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Geomagnetic Field Effects on the Imaging Air Shower Cherenkov Technique

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Abstract content

Imaging Air Cherenkov Telescopes (IACTs) detect the Cherenkov light flashes of Extended Air Showers (EAS) triggered by VHE gamma-rays impinging on the Earth's atmosphere. Due to the overwhelming background from hadron induced EAS, the discrimination of the rare gamma-like events is rather difficult, in particular at energies below 100 GeV. The influence of the Geomagnetic Field (GF) on the EAS development can further complicate this discrimination and, in addition, also systematically affect the gamma-efficiency and energy resolution of an IACT. Here we present the results from dedicated Monte Carlo (MC) simulations for the MAGIC telescope site, show the GF effects on real data as well as possible corrections for these effects.

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

MAGIC

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 1357-1360

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