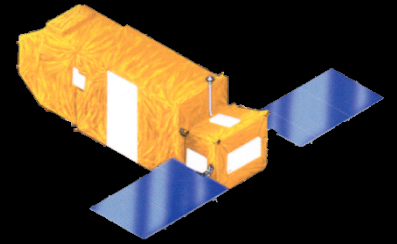


**FUSE**

JOHNS  
HOPKINS  
UNIVERSITY

FOAC Meeting-May 14, 2003



# FUSE Mission Status

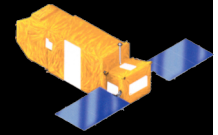
Bill Blair

FUSE Deputy PI

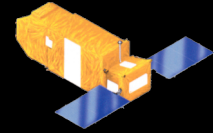
Chief of Observatory Operations

5/14/03

# FUSE Mission Status



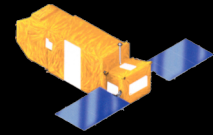
- FUSE PM concluded March 31, 2003.
- Operations continued nominally with the modified 2 RWA+ MTB control system through the end of Cycle 3.
  - Target pool (available targets) started getting thin toward end.
  - Started pulling in selected Cycle 4 observations during Feb-Mar 2003.
  - Ram angle has 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.

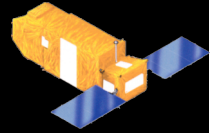
# Prime Mission Summary



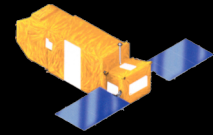
Cycle	Unique Objects	# of Science Observations	Total Time (Msec)
1	632	883	8.824
2	553	676	9.049
3	562	771	10.893
Total	1747	2330	28.767

- Summary of Executed Programs

# Transition to Extended Mission

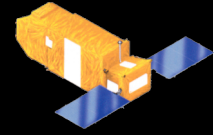


- EM officially began April 1, 2003.
- We have yet to transition to EM operations, due to the ZG preparations, load, and testing.
- SCC automation is largely in place and tested.
  - UPRM contacts with satellite automated.
  - SCC staffing will be reduced this summer, and we will quickly transition to ~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.



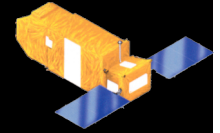
# EM: Impacts to Operations

- Any operational activity requiring real time/near-real time contacts will be adversely affected.
  - UPRM pass schedule shifts wrt staffed 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.)



# EM: Ops Impacts, con't.

- **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 Sahnou (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.



