

Minutes for FUG Meeting, May 25, 2009, telecon

In attendance: FUG Members: Matthew Baring, Buell Jannuzi, Don Kniffen, Henric Krawczynski, Alan Marscher, Scott Ransom, Pat Slane, Alicia Soderberg, Jim Ulvestad
Others: Ilana Harrus, Julie McEnery, Bill Paciesas, Steve Ritz, Chris Shrader, Elizabeth Ferrara

Alan opened the meeting with a welcome to those attending, then asked Julie about current Fermi status.

Julie: Several reboots on the observatory. March - LAT processor started cascade to rest of LAT and S/C. Since then there have been two more, in May. We believe we understand root cause. Will be patching in the next week or so. Appears to be due to an incomplete mitigation of known erratum. Addressing root cause that led to other processors rebooting. Fully recovered and will soon be protected against repeats. Continuing to monitor battery performance. Just completed a 2-week 39-degree rocking test. This profile cools the battery and allowed us to explore a different thermal environment. Currently, we're reviewing fault checks. Monitoring potential collisions with space debris. Nothing to date has been close enough to cause us to consider maneuvering out of the way. However, we are using close events as an opportunity to exercise the maneuver planning process.

So, the observatory is operating smoothly. High data capture rate. FOT has been great in supporting LAT reboot recoveries quickly. We originally enabled Autonomous Repoints in autumn. In March, we had 2 bright, long-lasting bursts. In both cases the autonomous repoint requests brought the burst into center of FoV. These were the first examples of ARRs enabling good LAT observation. In May the first LAT GCN notice was issued.

Steve: LAT Status. Going very well. Resets have been understood and soon to be mitigated. Otherwise the instrument is in great shape. Recent results were presented at the APS meeting and the electron spectrum results have been published. There are a huge number of other results, with 20-ish papers in the pipeline at any one time. The LAT team continues to release monitored source list information. LAT will reduce the threshold for releasing light curves, as was requested at the last meeting.

Pat: What is the new threshold?

Julie: Not just lowering the threshold for flaring sources. Now any source that flares above $1e-6$ (for energies above 100 MeV) will be added to the list, and will stay once added. This is also retroactive. Will immediately add 12 new sources. The complete light curve will be available for every source in the list.

Alan: Still hard to find a source by using Browse.

Julie: That situation has been recently changed.

Chris: Yes, we are fixing a problem with the naming convention. Note that in addition to the Browse table there is a simple web-based table.

Julie: About to release a blog describing the gamma-ray sky. Will include link to easy-to-browse table.

Steve: I would suggest the FSSC pick a few FUG members to test the browse table once the updates are complete.

Chris: That's reasonable. Also changed times to JD as a response to suggestions.

Steve: The LAT team is working hard toward the first-year data release.

Bill: GBM status. Going very well. As of a few days ago, there had been 445 triggers. 220 are GRBs. Of the remaining number, 166 were SGRs, and small number were TGRs (13). Only 31 are classified as "nuisance" triggers. These would be accidental triggers or particle activity. Interested in improving on-board classification, especially TGRs. Have FSW revision in the works. This will be the first case where we classify TGRs on-board. Lots of science interest in atmospheric science community about these flashes. Operations are going well. Main problem is some sun-side detectors running hot. At worst-case solar beta angle, running close to max allowed temp. Don't think it's a problem...can operate safely above that level, we think. In order to prove it, we're running a flight spare up to 60C to verify no issue there. If true, we will raise the operational limits.

Scott: What module?

Bill: NaI module. Technically we don't need all of them to continue science. All on sun-side running warm. That particular module is running the warmest. Causes alarms in the operations center creating a nuisance for them.

Steve: The mitigation is to turn off the module. Does that reduce the temperature?

Bill: Only a little. If we don't do anything on the ground, the spacecraft will turn it off, and it will turn off more than is needed (all three in one cluster). We want to raise the on-board limit. But we want to feel comfortable doing that, hence the test.

