

FOAC Meeting Notes
FUSE Observer's Advisory Committee
Minutes for Meeting No. 13
October 25, 2005
Johns Hopkins University

Attendance:

Ed Fitzpatrick, Michael Crenshaw, Cynthia Froning, Jay Holberg, Evan Skillman, Nicole St-Louis, Ken Sembach, Sumner Starrfield
William Blair, Mary Beth Kaiser, B-G Anderson
George Sonneborn, Jeffery Hayes

Status of the New FUSE Observatory – Blair (JHU)

FUSE switched to the FES-B in mid-July and consequently pointing is now maintained with respect to the LiF2 channel. This should have little impact on LWRS observations. The LiF2 FPA was refocused and there may be some impact on MDRS observations. Several programs were implemented to address the lack of approved targets in the accessible regions of the sky. These included S605/S705, sets of predefined background positions, and 'U' programs consisting of ~600 previous FUSE targets to be available, when needed as standardized 8 ks observations. Several improvements were made in the management of spacecraft angular momentum, including tools to predict the rates of angular momentum build up as a function of sky position and more aggressive use of roll-offsets to manage momentum. The testing of the new ACS code was begun on Sept. 14-20, the on-orbit testing and debugging required approximately one month. The UPRM ground station has been down since mid-August and Wallops and TDRSS have been used in the interim.

The number of science observations has remained limited. For example, in August only about 30% of available time was scheduled and a total efficiency of only 8% was realized. Time lost was mostly due to the spacecraft being in the nadir-pointing LVLH safe mode and the time needed to recover from such safe modes. Several changes have been implemented to improve this situation including, an improved ability for rejecting bad fine pointing data (which can lead to safe modes), improved use of roll offsets to optimize momentum management, and better graphical planning tools to more efficiently schedule observations.

The prospect for the resumption of a high level of science observations, in restricted areas of the sky, was highlighted and a declaration of a readiness to return to science observations was made. This will be followed up with announcements to the community and postings on the FUSE website.

FUSE GI Program Status: Sonneborn (GSFC)

Cycle 7 resulted in 81 proposals requesting 7156 ks of standard observing time (10.5 Msec total, including survey proposals) and 431 targets total. The current scheduling priorities were summarized and plans for Cycle 7 peer review were discussed. The backlog of Cycle 2-5 observations was reviewed and the process of evaluating which programs can be realistically completed was discussed. A detailed review of the science observations made by FUSE since June was presented, including both attempted and successful observations. The programs and PIs were noted and the procedures for the selection of observations were discussed. The FOAC was satisfied that proper procedures are being followed in target selection, given the constraints that the spacecraft is operating under and the existing availability of targets. The Project Scientist noted NASA's continued support and encouragement of the FUSE recovery effort.

FUSE AAS Winter Session: B-G Andersson (JHU)

The Victoria FUSE proceedings are completed and in the hands of the publisher. An AAS FUSE special session will be held on Thursday January 12, along with an associated poster session.

FUSE Data Calibration, Reduction and Archiving: Van Dixon (JHU)

Van Dixon reported that the CalFUSE v3.1 pipeline was released in September and MAST has successfully ingested a set of CAIFUSEv3.1 files. Routine processing of observations with CalFUSE v3.1 has already begun. New web pages for CalFUSE v3.1, FUSE tools in C, FAQs and an updated Data Analysis Cookbook have been posted. The PASP paper describing the FUSE data system and CalFUSE v3.1 is nearly ready and volunteers to read and comment on this are solicited. Except for 2000, all FUSE data in the MAST archive have now been processed with CalFUSE v3.0. Reprocessing of all data in CalFUSE v3.1 is expected to be complete in Sept. 2006.

FOAC Discussions:

The FOAC spent considerable time discussing the impact of the attitude control system problems on the mission's potential sky coverage and science capabilities. One outcome of this discussion was a unanimous FOAC recommendation that observations, which are clearly no longer tenable be purged from the list of active targets and that these programs be either declared compete, if some observations have been obtained, or terminated. Plans for the 2006 Senior Review Proposal were also discussed. A schedule for the preparation of the Senior Review was outlined.

FOAC Recommendations:

The FOAC recognizes the extraordinary effort being made by the FUSE project in reacting to the spacecraft attitude problems that have occurred during the last year. We welcome the return of FUSE to a schedule of scientific observations.

Action Items:

- The FUSE Project will conduct an assessment of the feasibility of long observations (> 200 ks as a baseline).

- The FUSE Project will update web pages and newsletter to highlight New FUSE observing modes and capabilities.
- The FUSE Project should make an effort to keep track of the cumulative exposure time on long exposure targets.
- The FUSE Project should review the criteria for completion of a program.
- The Project Scientist will clear the observing list of all pending observations below absolute declinations of 50° . Letters will be sent to PIs of canceled programs. Those with partially completed programs should be notified of their completion.
- The Project Scientist will determine what is to be done with high Dec. targets which have long exposure times that are currently on the observing list and whose scientific objectives may be difficult to fulfill.
- The Project Scientist will seek two new members of the FOAC.