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H.E.S.S. observations of the supernova remnant RX J0852.0-4622: shell-type morphology and spectrum of a widely extended VHE gamma-ray source

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Abstract content

The shell-type supernova remnant RX J0852.0-4622 was detected in 2004 and re-observed between December 2004 and May 2005 with the High Energy Stereoscopic System (H.E.S.S.), an array of four Imaging Cherenkov Telescopes located in Namibia and dedicated to the observations of gamma-rays above 100 GeV. The angular resolution of $< 0.1°$ and the large field of view of H.E.S.S. (5° diameter) are well adapted to studying the morphology of the object in very high energy gamma-rays, which exhibits a remarkably thin shell very similar to the features observed in the radio range and in X-rays. The spectral analysis of the source from 300 GeV to 20 TeV will be presented. Finally, the possible origins of the very high energy gamma-ray emission (Inverse Compton scattering by electrons or the decay of neutral pions produced by proton interactions) will be discussed, on the basis of morphological and spectral features obtained at different wavelengths.

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

H.E.S.S.

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 667-670

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