasons. Autonomy rule 62 promoted the star tracker to standby mode followed by rule 63 executing every 25 seconds unsuccessfully trying to promote the star tracker to AAD mode. Following 4 hours without a star tracker solution, autonomy rule 28 executed switching telemetry to the –Z LGA at a data rate of 11 bps. At this time, Mission Operations raised the data rate to 633 bps for investigation of the anomaly. Review of the black box data and several dumps of star tracker related ApIDs did not reveal a cause of the star tracker anomaly. Throughout this time the spacecraft remained in Operational, Fine Sun Pointing mode due to the Guide Telescope remaining on the Sun and the IMU propagating the roll from the last star tracker solution. A plan was put in place to remain at 633 bps on the –Z LGA outside of contact and bring the data rate to the maximum supportable on the HGA during each track to dump the SSR data before returning to 633 bps at the end of each track. On day 357, during the procedure to return to the HGA, when the command was issued to G&C to use the star tracker, autonomy rule 63 executed again as expected, but this time the star tracker promoted to AAD mode and successfully got a solution remaining in AAD mode for the remainder of the track. Being cautious, the decision was made to return to the –Z LGA at 633 bps at the end of the track and continue the manual promotion to the HGA and 720k during each ensuing track and continue to investigate the performance of the star tracker. Throughout this time the instruments continued to collect science data and the SSR was played back for as long as possible. Instrument data (primarily SECCHI) was lost each day, with approximately 60% returned through this period.