

The optical monitoring of the bright gamma-ray blazars by GRT

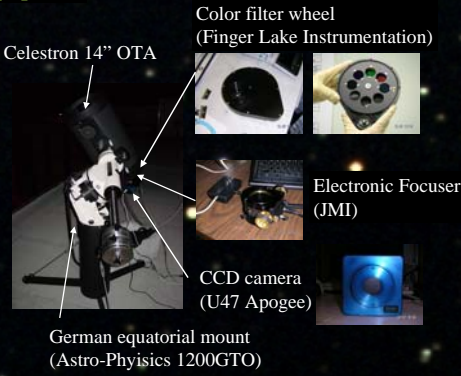
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Abstract

We present the optical light curves of 20 bright gamma-ray blazars monitored by Goddard Robotic Telescope (GRT) during the first year of operation. All these sources are monitored by LAT. For all the blazars, we collect the light curves at different wavelengths to investigate possible correlations. We will present the results of blazars which have a good time coverage in the light curves.

Goddard Robotic Telescope (GRT)

Equipment

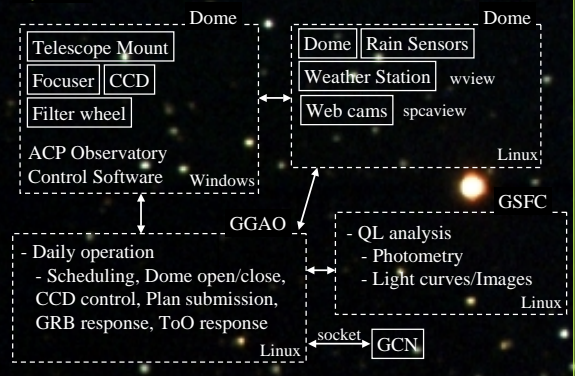


Specification

- FOV: 20' x 20'
- Filters: U,V,B,R,I,Clear
- Limiting mag: R~19 mag @ 10 min. (3 sigma)
- Location: Goddard Geophysical and Astronomical Observatory (GGAO; ~2 mile NE of GSFC)



System



GRT Gamma-ray Blazars Monitor

List of Monitoring Blazars

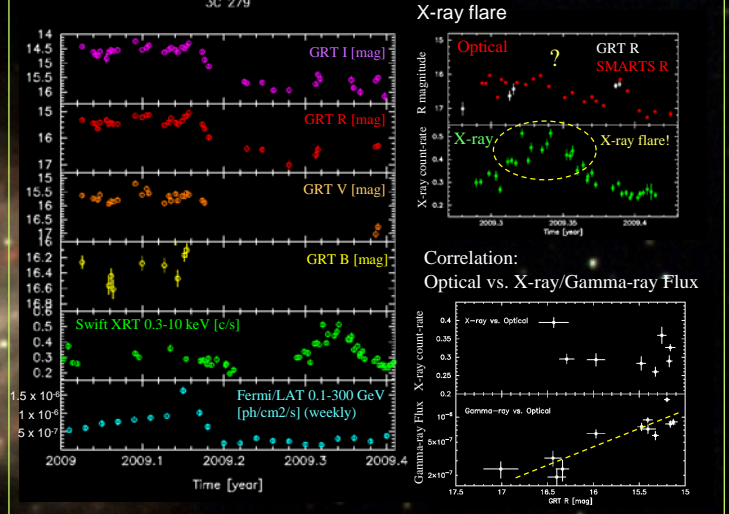
- 3C 66A
- PKS 0420+00
- PKS 0716+714
- OI 158
- OJ 287
- Mrk 421
- 1ES 1218+304
- W Com 1219+285
- 3C 273
- 3C 279
- 3EG J1329+1708
- H 1426+428
- PKS 1510-089
- NGC 6251
- Mrk 501
- OT 081
- 1ES 1959+650
- Mrk 509
- BL Lacertae
- 3C 454.3
- 1ES 2344+514

Data Analysis

- B, V, R, and I filters in 60 second exposures.
- Bias, dark and flat field (sky flat) corrections (pyraf).
- Source extraction in images (sextractor).
- Aperture photometry in a radius of 5" (pyraf).
- Relative photometry using three comparison stars from the catalog (e.g. AAVSO high energy network) in the field.
- The measured magnitude of the comparison star has to be within 0.05 mag of the catalog magnitude (otherwise blazar's data point will be excluded).
- The Swift/XRT data are from "Swift-XRT Monitoring of Fermi-LAT Source of Interest" website: <http://www.swift.psu.edu/monitoring/>
- The Fermi/LAT data are from "Monitored Source List Light Curves" website at Fermi/SSC: http://fermi.gsfc.nasa.gov/ssc/data/access/lat/msl_lc/ (Only showing the Fermi/LAT data with the upper limit flag == F)

Visit our GRT web site for more details:
<http://asd.gsfc.nasa.gov/Takanori.Sakamoto/GRT/index.html>

3C 279



Multi-wavelength Light curves of Monitored Blazars

