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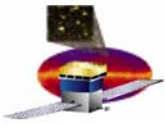
# **Multiwavelength Planning Scorecard**

## **How Ready Are We for Launch?**

**Dave Thompson**  
**LAT Multiwavelength Coordinator**

### **Outline**

- 1. Across the Spectrum – Proposals & Cooperative Work**
- 2. Other Issues –Policies & Agreements**



# Radio

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## AGN

- Summary Web page  
[http://www.slac.stanford.edu/~lott/radio\\_blazar\\_revised.html](http://www.slac.stanford.edu/~lott/radio_blazar_revised.html)
- Greg Taylor, Matthias Kadler, and Lars Fuhrmann leading
- VIPS, MOJAVE, USNO, Marscher programs for VLBI
- Michigan, Metsahovi, OVRO, Effelsberg/IRAM monitoring
- Australian VLBI counterpart of MOJAVE proposal submitted

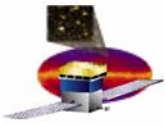
## Pulsar Timing

- Parkes, Jodrell, Nançay have large timing programs
- Arecibo and Green Bank proposals submitted (not LAT team)

## Other

- VLA (Frail) for GRB follow-up
- MOST, (Gaensler) for unidentified source follow-up
- Ryle, (Pooley) for LSI +61 303 monitoring
- CfA (Dame), NANTEN (Fukui) for diffuse/molecular clouds
- **NRAO joint proposal opportunities**

**Readiness Status – Excellent!**



# Infrared

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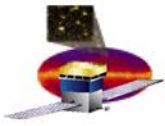
## Far-IR (Space-Based) – primary interest AGN

- Spitzer: despite heroic efforts by Ann Wehrle and Jennifer Carson, we were not awarded any Spitzer time from our proposals. Next opportunity (last with cryogen) this Fall.
- AKARI (ASTRO-F): conducting all-sky survey, concluding this Fall. May provide an archive.
- Herschel: launch in second half of 2008, will have GI program.
- WISE: launch in 2009, all-sky survey

## Near-IR (Ground-Based) – AGN, GRB

- Magdalena Ridge (Norris): proposal in progress
- ESO/VLT- VIZIR (Chatay)
- Other near-IR coverage from some optical facilities

## Readiness Status – Not So Good



# Optical

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## AGN

- WEBT (Tosti), GTN (Sonoma), other groups (e.g. Carini, Hiroshima)  
– monitoring and follow-up
- HET (Romani), maybe SALT – redshift measurements
- Swift UVOT

## GRB

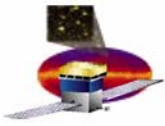
- ROTSE, RAPTOR, others associated with GCN and Swift

## Unidentified – Surveys, Time Variability

- PanSTARRS (Wood)
- SKYMAPPER (contact through Cameron)
- SDSS (Anderson)

**General – NOAO joint proposal opportunities (in the works)**

**Readiness Status - Good**



# X-Ray

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## AGN

- **Swift BAT and XRT – MOU in preparation?**
- **Suzaku – one proposal accepted. MW campaign**
- **RXTE – six proposals accepted, TOO's and Planned Intensive Campaign (PIC)**
- **INTEGRAL – four proposals accepted.**
- **XMM – two related proposals accepted**

## GRB

- **Swift**

## Pulsars - Timing

- **RXTE – four proposals accepted**

## Unidentified – Surveys, Time Variability

- **Swift – interested**
- **Chandra – one proposal accepted**
- **INTEGRAL- three proposals accepted, talk by P. Ubertini on Thursday**
- **Suzaku – LSI +61 303 proposal accepted**

### Near Future

**MAXI - Japanese all-sky monitor (2009)**

**ASTROSAT - Indian MW satellite (2008/09)**

**Readiness Status – Good – but not enough for 1000 blazars**

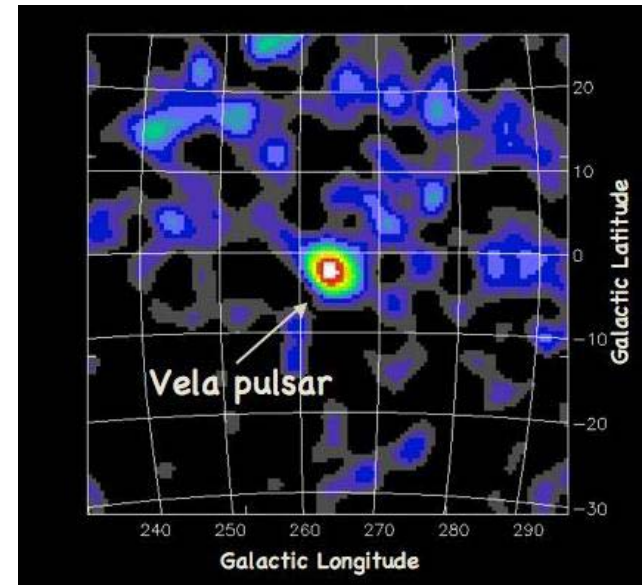


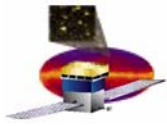
# First New Gamma-Ray Satellite: AGILE (Astro-rivelatore Gamma a Immagini LEggero)



More on Thursday!

