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Observations of Pulsar Wind Nebulae with VERITAS

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Abstract content

Many of the recently discovered galactic very high-energy gamma-ray sources are associated with Pulsar Wind Nebulae (PWN), which is the most populous source category at TeV energies. Extended synchrotron nebulae seen from these objects in the X-ray band is a footprint of the relativistic winds, generated by the young energetic pulsars, which interact with the matter ejected by the supernova explosion and surrounding interstellar gas. Relativistic electrons, or protons, accelerated in the pulsar winds or at their shocks interact with the magnetic field as well as low energy seed photons and finally produce the observed very high-energy gamma-ray emission.

The VERITAS array of four imaging atmospheric Cherenkov telescopes was designed to study astrophysical sources of gamma rays in the energy domain from about 100 GeV up to several tens of TeV. The sensitivity of the VERITAS array allows detailed studies of the morphology and spectral features of gamma-ray emission from PWNs. A number of northern sky PWNs have been observed with VERITAS during 2006 and 2007. The results will be presented at the symposium.

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

VERITAS

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 767-770

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