



# Fermi

**Gamma-ray Space Telescope  
Large Area Telescope**

***Multiwavelength Notes  
(mostly LAT)***

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## What Is Working Well

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### **There is substantial interest in MW work:**

1. LAT has multiple Memoranda of Understanding (MOU), especially with radio and TeV groups. An MOU with Pan-STARRS has recently been completed.
2. There are informal agreements with other groups, particularly IR and optical observers.
3. LAT has started discussion with the IceCube group about neutrino comparisons with LAT data and with LIGO about gravitational wave correlations.

### **Getting MW coverage has generally been successful.**

#### **Some examples:**

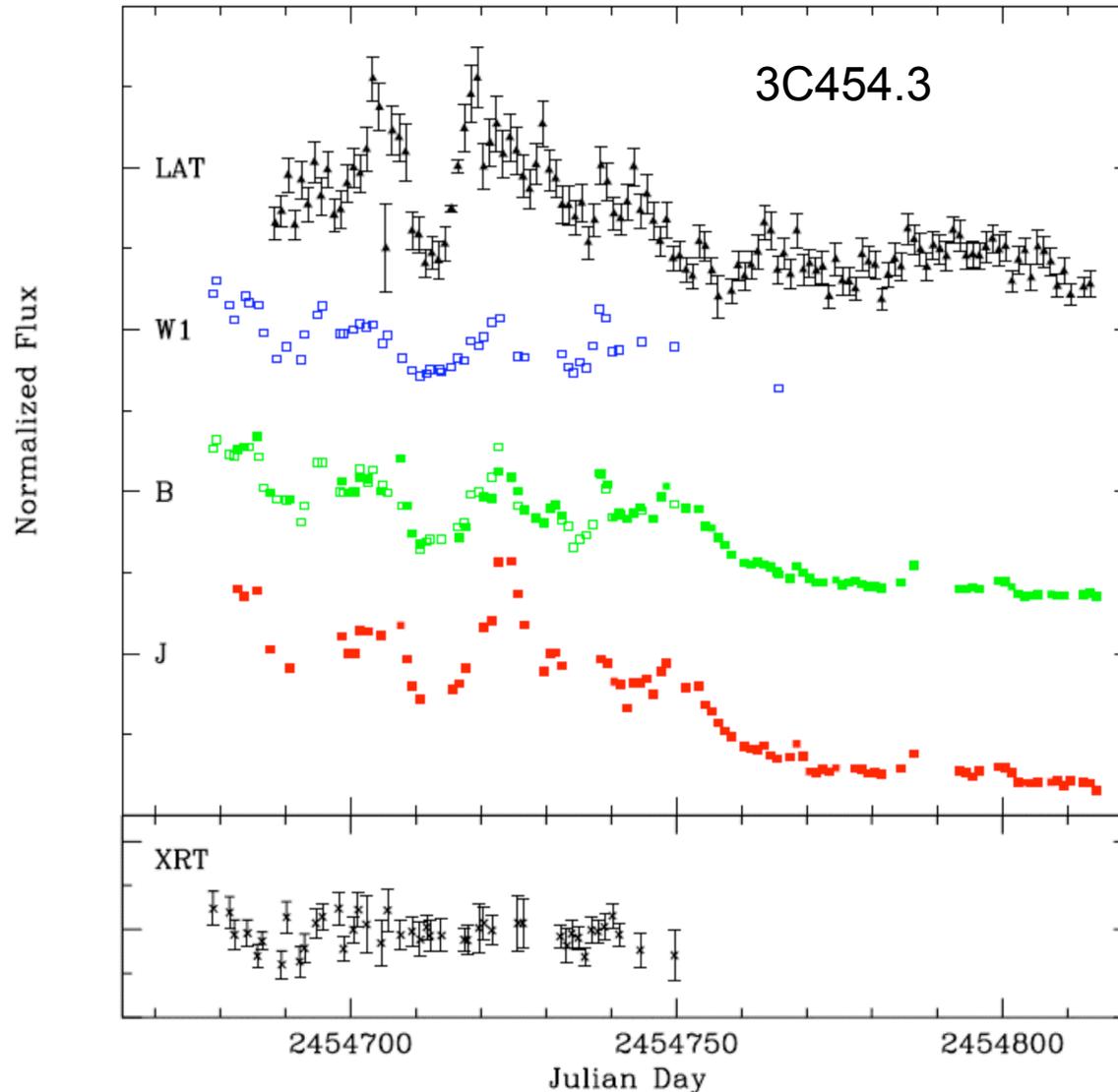
1. Radio groups are very well organized and helpful.
2. Swift and RXTE have been invaluable X-ray resources.
3. The Hiroshima Kanata telescope has been very responsive in making observations.

