

STEREO Project

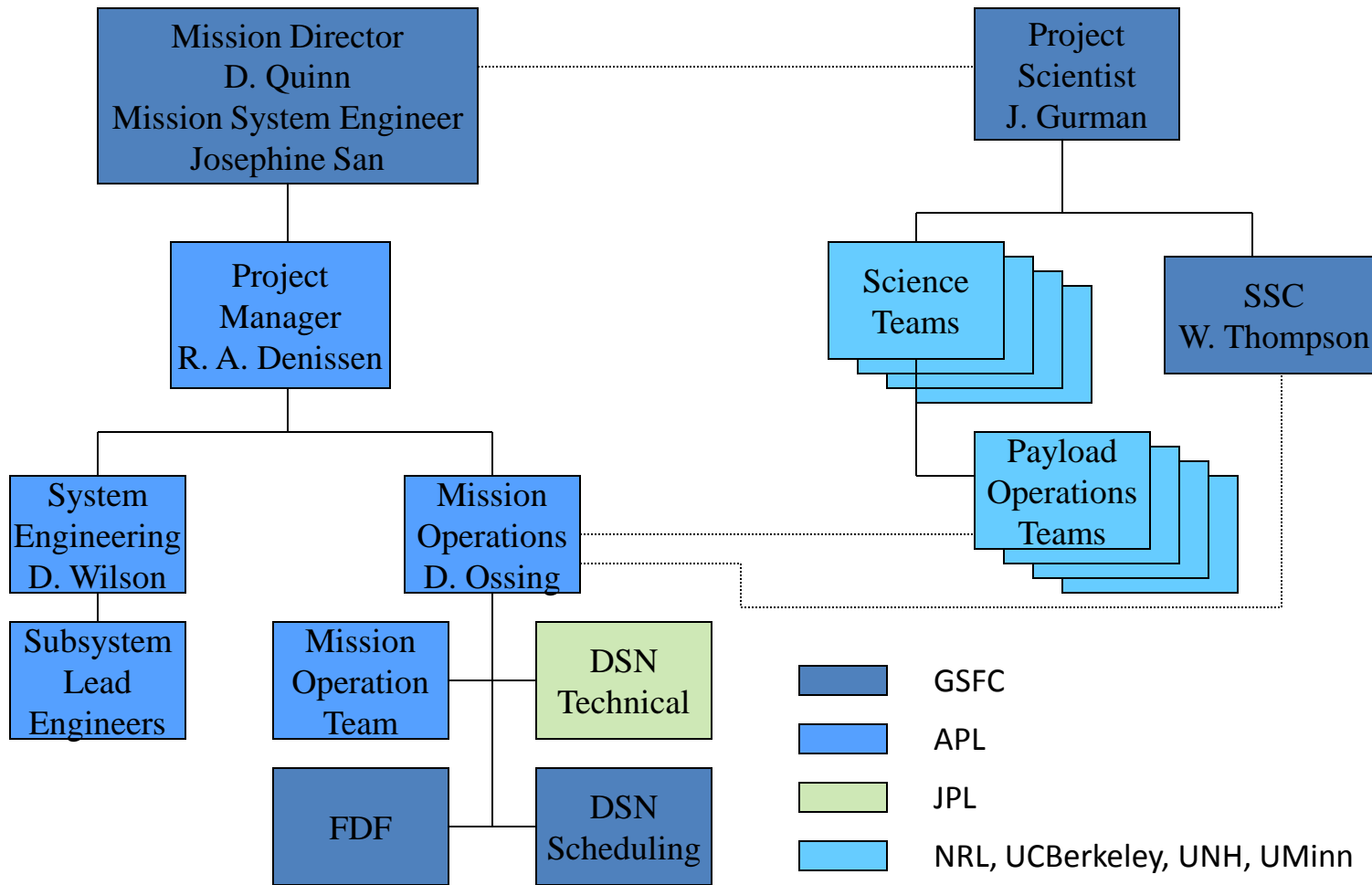
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APL

JOHNS HOPKINS UNIVERSITY
Applied Physics Laboratory

STEREO Phase E Organization Chart



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.

