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The Potential of GLAST in Observing Features in the High-Energy Spectra of GRBs

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Abstract content

GLAST is a gamma-ray mission which will be launched in November 2007. It is equipped with the GLAST Burst Monitor (GBM) which detects Gamma-Ray Bursts (GRBs) with high reliability and provides a position and energy spectrum in the range between 10 keV and 30 MeV. The Large Area Telescope (LAT) will observe photons with energies from 20 MeV up to more than 300 GeV. With GLAST it will be possible to study the spectra of GRBs over 7 orders of magnitude in energy and for the first time in the energy band above several tens of GeV.

From the high-energy part of GRB spectra new insights into the bursts physics can be expected. Emission due to Inverse Compton scattering of electrons or due to interactions of hadrons would point to particles accelerated in the jets of the GRBs. A cut-off of the spectrum would allow to study internal absorption of gamma-rays in the burst and external attenuation in interaction with the EBL.

We will present the study of simulated GRBs with respect to features in the high-energy spectrum. We will discuss the performance of GLAST of detecting cut-offs and additional high-energy emission.

If this papers is presented for a collaboration, please specify the collaboration

GLAST LAT collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 3 (OG part 2), pages 1159-1162

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