FUSE Mission Status

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FUSE Mission Status

- Operations continued nominally with the modified 2 RWA+ MTB control system through the end of Cycle 3.
  - Target pool (available targets) started getting thin toward end.
  - Started pulling in selected Cycle 4 observations during Feb-Mar 2003.
  - Ram angle has been reduced to 10 degrees; any further decrease dependent on solar cycle behavior.
- Development, Testing, and Implementation of “Gyroless” operations system dominated activities since last FOAC (talk later by Jeff Kruk).
  - Testing phase took longer than expected, but
  - Implementation (started 4/16/03) has gone very smoothly!
  - Back doing science in <1 week.
- FUSE (the project and the satellite) appear ready to support Extended Mission Operations!
Recent Performance

Statistics for Oct. 2002 - Mar. 2003:
- 26 weeks
- Total science time: 4,403.8 ks (28.0% efficiency)
- Primary science time: 2,755.4 ks (17.5% efficiency)
- >482 Ks of D-programs scheduled prior to official Cy 4 start.
  - ~255 ks prime science time, 227 ks survey time.
- Somewhat lower than previous 6 month period, but consistent with mission average for the PM.
  - Includes “lost week” in December from RWA hiccup.

Calibration status:
- Sensitivity remains excellent; no degradation from “Ram dipping.”
- Wave cal and resolution/focus checks: no change.
## Prime Mission Summary

### Summary of Executed Programs

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Unique Objects</th>
<th># of Science Observations</th>
<th>Total Time (Msec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>632</td>
<td>883</td>
<td>8.824</td>
</tr>
<tr>
<td>2</td>
<td>553</td>
<td>676</td>
<td>9.049</td>
</tr>
<tr>
<td>3</td>
<td>562</td>
<td>771</td>
<td>10.893</td>
</tr>
<tr>
<td>Total</td>
<td>1747</td>
<td>2330</td>
<td>28.767</td>
</tr>
</tbody>
</table>
Transition to Extended Mission

- EM officially began April 1, 2003.
- We have yet to transition to EM operations, due to the ZG preparations, load, and testing.
- SCC automation is largely in place and tested.
  - UPRM contacts with satellite automated.
  - SCC staffing will be reduced this summer, and we will quickly transition to ~16 hour/day M-F staffing (instead of 24/7).
  - Automated paging system during non-staffed hours.
- Impacts to Operations: Nominally will only respond off hours to “Health & Safety” issues.
  - “Saving science” is not Health & Safety!
  - Larger down times (increased “lost science” periods).
  - More rescheduling of missed targets.
EM: Impacts to Operations

- Any operational activity requiring real time/near-real time contacts will be adversely affected.
  - UPRM pass schedule shifts wrt staffers periods.
    - May be partially offset by continued TDRSS support.
    - No USN/Hawaii station usage for normal operations.
  - Increased latency in archiving/processing data, esp. after weekend and holiday periods.

- **Channel alignment strategy.**
  - Standardize alignments to mid-week?
  - Longer lag time between taking and reacting to alignment data.
  - May have to accept periods of less than optimal channel alignment. (Depends on target pool and timing.)
Recoveries from Anomalies

- **Abort-obs:** A thing of the past? (mitigated)
  - Failed acqs may result in lost exposures, but we stay on the T/L.
- **Attitude recoveries** (from Inertial Hold or Safe-B-dot).
  - ZG testing to date: frequency of these anomalies should be low.
- **Detector anomalies** (crackles, SEUs, etc.).
  - Recovery requires manual intervention.
  - Typically affects 1 detector at a time, but
  - Each recovery could take 1-3 days, depending on timing of event.
  - In principle, recovery could be automated, but
  - “Development” and “EM” are not synonyms.

- **Reduced opportunities for scheduling high risk or special operations.**
EM Staffing Changes

- JHU Program Manager, J. B. Joyce, stepping down 6/6/03.
  - Randy Ewing -> Program Mgr., new Resource/budget person.
- SciOps staffing has decreased/is decreasing.
  - Scott Friedman (not replaced).
  - Dave Sahnow (0.5 FUSE, 0.5 COS).
  - Damian Christian leaving at end of May.
- SCC staffing changes:
  - MOT Mgr Chris Silva phasing out (Steve Vaclavik taking over).
  - Harry Anderson left end of April.
  - Satellite engineers to be decreased by two.
- Contractor support going/gone.
  - AURA/STScI gone. ICS (Howard Calk) gone.
  - Orbital support phasing out this FY.