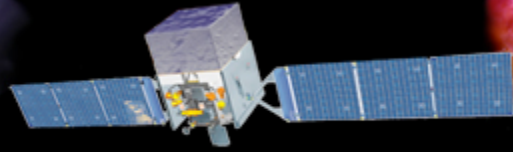


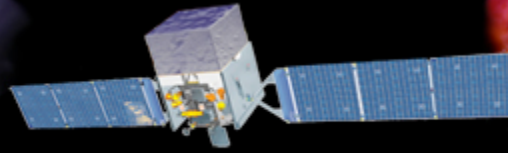
Fermi

Science Support Center



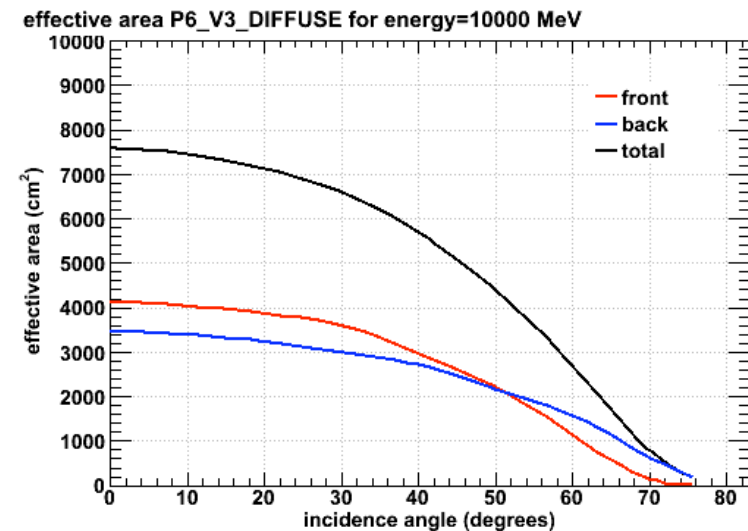
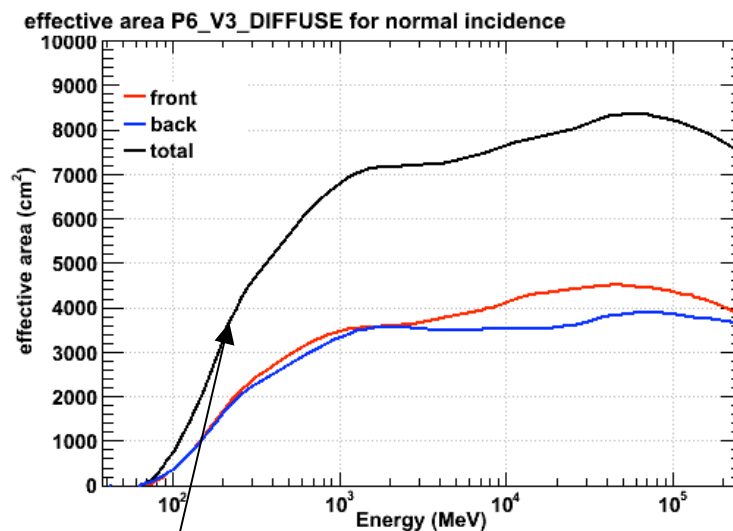
FSSC Science Tools

Data Selection and Caveats

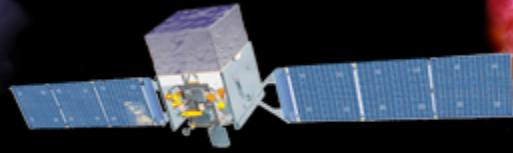


Event selection

- Use Events >100 MeV for spectral analysis
 - To avoid spurious features due to rapidly changing effective area with energy and because of residual uncertainty in the instrument response.

