

GLAST + TEV OBSERVATORIES DISCUSSION OF COLLABORATIVE ISSUES REGARDING BLAZARS
First telecon (May 14th, 2008) - Minutes by Luis Reyes

Topics discussed:

1. GLAST news and launch information update
2. Collaborative efforts
 - 2.1 MW campaigns
3. Policy issues
4. Moving forward

1. GLAST news and update

Julie McEnery: Spacecraft was fueled and weighted past weekend (May 11th). Observatory will be moved to the launch pad on May 17th. Launch planned for June 3rd (it could be delayed by a couple of days depending on the shuttle launch planned for May 31st + 3 day window). All ready to go.

2. Collaborative Efforts

Summary of planned collaborative efforts by Gino Tosti. Slides are available here (https://confluence.slac.stanford.edu/download/attachments/11337806/Glast_TeV_14052008.pdf?version=1). These are the highlights:

- * The LAT team is planning the following types of blazar campaigns:
 - * Target of Opportunity (bright state detected by LAT)
 - * Planned Intensive Campaigns O(~months) (on a few selected sources)
 - * Planned Long-term campaign O(~1 year)

- * ToO Campaigns:

- * The LAT data will be analyzed on daily and weekly timescales.
- * For ~20 sources, these data will be made public (LAT monitored sources which include historical TeV blazars)
- * If a source exceeds a threshold of 2×10^{-6} ph cm⁻² s⁻¹ an alert will be issued (web + ATEL + email + ...)
- * Alerts on flares below this threshold will be given on a best-effort basis (see policy issues below)
- * A LAT flare advocate will be available to coordinate MW activities

- * Planned Intensive Campaigns:
(See slides for planned targets and schedule)

- * Long-term Campaigns:
List of VIP targets for GLAST is available at :
<http://glastweb.pg.infn.it/blazar>
(to be revised once GLAST is on orbit, suggestions are welcome)

Henric Krawczynski: How can we get more involved in the planning of the campaigns?

GT: Talking with the LAT campaign manager.

HK: Shouldn't we have a GLAST person, a MAGIC person, and a VERITAS person?

LR: That is a good idea and one of the things that this meeting (and future ones) are supposed to address. If you look at the schedule PKS 2155 and BI Lac are planned immediately after GLAST's launch, it is probably a good idea to start planning those.

HK: (bad sound)... how was the list (and the schedule) of planned MW campaigns chosen?

Dave Thompson: The main reason was that the LAT team proposed (and was awarded) X-ray coverage with RXTE.

Wei Cui: there are other planned observations for Mrk 421 (with Suzaku for example). What is the procedure to collaborate? logistics? communication?

DT: There is a MW list, the campaigns will be advertised in advance. If you are not in the list write to David.J.Thompson [at] nasa.gov. The LAT team also maintains a webpage with all the relevant information <https://confluence.slac.stanford.edu/display/GLAMCOG/GLAST+LAT+Multiwavelength+Coordinating+Group>

HK: Instead of having dispersed efforts, shouldn't we have somebody from GLAST, from VERITAS and MAGIC to get together and organize the Mrk 421 campaign for example?

David Paneque (LAT campaign manager for Mrk 421): things are moving in that direction, MAGIC and VERITAS have agreed to observe Mrk 421.

LR: Things are still on a planning stage. As we get closer to the campaign we will meet to plan logistics.

Abe Falcone: from past experience it is really important to have a point of contact for each instrument. To coordinate the observations.

HK: What happens next? How do we analyze the data?

DP: There is no signed agreement. The understanding (with which people seem to be happy) is that since for instruments like MAGIC, VERITAS and GLAST (first year) all the collaboration has to be included in the author list, it is better to publish per-instrument papers first, and then, a second, common publication will combine the data and include a physical interpretation. The author list of this second paper will be limited to people

contributing to the analysis and interpretation. We need to coordinate the publication of both types of papers (aiming for simultaneity) so that people that didn't participate of the campaign don't take advantage of the available data.

