

Performance page: 3000 http://www-glast.stanford.edu/software/glast_performance.htm 2 10⁻⁵ cm⁻²s⁻¹ 2000 Question: what is the statistical accuracy to 1000 which flux and index can be assessed with the LAT data? 175.5 175.0 10⁻⁵ cm⁻²s⁻¹ Important in defining the sampling time of light curves, in setting up MW observations... sigma =F (flux, index, time, I, b) (\$ 150 (Nev 100 **Examples from GLAST Science**

Brochure 1996 flares observed with EGRET





Starting point Simulate and analyze the data for a single source with (index, I, b) =(2, 60° , 60°) fixed. Extragalactic and Galactic Diffuse Backgrounds are included.

First step

Check that the uncertainties returned by the Likelihood package, actually the MINUIT optimizer, are meaningful. Repeat n times the simulation while changing the seed value of the random generator in the observation simulator.





Compare the Likelihood uncertainties with those calculated from the distribution RMS for different fluxes and integration times.

No systematic bias is observed (as already found by Jim):

In the following the Likelihood uncertainty is used, only one iteration is performed when scanning the (flux, time) space.

Caveat: so far, PowerLaw (differential flux) thereafter PowerLaw2 (integral flux)





Scan results: each set of points corresponds to a fixed flux.









Fig. 3. LogN–logS distributions comparing identified AGN regarding peak flux and average flux values, respectively.

O.Reimer & D. Thompson, ICRC2001

Blazar Group VRVS meeting, November 29, 2005



For a very bright flare (> 10^{-5} cm⁻²s⁻¹, E > 30 MeV), accuracies of 20% in the flux, 6% in the index are obtained in 3 hours (about 2 orbits in survey mode), i.e. 40 min with the source in the field of view.

The dependence on index, I, b has to be investigated.