STEREO Project

Ron Denissen – APL Project Manager
Dan Wilson – APL Mission System Engineer
STEREEO Phase E Organization Chart

Mission Director
D. Quinn
Mission System Engineer
Josephine San

Project Manager
R. A. Denissen

System Engineering
D. Wilson

Subsystem Lead Engineers

Mission Operations
D. Ossing

Mission Operation Team

FDF

DSN Technical

DSN Scheduling

Payload Operations Teams

Science Teams

Project Scientist
J. Gurman

SSC
W. Thompson

GSFC

APL

JPL

NRL, UCBerkeley, UNH, UMinn

CS

APL

NSS
Program Status

- **Operations**
  - Began automated unattended tracks April 30, 2007
  - Operations team is 6 full time staff. Total manpower is approximately 11 MM/M
  - Downlink rates: Varies, 720 to 160 Kbps depends on antenna size and track elevation
  - Switched MOC to CCSDS SLE telemetry standard in July 2011
  - Began using ESA stations (35 meter) in January 2012
    - Due to very high DSN loading
    - Approved through December 2012
  - Mission operations center still collecting 4 – 5 Gbits per day in support of the science mission.

- **Special Observatory Events**
  - Spacecraft are 230 degrees apart
  - >110 instrument calibration events and roll events
  - 30 High Gain Antenna Calibrations (every 6 months)
  - 84 Momentum Dumps (~every 6 weeks on both spacecraft)
DSN Interface Changes

2011
❖ Jan - DSN Service Scheduling Software Implementation
❖ May - SLE TLM Implementation
❖ Jun - 160 kbps Rate Change – AHEAD (both S/C, 8 hr tracks)
❖ Jul - 160 kbps Rate Change – BEHIND

2012
❖ Nov - 120 kbps Rate Change – BEHIND

2013
❖ May - 120 kbps Rate Change – AHEAD
Issues and Concerns

- ST anomalies on both spacecraft.
  - Last occurrence, April 10, 2011, on AHEAD
- Increasing track lengths cause more data gaps.
- Aging spacecraft and ground system
  - Wheel noise
  - Blanket deterioration
  - Ground system replacements
- APL current contract expires in September of 2012. Two options exist
  - 1 year proposal to align with science authorization from Senior advisory Board
  - 2 year proposal as we have been doing.