

Fermi LAT Multiwavelength Coordinating Group

Purpose

Provide information about resources and points of contact for multiwavelength observations involving the Fermi Gamma-ray Space Telescope Large Area Telescope (LAT). Coordinate multiwavelength observations needed by the science groups. Maximize use of supporting observations and minimize duplication of effort.

N.B. This area can be viewed (but not edited) by the PUBLIC, although some links require a password.

Multiwavelength Planning

Multiwavelength Workshop at the Sixth International Fermi Symposium

Some Known Multiwavelength Campaigns

Source (link to more information)	Time Interval
Mrk501: Multi-frequency campaign	2024 March - 2024 September - Current
Mrk421: Multi-frequency campaign	2023 November - 2024 June - Current
Mrk501: Multi-frequency campaign	2023 February - 2023 September
Mrk421: Multi-frequency campaign	2022 December - 2023 June
Mrk501: Multi-frequency campaign	2022 January - 2022 October
Mrk421: Multi-frequency campaign	2022 January - 2022 June
Mrk501: Multi-frequency campaign	2021 March - 2021 September
Mrk421: Multi-frequency campaign	2020 November - 2021 Jun
Mrk501: Multi-frequency campaign	2020 June - 2020 September
Mrk421: Multi-frequency campaign	2019 Nov. - 2020 June
Mrk501: Multi-frequency campaign	2019 March - 2019 Sept.
Mrk421: Multi-frequency campaign	2018 Dec. - 2019 June
Mrk501: Multi-frequency campaign	2018 April - 2018 Sept.
Mrk421: Multi-frequency campaign	2017 Dec. - 2018 May
Mrk501: Multi-frequency campaign	2017 April - 2017 Aug
Mrk421: Multi-frequency campaign	2016 Nov - 2017 May
Mrk501: Multi-frequency campaign	2016 March - 2016 September
Mrk421: Multi-frequency campaign	2015 Dec - 2016 May
1H 0323+342: Multi-frequency campaign	2015 August - 2015 December
Mrk421: Multi-frequency campaign	2015 January - 2015 May
Mrk501: Multi-frequency campaign	2014 March - 2014 August
Mrk421: Multi-frequency campaign	2013 Dec - 2014 May
Mrk501: Multi-frequency campaign	2013 April - 2013 August
Mrk421: Multi-frequency campaign	2012 Dec - 2013 June
Mrk501: Multi-frequency campaign	2012 Feb - 2012 July
Mrk421: Multi-frequency campaign	2011 Dec - 2012 June
Mrk501: Multi-frequency campaign	2011 March - 2011 Sep.
Mrk421: Multi-frequency campaign	2010 Dec - 2011 Dec

PSRB1259-63/SS2883 2010/2011 MW Campaign	2010 Nov. -2011 Feb.
Mrk421: Multi-frequency campaign	2009 Dec - 2010 Dec
PMN J0948+0022: Multiwavelength campaign	2009 Mar (end) - June (end)
Mrk501: Multiwavelength campaign	2009 Mar (mid) - July (end)
3C279: Planned Intensive campaign	2009 Jan (end) - Mar (mid)
Mrk421: Multiwavelength campaign	2009 Jan (end) - May (end)
1ES 1959: Multiwavelength campaign	2008 Sep (end) - Nov (beginning)
BL Lac: Planned Intensive campaign	2008 Aug 20 - Sep 10
3C454.3: "Snapshot" MW campaign	2008 Aug
Mrk501: Multiwavelength campaign	2008 Mar-May
3C273: Multiwavelength campaign	2008 Oct
3C454.3: Multiwavelength campaign	2007 July

Pulsar Timing - Information about pulsars of particular interest to LAT

- List of [the pulsars being timed](#)
- Here is the PTC MoU: [LAT-MD-09047-01b.pdf](#)
- [MoU between Fermi LAT and FAST](#) = The **Five-hundred-meter Aperture Spherical radio Telescope**, a 500 meter diameter (300 meter illuminated) dish located in the south of China.

Pulsar Search Consortium

(Link accessible only by LAT team members). Here is [RadioSearchMoUv4.pdf](#), the PSC MoU, from 2008 December 13 (link accessible by all).

Gamma-ray Pulsars being timed by the LAT

Public Catalog of Detected Gamma-ray Pulsars

Blazars - Information about blazars and campaigns of special interest to LAT

Blazar Monitoring List - Matt Lister's cross-reference list of which blazars are being monitored at radio and optical wavelengths.

