

Scientific Program – VLBI in the GLAST Era:

(April 17, 2007)

The workshop will be divided in two blocks, nominally one day each.

Both block are subdivided into sessions of talks and panel discussions and are supplemented by a poster session. Posters will be up throughout the workshop.

Block 1: Background

We want to bring everybody up to date: if you are not an expert in VLBI or gamma-ray astronomy (or both), you will learn about instruments, data access and analysis, and highlights from research from both worlds. The emphasis will be on blazar research but other potential common targets will be discussed, as well. We want to review our present knowledge, working hypotheses, expectations and predictions.

Block 2: Goals

On the second day, we want to formulate the most important questions to be addressed by VLBI+GLAST observations and discuss ways to address them. We will discuss ongoing and future VLBI programs and collaborative efforts with GLAST. A special emphasis will be on multiwavelength observations across the spectrum in support of joint VLBI/GLAST research.

Most sessions will end with a panel discussion. These will have in general 4-5 panelists and a moderator and will last for 25-35 minutes. All participants are strongly encouraged to participate by asking questions to the panelists and/or by raising questions that have not yet been touched in the discussion.

Block 1 (April 23, 2007):

8:30 – 9:00 Registration

9:00 – 9:15 Introduction to meeting, logistics (**Kadler**)

Session: Reviews (Chair: Ken Kellermann)

9:15 – 9:45 *The Gamma-Ray Incentive: EGRET results on blazars* (**Hartman**) 25 min + 5 min for questions.

9:45 – 10:15 *VLBI observations of blazars (and other AGN) pre and post EGRET* (**Homan**)

10:15 – 10:30 Break

10:30 – 11:00 *Radio and Gamma-ray emission from extragalactic jets and VLBI-EGRET results* (**Marscher**)

11:00 – 11:30 Panel discussion (**Marscher**, Hartman, Homan, Wehrle, +1): *What did EGRET and VLBI tell us? What was a surprise and what not? What did we not learn and why not?*

11:30 – 12:00 *VLBI: Instrument and capabilities* (**Ulvestad**)

12:00 – 12:30 *GLAST: Instruments, observing modes and data structure* (**Ritz**)

12:30 – 1:30 Lunch

Session: Working with GLAST (Chair: Chris Shrader)

1:30 – 2:00 *GLAST Guest Investigator Program, data policy and mission time line* (**Band**)

2:00 – 2:30 Demo Session: GLAST proposal tools (**Band**)

Session: Radio Light Curve monitoring (Chair: Hugh Aller)

2:30 – 2:45 *The UMRAO program* (**Margo Aller**) 12 min + 3 min questions

2:45 – 3:00 RATAN-600 monitoring and the VLBA Calibrator Survey (**Kovalev**)

3:00 – 3:15 MM Monitoring (**Valtaoja**)

3:15 – 3:30 The OVRO blazar monitoring program (**Readhead**)

3:30 – 3:45 Simultaneous radio to mm-monitoring of potential GLAST blazars (**Fuhrmann**)

3:45 – 4:00 Millimeter Interferometric Flux Density Monitoring (**Moran**)

4:00 – 4:15 Break

First day's closing Session: Great expectations (Chair: Matthias Kadler)

4:15 – 4:35 What will we get? Simulated GLAST light curves and spectra (**McEnery**)

4:35 – 4:55 What is out there? Population Estimates of the Gamma-ray sky (**Lott**)

4:55 – 5:25 Theory: *Gamma-ray emission from radio galaxies* and radio-quiet AGN (**Georganopolous**)

5:25 — 5:50 Panel discussion (**Kadler**, Marscher, Lott, Georganopolous, Valtaoja): *What do we expect? What don't we expect? What do we hope for? How can we prepare for what is coming for us?*

6:45 - ??: Informal Conference Dinner at the "Sir Walter Raleigh" Restaurant,
<http://sirwalterraleigh.com/published/index.html>

Block 2 (April 24, 2007):

Session: VLBI programs (Chair: Ros)

9:00 – 9:20 MOJAVE: Outline, results, plans (**Lister**)

9:20 – 9:40 VIPS: Outline, results, plans (**Helmboldt**)

9:40 – 10:00 VLBA mm-monitoring (**Jorstad**)

10:00 – 10:20 Global/EVN/GMVA VLBI Observations (**Krichbaum**)

10:20 – 10:45 Panel discussion Part 1 (**Ros**, Krichbaum, Lister, Jorstad, Helmboldt): *How do the current large VLBA programs complement each other? How are they connected to GLAST?*

10:45 – 11:00 Break

11:00 – 11:15 Keeping an open mind about possible connections between radio phenomena and the high-energy emission of AGN (**Gabuzda**)

11: 15 – 11:45 VLBI observations of HBLs and the special case of Mrk501 at 3mm
(**Giroletti**)

11:45 – 12:05 VLBI of GLAST targets at far south declinations (**Tingay**)

12:05 – 12:25 A new era in VLBI astronomy: e-VLBI (**Paragi**)

12:25 – 1:00 Panel discussion Part 2 (**Kellermann**, Tingay, Giroletti, Sambruna , Ojha, Homan, Ulvestad) *Which other (large) programs do we need? How can we coordinate large-programs and individual efforts?*

1:00 – 2:00 Lunch

Session: Connecting the edges of the spectrum (Chair: Dave Thompson)

2:00 – 2:30 Multi-waveband dynamic spectra (**Wehrle**)

2:30 – 3:00 Multi-wavelength Theory (**Dermer**)

3:00 – 3:30 Multi-wavelength connections with VLBI (**Lobanov**)

3:30 – 3:45 Break

3:45 – 4:15 *Multi-wavelength collaborations of the LAT team* (**Tosti**)

4:15 – 4:50 Panel discussion (**Thompson**, Wehrle, Dermer, Lobanov, Tosti): *How to connect the edges of the spectrum? How to get beyond them?*

Workshop Closing Session (Chair: Steve Ritz)

4:50 – 5:10 Workshop Summary 1: The Gamma Perspective (**McEnery**)

5:10 – 5:30 Workshop Summary 2: The Radio perspective (**Taylor**)

5:30 Adjourn

List of Posters:

Update on the Parsec-Scale Structures of the TeV Blazars 1ES 1426+428, 1ES1959+650, and PKS 2155-304 (Piner)

The Long Wavelength Array (Taylor);

Southern Hemisphere VLBI and GLAST (Ojha);

Relativistic Ejections Associated with High-energy Outbursts in the M87 Jet (Cheung);
Arecibo's Participation in VLBI (Salter);
Does the Blazar Gamma-Ray Spectrum Harden with Increasing Flux? Analysis of 9
Years of EGRET Data (Nandikotkur)
The GLAST Mission (Ritz)
The Large Area Telescope (McEnery)
Multiwavelength Activities of the GLAST Collaboration (Thompson)
GLAST User Support (Band)