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Discovery of very high energy gamma-ray emission from the low-frequency BL Lac object, BL Lacertae

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Abstract content

The low-frequency peaked BL Lac (LBL) object BL Lacertae was observed with the MAGIC telescope from August to December 2005 (22.2 hrs), and from July to September 2006 (26.0 hrs). A very high energy (VHE) gamma-ray signal was discovered with a 5.1 sigma excess in the 2005 data. Above 200 GeV, an integral flux of approximate by 3% of the Crab flux was measured. The differential spectrum between 150 and 900 GeV is rather steep, with a photon index of -3.6 ± 0.5 . For the first time, a clear detection of VHE gamma-ray emission from a low-frequency peaked BL Lac object was obtained, consistent with previous upper limits. During the observation, the light curve shows no large fluctuation. On the contrary, the 2006 data show no significant excess. This drop in flux follows the observed trend in optical activity. At the conference, details of the observation results are discussed.

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

on behalf of the MAGIC collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivio, 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 1041-1044

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