Very Important Project (VIP) list of blazars the LAT team is following closely

Sources LAT Monitors Daily and Weekly(Public Data)

- List of the monitored sources
- [Steward Observatory Linear Polarization Monitoring of these Sources](#)
- [SMARTS Optical/IR Monitoring of these Sources](#)
- [Swift XRT Monitoring of these Sources](#)
- [Whole Earth Blazar Telescope \(WEBT\) - GLAST-AGILE Support Program \(GASP\)](#)

Information for Multiwavelength Observers about Working with the LAT Team (pdf)

- Form for Participation in a LAT Multiwavelength Campaign ([pdf](#), [Word](#))
- **List of LAT Contact Scientists for Individual Sources**

Contact the LAT Multiwavelength Coordinator

Fermi Science Support Center (FSSC) Multiwavelength Information

- [Form to tell the Fermi Project about Multiwavelength activities](#)

Use this form if you are conducting a campaign and want to alert the Fermi Project Scientist that you prefer not to have a Target of Opportunity declared while you are observing. Please note that this form is independent of the form (above) for participation in a LAT Multiwavelength campaign.

- [FSSC Page with Links to Multiwavelength Support Programs](#)
- [More Links to Useful Fermi Multiwavelength Information](#)
- **gamamw: Fermi Multiwavelength Mailing List - [subscribe](#), [post message](#), or [view messages](#)**

Some General Multiwavelength Resources

- [High Energy Astrophysics Science Archive Research Center \(HEASARC\)](#)
- [ASI Science Data Center \(ASDC\)](#)
- [INTEGRAL Science Data Center HEAVENS](#)
- [Other Useful Links - Including Multiwavelength Pages](#)

Multiwavelength Proposal Opportunities - Schedule

Proposal submissions and information (not for planning purposes):

- [RXTE Proposals](#)
- [Suzaku Proposals](#)
- [XMM Proposals](#)
- [Chandra Proposals](#)
- [Swift Proposals](#)
- [INTEGRAL Proposals](#)
- [NOAO Proposals](#)
- [ESO Proposals](#)
- [Spitzer Proposals](#)
- [Radio Proposals](#)
- [Other Proposals](#)

LAT Team Proposal Planning - Short term (Password Required)

The Radio Connection

Please visit the [web page](#) (put together by Greg Taylor, Matthias Kadler and Lars Fuhrmann) summarizing the current/planned radio observation programs devoted to gamma-ray blazars.

The IR-Optical-UV Connection - A Collection of Optical and IR Resources

The Steward Observatory optical monitoring program follows photometry and polarization for a number of blazars and makes data available to the public. Please visit their site [HERE](#).

The SMARTS telescope (CTIO) optical monitoring site for Fermi blazars is [HERE](#). This group monitors a selected list of Fermi blazars with data that are made public. Both light curves and photometric data are presented. - E. Ferrara

The Catalina Real-time Transient Survey has a regularly updated set of light curves for Fermi LAT blazars. These results can be found [HERE](#). This survey also posts information about transients. The main web page is [HERE](#).

The AKARI (ASTRO-F) Infrared source catalog is now available:
Please see [THIS LINK](#)

The Tuorla Observatory monitors a number of blazars and makes optical light curves available [HERE](#)

The KAIT telescope has white light (~R) monitoring of ~160 bright LAT Blazars. The light curves can be seen [HERE](#)

Monitoring of many LAT blazars is also done in four colors by the Goddard Robotic Telescope with results available [HERE](#)

The X-Ray Connection - Links to useful X-ray resources

[XMM-Newton Science Archive](#), including the slew survey, covering 40% of the sky.

[Chandra Source Catalog](#), with information about 94,000 sources

The TeV Connection - This is a section for discussions of LAT-TeV common interests

A useful link. [HERE](#) is a Web-based tool that gives information about observability of sources with the CANGAROO TeV telescope. Courtesy of the CANGAROO team.

[H.E.S.S. Source Catalog](#)

[TeV source catalog, maintained by the VERITAS group](#) The VERITAS point-of-contact for exchanges of pulsar timing solutions with the LAT collaboration is john.millis@gmail.com of Purdue University.

[TeV source catalog, maintained by R.Wagner from MAGIC](#)

[TeV source catalog, maintained by M.Mori from Cangaroo](#)

[Texts of the agreements between the LAT team and the major TeV telescope teams](#)

[Fermi Mission Home Page](#)

[Documents and Reports](#)

- Includes news about multiwavelength activities

[Group Members](#)