Chris: Cycle 2 proposal review. The scientific evaluation was completed a week ago. Final selection is pending headquarters evaluation. 80-ish proposals are likely to be selected, including 3 large proposals. We discussed this extensively in the plenary. One concern was that we awarded many in cycle 1, so we had a substantial obligation. We don't want that to grow too significantly. 40%-ish are data analysis proposals. A little less are correlated studies, and the rest are theory. Next time we should consider streamlining the number of proposal types. There were a few issues we can't address here, but should discuss at the next F2F meeting. The number of proposal types, level of detail required in the management plan, etc. Everyone seemed pleased with the quality of the proposals and the review committees. 40%-ish will be selected, so obviously some good ones will be turned away.

Illana: Selections will be completed by the end of next week. Trying to keep everything in people's memories for the budget review process.

Chris: Would like to acknowledge our NRAO/NOAO colleagues. Very good technical reviews. Very few questions needed. 207 proposals were submitted, including progress reports. Grew by 25% over the number from cycle 1.

Julie: That number is likely to grow significantly once people know how to deal with data analysis. Something of a learning curve in the community.

Illana: One example of this was of someone proposing for pointed when it was not necessary.

Steve: Good to have as a point of discussion at a future FUG meeting. People are unsure what to do because these are not gamma-ray observers. Perhaps with the symposium and the public data release this will solve itself.

Chris: It is typical for missions to peak in year 3-4 (this was the case for CGRO)

Scott: When the non-instrument papers start to come out, it will open the floodgate.

Julie: There were a number of proposals from non-gamma-ray people, which is a good sign. One last comment: This cycle was larger than cycle 1. A few months before the review, David Band passed away. A large part of the success of the review was Chris taking this over, and we should thank him for doing a great job.

Alan: Always very calm and under control.

Alan: Anything on GBM data release? Going smoothly?

Bill: No update on that. Straightened out some issues with the data delivery. Still behind on some things.

Chris: Issues with the data pipeline have mostly been worked out. We have a weekly telecon with GBM team. The data is now flowing much better. Some data products require human-in-the-loop, so they naturally take longer than automated products. Several new pieces of software are soon to be delivered; the response matrix generation tool, and RMfit software, which is analogous to XSPEC and tailored for the GBM.

Alan: Fermi science tools release?

Chris: The FSSC initial release was in February. Some fixes have been made in response to feedback we have received. The next release is scheduled for August 10th. The exact schedule for LAT data release is still unclear. Prepared for that. Routinely receive LAT data, just not visible externally. Will replace existing archive with reprocessed data. Physical archive is being moved, but will be done well before this milestone.

Alan: Will SW include suggested threads?

Chris: Already analysis threads from the Feb release. Still making improvements to that. User feedback is ramping up. We didn't see a lot of evidence in the proposals that people were using the tools. Internal to the project, the tools are being hammered on.

Steve: The tools were only released 5-6 weeks before the deadline, so that's not surprising. Any idea how many people have downloaded the tools?

Chris: Others can answer that better than I. My guess, based on help desk queries is between 10 and 20.

Julie: Shortly, there will be a release that contains the updated instrument response functions, improvements in understanding with the current analysis. By August, there will have been an iteration in the event selection. To analyze the data you will need an updated version of the software. If people have downloaded the Science Tools previously, they will need to update before they use them.

Steve: We did have the idea of using a mailing list for this purpose. It will be important to use it to call attention to changes. When users download the tools, they should be directed to that registration page.

Alan: Can we make an announcement in the AAS newsletter?

Julie: Yes, but not the details of which version to use with real data.

Alan: It might be worthwhile to try. It would be good to have another general announcement.

Matthew: Will there be a dedicated special session at the Fermi Symposium?

Steve: No. There will be booths for hands-on demonstrations, and a face-to-face helpdesk. A massive workshop is not the most effective way.

Julie: We've discussed smaller, more informal workshops not connected with the Fermi Symposium, but held in different places around the country.