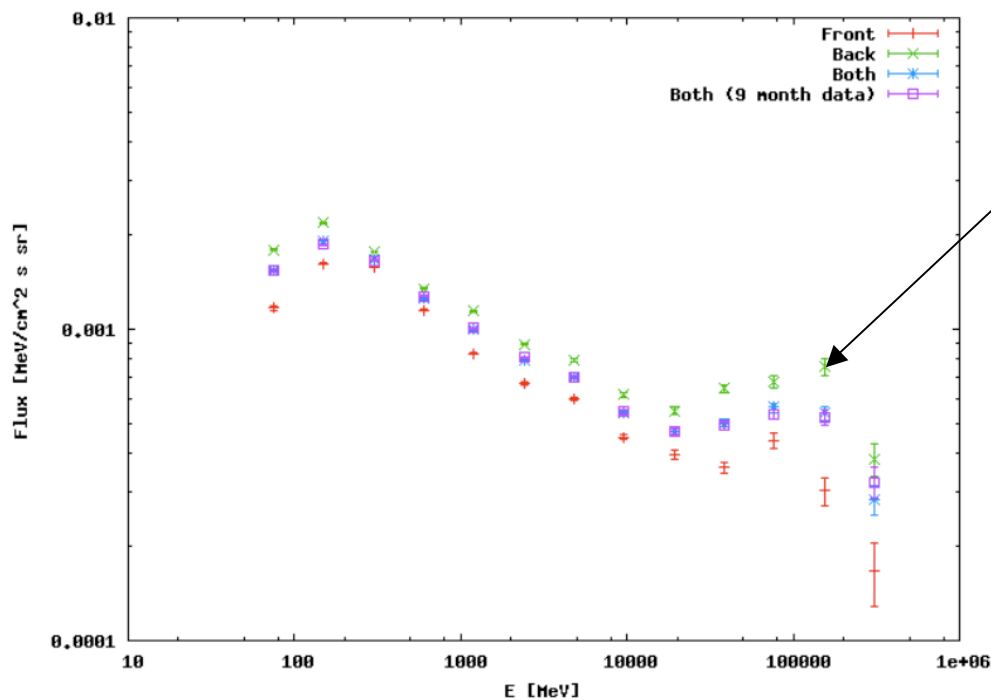


Small uncertainty in energy scale results in relatively large systematic error in final result.



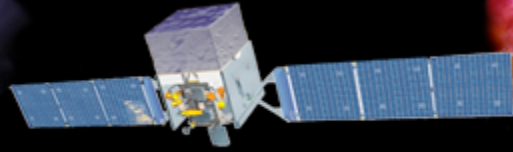
Event selection

- Use "Diffuse" class for diffuse, extended, and point source analysis. ($evclsmin=3$, $evclsmax=3$). **NOTE - this applies to P6 IRFs only, future recommended event selections might change.**
 - Other event classes have higher charged-particle background contamination and may result in spurious spectral features.

