Minutes of the Blazar Science Group meeting, June 14 2005

Attendees: Andrew Chen, James Chiang, Stefano Ciprini, Paolo Giommi, Tune Kamae, Stefan Larsson, Benoit Lott, Grzegorz Madejski, Julie McEnery, Thierry Reposeur, Luis Reyes, Roger Romani, Eduardo do Couto e Silva, Gino Tosti.

This first meeting has been devoted to a general overview of the Group activity. The slides serving as a basis for the discussion are posted at:
http://www.cenbg.in2p3.fr/ftp/astropart/glast/agn_group/meeting_page.htm

The date of the first face-to-face meeting has been discussed. Sunday, August 28 seems to be a good choice, i.e. right before the general collaboration meeting. Coordination with other Science Groups must be established to prevent overlaps, so that members of several groups can attend the different meetings. (Peter Michelson will work this out with the groups' coordinators)

List of anticipated papers

Should we have a single, long comprehensive paper or should it be broken down into several ones, covering selected aspects of the general properties of Glast-detected blazars? The second option appears preferable to most.
Significant discoveries would naturally entail separated papers.
Concerning specific sources, Tune has advocated that we should concentrate on those presented in the list (3C273, 3C279, Mkr 421) during the first year, since the work load will be very high during this period.
Since simultaneous multiwavelength observations are central to the scientific return of GLAST concerning blazars, there is a consensus that the corresponding plans be set as quickly as possible so that contacts can be established with other teams or proposals submitted soon.

Blazar studies with the LAT (post-launch)

Five main topics are foreseen:
1. Blazar catalog, sample definition
2. Gamma-ray statistical properties of the sample
3. General properties of GLAST-detected blazars
4. Specific properties of Individual Sources
5. Extragalactic Infrared-UV Background Light

The first topic will heavily rely on existing, or presently developed, catalogs established at other wavelengths. The discussion has brought up the need for an operational definition of a blazar, agreed upon within the collaboration. Paolo Giommi and Roger Romani have accepted to give presentations at the next meeting on their current activities in this area so that a consensus on this definition can be reached.
Concerning the determination of the EBL density, a clear analysis strategy must be devised. Different routes are currently explored (R. Romani et al, Chen, Ritz & Reyes, P. Giommi et al.). How to unambiguously disentangle intrinsic and extrinsinc effects, what sources to select using data at other wavelengths are still open issues. **Assignement:** Collect your thoughts on this strategy.

A brief discussion has concerned the use of AGN data for the general calibration effort early after launch.

Pre-launch activities

1. Production of figures illustrating the LAT performance in the context of AGN Science, to be presented at next collaboration meting.
A few figures already exist. It has been suggested (A. Chen) to illustrate a qualitative improvement over EGRET corresponding to the overcome of a threshold in terms of instrument performance. The review of the current simulations may be helpful in this context. **Assignment:** Propositions welcome.

2. Modeling-simulations
Jim Chiang will present a review of the existing simulation and analysis tools in a forthcoming meeting. Tools regarding detection of variable source, spectral variability analysis do not exist in the current set of tools. An inventory of tools that can be contributed by the group members should be established (this point was only little touched during the discussion). **Assignment:** Report on existing tools.

Preparation of Data Challenge 2

DC2 will represent an important milestone in the group activity. A preparation meeting will take place at GSFC on June 27-29. It has been suggested (Paolo Giommi) that it would be interesting to check the gamma-ray properties of a well defined sample 1Jy 5GHz, WMAP, X-Ray selected samples, Slew Survey... This suggestion will be considered by the DC2 organizers (Julie McEnery).

Multiwavelength activities

A strong interaction is needed with the Multiwavelength observation group put together by Peter Michelson and Dave Thompson. (Although this was not mentioned during the meeting, Gino Tosti is willing to help with the coordination of the monitoring MW effort). Attention is drawn to the recommendations given in the report of the Mutiwavelength group. Roger Romani and Greg Madejski participated in this group. They have mentioned that the report is a living thing that can be updated. **Assignment:** Review this report and provide feedback to Roger and Greg.
The report can be found at:
http://www-glast.slac.stanford.edu/GLAST_CollaborationSEP04/MW_committee_report_public.pdf

Next meeting: July 1st, 9:30 AM PST in the Crab room.

Addendum

Bob Hartmann's comments on the slides, sent via E-mail:
Other possible papers - 1) Radio/optically bright blazars !not! detected by EGRET - are they really different? This could be done a few months after launch.
2) Starburst galaxies (There have been a number of suggestions that they should be gamma sources.)

3) Blazar duty cycle, etc. (This is related to #1, but requires more data.)
Analysis tools - A method for generating light curves on a variety of timescales. Maybe this is being prepared already, but it was a real headache with EGRET data.
Monitoring and mw campaigns - In the same way that TeV and X-ray fluxes are time correlated (sometimes, anyway), GeV and far-IR should be correlated. During the GRO mission, there were essentially no IR resources available - ISO gave us almost no attention. Hopefully this can be corrected for GLAST, with Spitzer and maybe others. Contacts should be initiated, and enthusiasm stimulated, soon.