Updates On Activities for the DC2

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VRVS - AGN & Other AGN SG

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Area of Interst

- Time series analysis
- Spectral and multifrequency analysis (single source caracterization)
- SSC/ECR model fitting
- GUI

Temporal analysis of the DC2 data

We will try to use classical methods/tools for the temporal analysis of some blazar data produced by the DC2:

- Discrete Auto/Cross Correlation Function DACF DCCF
- First order Structure Function SF.
- Variograms VG
- Discrete Fourier Transform DFT.
- Lomb-Scargle Periodogram LSP.
- Phase Dispersion Minimization PDM.
- **Epoch Folding EF.**
- Detrended Fluctuation Analysis DFA
- Discrete Wavelet Transform DWT.
- Gaps Window Function Periodogram GWFP
- Maximum Entropy Analysis MEA
- Variability Index Tests VIT
- ∎ etc.

Temporal analysis of the DC2 data

Aim

 test of the performance of these methods on a few bright sources and of the detection capabilities of GLAST

•study the physical information contained in LAT time series data of blazars (e.g. describe and analyze the time behavior, time delays, cross-correlations, periodicities, characteristic timescales, duty-cycles, signal powerspectrum, 1/f behavior, discriminate truly variations and noise, intermittence)

•Use of the variability to classify different object classes

Spectral analysis and Multifrequency analysis

Collection of multi-wavelenghts (MW) data and spectral energy distributions on few selected DC2 blazar sources (epoch, central frequency, flux, error).

Study of some interesting LBL/IBL (low/intermediate energy peaked BL Lacs) and quasar-like blazars displaying extreme and isolated outbursts in the optical-radio e.g. OJ 287 (peculiar blazar, periodicity?) see the recent 2005 MW campaign

http://www.astro.utu.fi/OJ287MMVI/XMMcampaign.html 3C279, BL Lac, W Com, 3C 454.3, AO 0235+16, PKS 1622, Mkn421, etc



SSC/ECR model fitting

Data from real 3C 279 measurements



Graphical User Interface (via ROOT)

- 1. Interface to ST & FTOOLS
- 2. Custom Time Series Analysis Spectral & SED Fitting Analysis
- 3. etc