Steve: Logistics for the Fermi Symposium. There is a local organizing committee, who has been quite active. One issue was whether or not NASA money could be used. They got a green light 2 weeks ago that the Fermi mission can support the meeting. That decision helps set the registration fee. The fee is currently \$395, with a 1-day fee of about \$200. These numbers are similar to the first symposium. We hope to have a draft of an email bulletin out to that group by tomorrow. The website is continuously being updated. There is a form available for people to register their intent to attend. But we don't expect people to register until they're submitting abstracts. We had a meeting of the International Organizing Committee in April. I will send the updated chart package to the FUG by the end of the week. We haven't gotten as much input on suggested plenary speakers for each basic area as we had hoped. So we will have to push again. The chart package will include the number of talks, areas, etc. We also discussed how to handle posters. We will need two separate poster sessions: Sun-Tues, then Tues-Thurs. It's not ideal, but pretty good.

Lots of people say they didn't get the email.

Steve: I wonder what went wrong. I got the expected number of auto-replies, etc., so I assumed it went out. If you can reply to the email to let us know you got it, that would be appreciated. One question was what's the right balance for speakers? The recommendation was 50% Fermi and 50% outside. Had thought about an associated evening public lecture, and then there will also be a concert at the Kennedy Center. Composer wrote a prelude inspired by Fermi, and will premier a symphonic piece during our meeting. So at the Kennedy Center, we will have short scientific presentation, followed by the concert. Instead of a Q&A after the artistic event, people can hang around and ask questions. This way we don't have to focus publicity on two separate events. The abstract deadline will be about a month before the meeting. ...end of Sep/first of Oct. The first bulletin is out now and will be posted on the website. Once we get the program lined up with speakers, we'll send the second bulletin. With data going out in Aug-Sept., this gives people a little time before the November meeting.

Alan: Einstein Fellows program?

Julie: At the last face-to-face meeting, Illana described the merging of the GLAST and Chandra Fellows into the Einstein Fellows. The original 3 GLAST fellows are transitioning into Einstein fellows. Have discovered that we cannot transfer travel money across programs. But a broader question is the degree to which we keep Fermi well represented in the Einstein Fellows program. We need to make it easy to connect back to the Fermi Project. Many Einstein Fellows will not have scientific interest in Fermi. We want to make it clear that they have points of contact in the Fermi project that they can go to if they wish to be involved in Fermi science.

Alan: It's crucial for the selection panel to have gamma-ray astrophysicist members.

Julie: Yes. The review process this round was handled quite well and fairly. But there may have been some features that unintentionally had biases against our community. The managers have agreed to address these next time. The Einstein Fellows Symposium will be held in Cambridge at the Center for Astrophysics in October, just before the Fermi Symposium. It would be useful to discuss this at the next face-to-face. Hopefully next round we'll see a shift in our favor.

Alan: Last time, the next face-to-face was tentatively set for August 28th. Is that still okay for Goddard?

Steve: The weather's so nice in DC in August.

Scott: Can we have an analysis workshop right before that?

Chris: Good question. I would be a bit concerned about exact timing of the data release. It would be more productive if people had a chance to look at real data before coming to the workshop.

Alan: Would it be possible to release a little bit of data ahead of time?

Julie: We can plan to have a workshop in either case. We can use updated simulations. It would certainly be more realistic than anything we've done so far. It's likely the data will be ready by then. If not, I would be uncomfortable releasing just a portion.

Chris: Is the idea to have the two contiguous for travel?

Alan: Yes, that would be more convenient.

Julie: As we get closer, can revisit the workshop plans.

Alan: Anything else?

Julie: This is my first FUG meeting as Project Scientist. Steve is leaving and I wanted to say it's difficult taking over from someone so competent. But it means I've picked up a well-running project. I'd like to thank Steve for all his work.

Illana: To Chris, I wanted to remind people that some members will rotate off. I am looking for suggestions from the members, and would like to have new members for the , face-to-face in August. Please submit names to me before the end of July.

Alan: If you could send an email solicitation with areas of expertise we need to add, that will give us some inspiration.

Alicia: There is obviously a new agreement between Pan-STARRS and Fermi. The next FUG meeting is back-to-back with a Pan-STARRS meeting.

Julie: That agreement is between the LAT team and Pan-STARRS.

Alan: Thank you. Have fun in Santa Cruz, Steve.

The telecon then ended.