HK: From the point of view of VERITAS we would like to define what sources to observe and for how long.. We have a collaboration meeting soon and we need more specifics

LR: we don't have time today to discuss each one of the targets. We should have specific calls for that

AF: There should be a webpage for each source with information about what MW observations will take place and when. This will help VERITAS to coordinate its observations. Is the LAT team planning to set up such webpages?

GT: yes

HK: For Mrk 421 we would like to discuss with MAGIC an observation strategy. For example, do we want a couple of weeks of intensive observations? the same for each target

LR: Let's agree then to meet again soon to discuss the Mrk 421 campaign

Jeff Scargle: question on a different topic, are there any special analysis tools that are needed for this effort? With Greg Madejski I have been working on unbinned analysis techniques for cross-correlation of x-ray and gamma-ray data, power spectrum analysis, etc...

HK : a joint spectral fitting tool is also useful

JS: we need a list... by e-mail we should circulate ideas and wish lists

LR: I volunteer to get a webpage and e-mail list running on this subject.

LR: Moving on... Most of the blazar flares to be released by the LAT team are going to come from FSRQs over a wide range of redshifts. For TeV instruments it will be more useful to receive alerts of high-energy flares ($E > 1$ GeV). I know that this is something that has been discussed in the context of collaborative efforts. Maybe Dave or somebody else can comment on this? This is a touchy subject since the LAT data is proprietary on year one, but I think it is really important... it will have a great impact on the science.

DT: when we started communicating with TeV instruments we asked each one for a wish list and this was certainly at the top of each list. This is something we would like to do, but our first objective is to get GLAST up and operating. We will try to do it on a best-effort basis but we cannot make promises. In general, it is very important to have this written down.

HK: should we have a webpage with this wishlist? a call?

DT: what we need is a top-level agreement. At this moment we don't have a signed agreement with any TeV observatory. I'd like to encourage our TeV colleagues to follow-up. From VERITAS we received a draft from Rene Ong and we owe him a response, there is an agreement with MAGIC that is under consideration, and there is a draft with H.E.S.S.

DW, HK, GT: there are very important specifics regarding the future MW campaigns that we need to discuss. We need to keep meeting.

DT: it will be good if the TeV telescopes agree on a common strategy up-front, since they are the ones that have observation constraints.

GT: good coordination between MAGIC and VERITAS would provide very good sampling in the lightcurves given the time difference between observations

LR: Time to move on to policy issues not already been discussed...

DT: we need written agreements. Issues to be addressed in such agreements include confidentiality, authorship, wish lists, expectations, etc... From the LAT team Peter Michelson (PI) is the only one that can sign these type of agreements. Peter's position is that the LAT is not going to share any non-public information with groups with which the LAT doesn't have a signed agreement.

HK: GLAST is launching in a month... we should try to get this done in a few weeks.

DT: the draft agreement we have with MAGIC is the most advance so far, I'll send a copy to Rene (VERITAS) and H.E.S.S.

LR: all the people in this meeting should get in touch with their respective instrument representatives to make sure that these agreements are moving forward and that they get signed and approved. We want to collaborate and get some good science done, so let's keep pushing.

Francesco Longo: regarding MW campaigns, we need password-protected webpages to communicate the data during a campaign, is this something that is being planned?

HK: That is important for VERITAS too. All people with access to this data must agree in advance that they will keep it confidential and will not use it on their own.

LR: Wrapping up... action items:

1. Meet again in ~4 weeks to discuss planned MW campaigns only
2. Meet again to discuss more general issues (~1-2 months)
3. Mailing list to discuss analysis tools

GT: what about a face-to-face meeting? Heidelberg will not work for the LAT (too soon after launch)

FL: another opportunity is the "Science with the new generation of high-energy gamma ray experiments" organized by INFN in October, near Padova. There is no website yet, but it should be up soon. We could organize a particular session for this.