

The Fermi Large Area Telescope as a Cosmic-ray detector

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The Fermi Large Area Telescope (LAT) is an international observatory designed to study the high-energy gamma-ray sky. The gamma-ray events are identified and reconstructed from the signature of their electromagnetic showers in the instrument and it can therefore be used to observe cosmic-ray electrons and positrons thanks to its flexible triggering and filtering capabilities on-board. The Fermi LAT collaboration has published several results on charged cosmic rays. Among them is the measurement of the inclusive spectrum of electrons plus positrons (CREs) from 7 GeV to 1 TeV and searches for anisotropies in the CREs incoming direction. A recent measurement of cosmic-ray positron-only and electron-only spectra for energies between 20 GeV and 200 GeV was accomplished by using the Earth's magnetic field as a charge separator. In this talk we describe the techniques and capabilities of the LAT as a cosmic-ray detector and review the recent results and their interpretations. Prospects for future studies and observations will also be discussed.

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