## Some Multiwavelength Successes

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1. **Gamma-ray bursts - LAT and GBM, plus others, including redshift measurements in optical.**
2. **Pulsars, both using radio and X-ray data and providing information to radio observers**
3. **AGN studies - especially ATel flare reports (36), MW correlations and spectral studies.**
4. **Binaries - timing and spectral comparisons with X-ray and TeV.**
5. **New source classes - including starburst galaxies, narrow line Seyfert galaxies**
6. **Diffuse radiation (and associated dark matter searches) - models built on MW data.**

# Outside MW groups are using public LAT Data



Bonning et  
al. 2008

We can  
expect  
more such  
work now  
that the  
data are  
public.

## What Next?

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**The LAT team intends to continue quicklook work**

**The LAT Flare Advocates review data daily and put out ATels for “breaking news” No outside group seems likely to want to set up the infrastructure needed for such analysis.**

**This group also generates the Fermi Blog,  
<http://fermisky.blogspot.com/>**

**The public light curves for bright sources are generated automatically. That work will continue.**

**All these exercises are advertisements of multiwavelength opportunities for the community.**

## What Next?

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### **The LAT team will continue to work with the MW community**

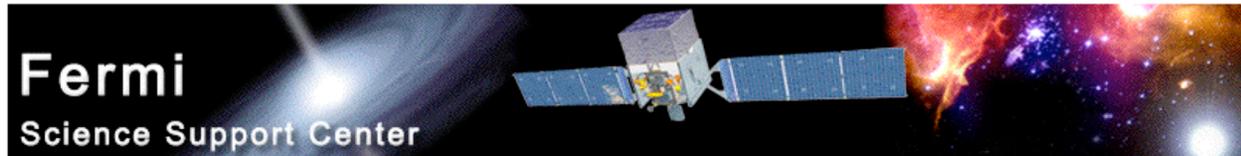
**Even with the data public, the LAT team has substantial experience that can contribute to good multiwavelength campaigns. There will be a continued effort to promote correlated observations that can benefit all MW work. Pulsar timing, for example.**

**The LAT collaboration meeting next week will be thinking about the best ways to continue cooperation. One thing that has become clear is that there are many more opportunities for MW papers than the LAT team can handle themselves.**

**One important issue that needs to be emphasized to all MW users of the LAT data (likely to have less experience with gamma-ray data) is that the caveats on the analysis must be taken seriously.**

# MW Planning Reminder

<http://fermi.gsfc.nasa.gov/ssc/resources/multi/reporting/list.php>



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Science Support Center

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**Resources**

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**Multiwavelength Observations Report Listing**

Click column heading to sort by that column.

ID	Object	Observation Dates	Wavelength Band
1	PKS 2155-304	2008-08-25 to 2008-09-04	radio/optical/X-ray/HE gamma/VHE gamma
2	3C454.3	2008-08-15 to 2008-08-15	infrared
3	3C454.3	2008-08-19 to 2008-08-19	infrared
5	3C279	2008-08-17 to 2008-08-17	infrared
6	3C279	2008-08-16 to 2008-08-16	infrared
7	PKS 0208-512	2008-08-18 to 2008-08-25	X-/hard X-ray (INTEGRAL)
8	BL LAC	2008-08-20 to 2008-09-09	X, optical, Gamma
9	All available LAT-monitored blazars + Fermi ToOs	2008-10-03 to 2008-10-09	Optical
10	All available LAT-monitored blazars + Fermi ToOs	2008-10-28 to 2008-11-03	Optical
11	All available LAT-monitored blazars + Fermi ToOs	2008-11-24 to 2008-12-05	Optical
12	All available LAT-monitored blazars + Fermi ToOs	2008-12-26 to 2009-01-01	Optical

This report informs the Fermi Project so that calibrations or other activities such as TOO's are not scheduled in conflict with MW

## Summary

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- **We are getting generally good MW coverage for Fermi sources.**
- **With the data public, we can expect even more MW use of LAT data and results.**