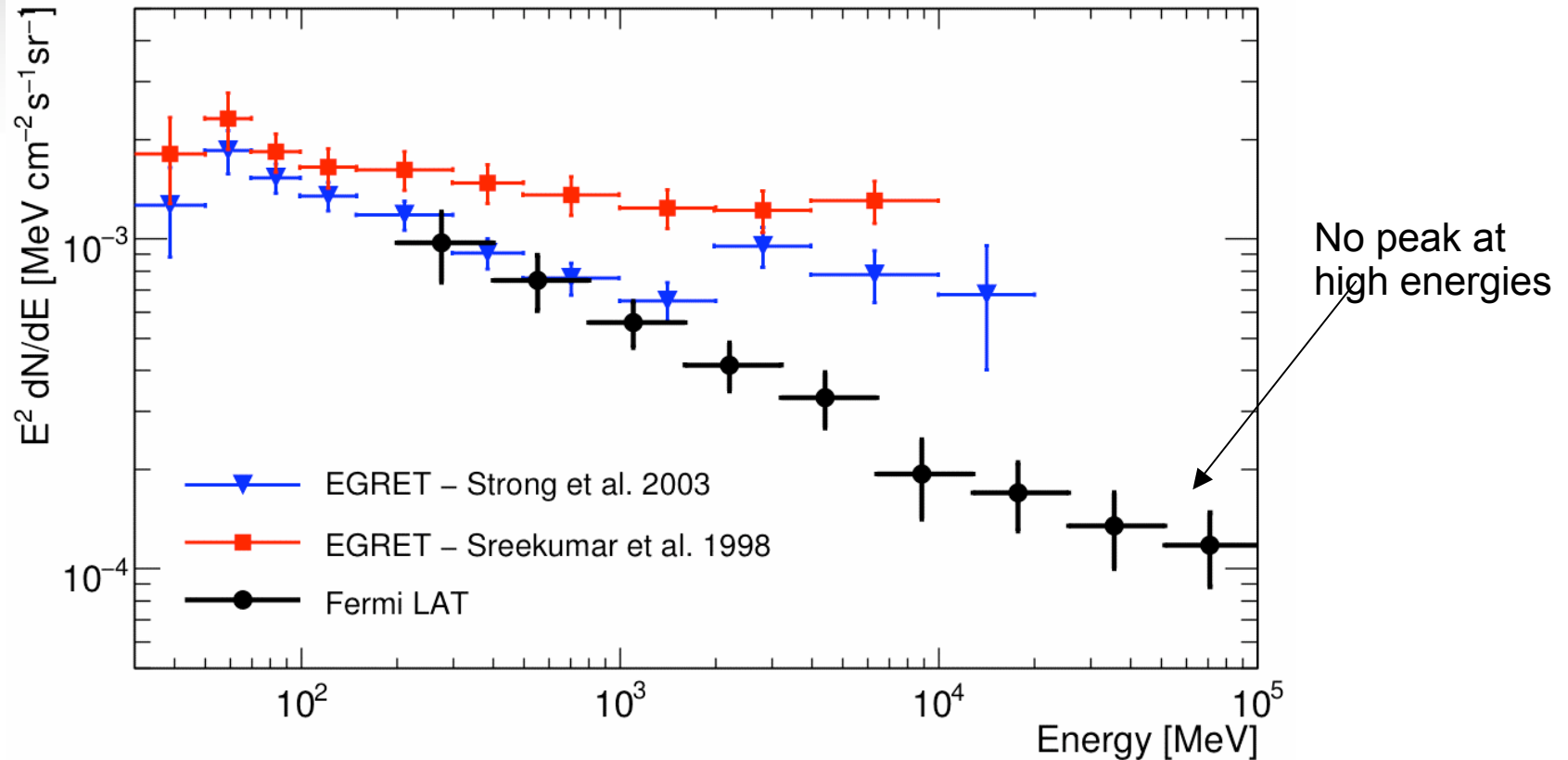


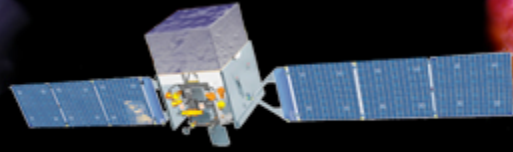
Residual cosmic-ray
(charged particle)
background.

Spectral templates are provided for the **diffuse class** event selection that allow you to account for the presence of residual cosmic-ray backgrounds in your model fits.

