SSC Support for Sim #3

• Archived MOC Data Products, and distributed via web.
  – Level-0 telemetry files organized by year and month
  – SPICE orbit and attitude files processed, organized, and put into SolarSoft

• Archived processed instrument data
  – Served on web as organized by instrument teams

• Processed beacon data and served on web
  – Produced plots and images on web in real-time

• Practiced science planning process
  – Served current plans, DSN schedule summary, and minutes from planning telecons
SSC Beacon Processing

- Beacon telemetry ingested from MOC
  - Setting filter parameters to “ALL” led to duplicated packets during DSN passes—affecting SECCHI beacon processing
  - Have updated software to overcome this problem

- Beacon processing software delivered by instrument teams
  - Single IDL program processes IMPACT, PLASTIC, and SWAVES telemetry from both Ahead and Behind observatories
  - Separate multistep process for SECCHI images
    - ITOS (C) program collects together packets forming an image
    - IDL procedure with C subroutines decompresses telemetry and generates FITS files
    - Separate processing strings for Ahead and Behind

- Web displays of data are generated by IDL programs in real time from processed data files

- Recordings of beacon telemetry during the simulation will be used to develop and test antenna partner software
SSC Beacon During Sim #3

Realtime beacon images and in-situ plots processed and on the web within seconds of telemetry receipt.
SSC Sim #3 Science Planning

- Practice of science planning process during Sim #3.
- Maintained online page of current science plans based on input from advanced planning, and weekly planning telecons.
- Generated minutes of weekly telecons, distributed, and put on web.
- Included replanning to meet changing instrument needs.
SSC Sim #3 Sample Science Plan

M Mar 06 (W10)  Ahead: DFD testing
T Mar 07  Start of Mission Sim #3  (simulated DOY 303)
W Mar 08  Ahead: Beacon test, Turbo 1/6  (304)
T Mar 09  Ahead: SECCHI Calibration roll, 05:54-13:30 UT  (305)
           Behind: SECCHI Calibration roll, 11:54-17:30 UT
           Ahead: Beacon test, Conv 1/2
F Mar 10  Behind: Momentum Dump  (306)
           Both: IMPACT stimulus test, 00:00 UT
           Ahead: Beacon test, Conv 1/6
S Mar 11  Ahead: IMPACT/PLASTIC software & table loads  (307)
           Behind: SECCHI software load
S Mar 12  Ahead: SECCHI software load  (308)

Notes:
* Momentum dump duration, for impact on the instruments, is about 5 minutes.
  On the Weekly Schedule and Track Plan, it will show up as an hour due to
  catalyst bed heating. The actual thrusting will occur at the end of the
  hour.
* SECCHI software loads take ~1 hour
* IMPACT/PLASTIC software and table loads take ~1 hour total

Other activities for Week 10:
*

Planners for Week 10:
IMpACT    -- TBD
SECCHI    -- Simon Plunkett
LASCO     -- Ops Team
TRACE     -- Jonathan Cirtain
PLASTIC   -- Mark Popecki
SWAVES    -- Keith Goetz
EIT       -- Jack Ireland
Telemetry and Attitude History Files

• Attitude history files produced for Sim #3 had gaps in them, with durations of several hours.

• Upon investigation, it turned out that S/C C&DH Level-0 telemetry files had the same gaps in them, at least for most APIDs.

• *Have the instrument teams noticed any missing telemetry in the Level-0 files from Sim #3?*
  
  – No several-hour gaps evident from looking at APIDs.
Sim #3 Discussion Items

- Realtime telemetry
- Level-0 telemetry files
- MOC data products
  - Mirroring by instrument teams
- SSCC planning pages
- Fresh start of databases for launch