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Measuring 10-1000GeV Cosmic-ray Electrons with GLAST/LAT

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Abstract content

We present here the capabilities of the GLAST Large Area Telescope to detect cosmic ray high-energy (HE) electrons in the energy range from 10 GeV to 1 TeV. We also discuss the science topics that can be investigated with HE electron data and quantify the results with LAT instrument simulations. The science topics include CR propagation, calibration of the IC gamma-ray model, testing hypotheses regarding the origin of HE energy cosmic-ray electrons, searching for any signature of Kaluza Klein Dark Matter annihilation, measuring the HE electron anisotropy, and forming links with radio astronomy. We expect to detect $\sim 10^7$ electrons above 20 GeV in 1 year of LAT operations.

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. 2 (OG part 1), pages 449-452

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