ICRC'07

Mérida, Yucatán, Méx.

Classification Methods for MAGIC Telescope Images on a Pixel-by-pixel base

Monday, 9 July 2007 14:45 (0:00)

Abstract content

The problem of identifying gamma ray events hidden in charged cosmic ray background (so called hadrons) in Cherenkov telescopes is one of the key problems in VHE gamma ray astronomy. In this contribution, we present a novel approach to this problem by implementing different classifiers relying on the information of each pixel of the camera of a Cherenkov telescope, rather than using Hillas parameter analysis.

Separation between gamma-like and hadron-like events (as reconstructed by the MAGIC Cherenkov Telescope) is performed using several machine learning techniques, trained using Monte Carlo data samples of both kinds of events. The results of the different techniques are presented and compared with other methods based on Hillas parameters.

If this papers is presented for a collaboration, please specify the 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 1473-1476

Primary author(s) :   Mr. MALAGÓN, Constantino (Universidad Antonio de Nebrija); Ms. DE LOS REYES, Raquel (Universidad Complutense de Madrid); Dr. BARRIO, Juan Abel (Universidad Complutense de Madrid); Mr. NIETO, Daniel (Universidad Complutense de Madrid)

Presenter(s) :   Ms. DE LOS REYES, Raquel (Universidad Complutense de Madrid)

Session Classification : Posters 3 + Coffee

Track Classification : OG.2.7