Italian collaboration  
Launched April 23  
Two years operation  
planned (minimum)  
High-energy gamma-  
ray telescope (30  
MeV – 30 GeV)  
Somewhat more  
sensitive than  
EGRET





# TeV

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**TeV telescopes are the nearest neighbors to LAT in the electromagnetic spectrum. They share nearly all our scientific interests.**

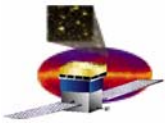
**We have close contacts with all the TeV groups.**

**H.E.S.S. has been working closely with us to develop a written agreement.**

**VERITAS science groups have been actively discussing cooperative efforts, but not much from the VERITAS Collaboration as a whole. MW workshop in Chicago next week.**

**Informal, close contacts with MAGIC, CANGAROO, and MILAGRO.**

**Readiness Status - Excellent**



# Further Information

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**Public Confluence Page:**

<https://confluence.slac.stanford.edu/display/GLAMCOG/GLAST+LAT+Multiwavelength+Coordinating+Group>

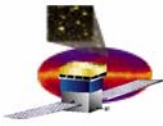
**Includes general information about MW planning and schedules for proposals.**

**Spreadsheet with information about multiwavelength facilities (within Science Groups area):**

<https://confluence.slac.stanford.edu/display/SCIGRPS/Multiwavelength+Planning+-+Short+Term>

**Additions or corrections to anything on these pages are welcome.**

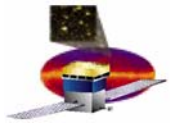




# LAT's First Multiwavelength Campaign

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- Gino Tosti and Benoit Lott promoted the idea of a MW campaign on blazar 3C454.3 as an exercise of our plans and policies. 3C454.3 had been brightening in radio, optical, and X-ray.
- We recruited two campaign managers – Ann Wehrle (who had a Spitzer observation scheduled) and Matthias Kadler (who has been a principal radio contact) and then sent out an announcement using our MW mailing list (with a copy to the whole LAT team).
- The response was outstanding – we have excellent coverage in the radio and optical, Ann will get her IR observation, Swift granted Target of Opportunity requests to get X-ray coverage, MAGIC provided TeV coverage (although with redshift of 0.86, this is not a good TeV candidate), and AGILE repointed – and has a preliminary gamma-ray detection!
- The summary is at <https://confluence.slac.stanford.edu/display/GLAMCOG/July%2C+2007%2C+Multiwavelength+Campaign+on+3C454.3>
- We will be compiling “lessons learned” in order to be better prepared for the next opportunity and the many after the GLAST launch.



# Policies and Agreements - 1

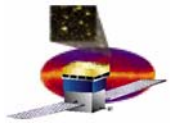
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**Reminder: Our basic policy is to encourage multiwavelength cooperation.**

**Two basic reasons:**

**Primary** – the best science comes from using all the information that can be assembled.

**Secondary** – enlightened self-interest: we want friends who will cooperate after the first year, when the LAT data become public.

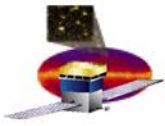


# **Policies and Agreements - 2**

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**The LAT Publication Policy does not directly address details of multiwavelength publications.**

**The “GLAST LAT Collaboration Guidelines for Multiwavelength Proposals and Data,” sent out at the Stockholm meeting, is primarily aimed at how we handle multiwavelength work within the LAT Collaboration.**



# Policies and Agreements - 3

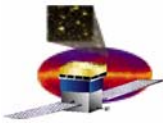
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## New proposed policy document:

**“Guidelines for Cooperative Efforts between the LAT Collaboration and Other Researchers”**

### **Basic Principles:**

- 1. Science groups take the lead in deciding on “topical collaborations,” designed to study one topic.**
- 2. Agreements should include publications plans, which need to be approved by the Publications Board. Most cooperative publications would be Category II.**
- 3. All agreements are non-exclusive. LAT and the other group/individual can each publish their own data.**
- 4. This “how to” document can be made available to potential collaborating individuals or groups.**



# **GLAST Guest Investigator Proposals**

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**Proposals are due Sept. 7**

**Multiwavelength proposals are encouraged.**

**Important Reminder:**

**GLAST GI proposals can only be based on the public GLAST data.**

**If your proposal says anything about having access to the proprietary LAT data, it will be pulled and probably rejected.**

**Remind your MW colleagues not to use connection to the LAT team as a justification.**