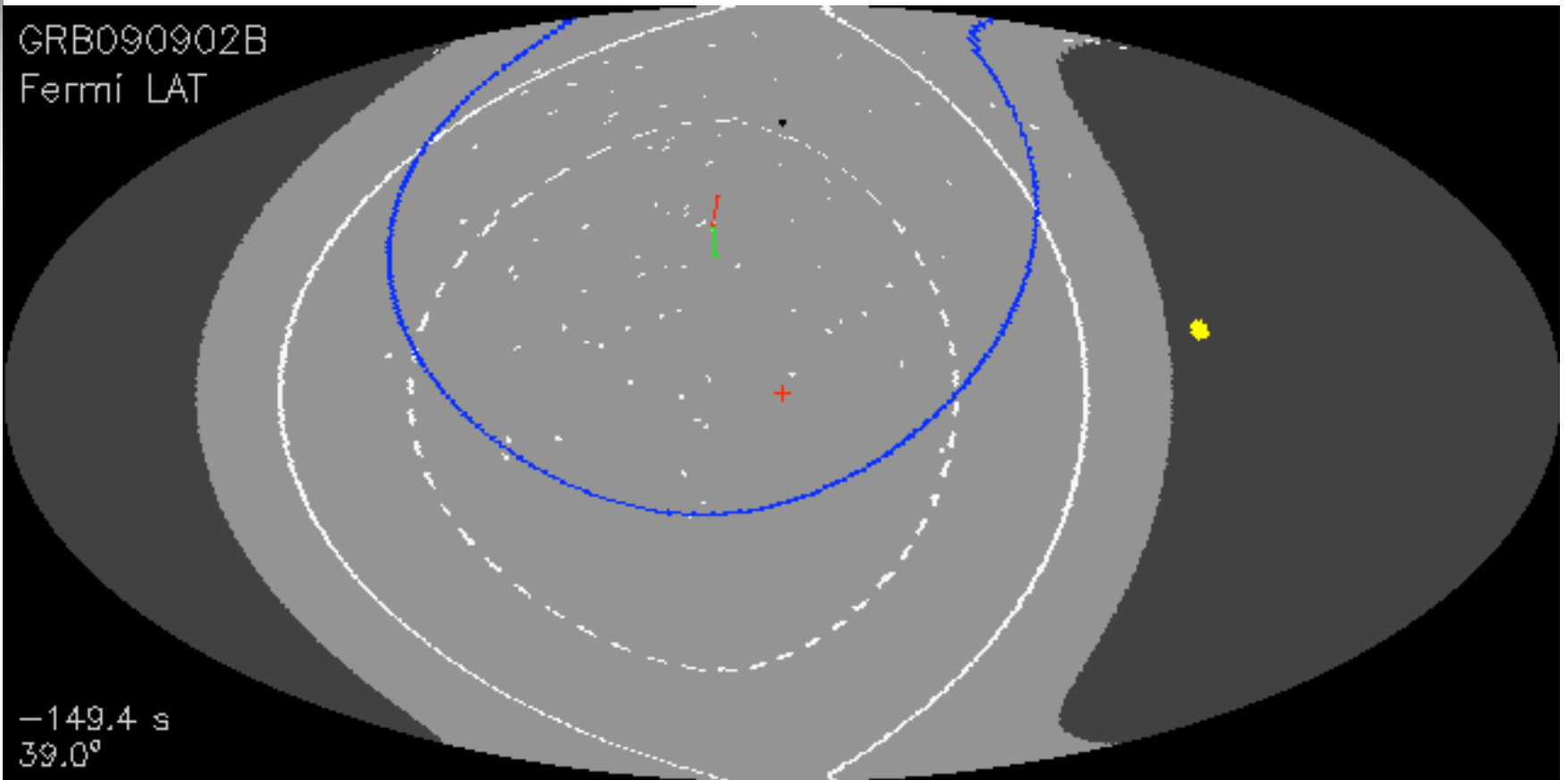


Isotropic gamma-ray spectrum (for comparison)

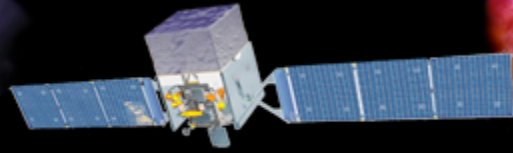




The Earth is Bright!



Exclude all periods where the edge of your region of interest comes within 8 deg of the Earth's limb (zenith angle of 105 deg)



Caveats Documentation

The screenshot shows a web browser window with the URL `http://fermi.gsfc.nasa.gov/ssc/data/analysis/LAT_caveats.html`. The page header includes the NASA logo, Goddard Space Flight Center name, and a search bar. The main navigation bar has links for HOME, RESOURCES, PROPOSALS, DATA (selected), HEASARC, HELP, and SITE MAP. The left sidebar contains a menu with 'Data Analysis' expanded, showing 'Caveats' as the active item. The main content area is titled 'Caveats About Analyzing LAT Data' and lists topics for caveats: Event Selection, Systematic effects and uncertainties, Diffuse Model, GRB analysis, and LAT Monitored Source List. The 'Event Selection' section provides prescriptions for event selection and mentions the 'data preparation' section of the Cicerone. It also discusses the Fermi-LAT performance associated with the released Pass6_V3 Instrument Response Functions (IRF) and lists specific caveats for analysis.