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Discovery of the candidate pulsar wind nebulae HESS J1718-385 in very-high-energy gamma-rays

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Abstract content

Motivated by recent detections of pulsar wind nebulae in very-high-energy (VHE) gamma rays, a systematic search for VHE gamma-ray sources associated with energetic pulsars was performed, using data obtained with the H.E.S.S. (High Energy Stereoscopic System) instrument. The search for VHE gamma-ray sources near the pulsar PSR J1718-3825 revealed the new VHE gamma-ray source HESS J1718-385. We report on the results from the HESS data analysis of this source and on possible associations with the pulsar and at other wavelengths. Furthermore we investigate the energy spectrum of HESS J1718-385 that shows a clear peak. This is only the second time a VHE gamma-ray spectral maximum from a cosmic source was observed, the first being the Vela X PWN.

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

H.E.S.S. 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 663-666

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