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Discovery of Localized TeV Gamma-Ray Sources in the Galactic Plane with Milagro

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Abstract content

Recent development in the analysis techniques used by the Milagro collaboration had resulted in the discovery of an extended TeV gamma-ray source in the Cygnus region of the Galaxy. The new source MGRO J2019+37 has been detected at median energies of 12 TeV. In addition to this extended source, new TeV gamma-ray sources have been discovered at the same median energies when more data was analyzed. One of these newly discovered sources, MGRO J2033+42 is in the Cygnus region. Another newly discovered source outside the Cygnus region and closer to the Galactic center is the TeV gamma-ray source MGRO J1909+06 at l = 40.5, b = -1.0. All of these three sources have a post-trial statistical significance of >5 standard deviations. Other TeV gamma-ray source candidates with a post-trial statistical significances of >4 standard deviations have also been observed in the Galactic plane. Properties of these sources and source candidates such as flux and spatial morphology will be presented.

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

Milagro 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 755-758

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