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A search for VHE emission from passive supermassive black holes

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Abstract content

Jets of Active Galactic Nuclei (AGN) are established emitters of Very High Energy (VHE; >100 GeV) gamma rays. In addition, VHE radiation is expected to be emitted from the vicinity of Supermassive Black Holes (SMBH) irrespective of their activity state. Accreting SMBH rotate and generate a dipolar magnetic field. In the magnetosphere of the spinning black hole acceleration of particles can take place in the field gaps. VHE emission from these particles is feasible via leptonic or hadronic processes. Therefore quiescent systems, where the lack of a strong photon field allows the VHE emission to escape, are candidates for emission. The HESS experiment has observed passive SMBH in nearby galaxies of different masses. We describe the observations and the results of searches for VHE emission from those SMBH. We will discuss the constraints set by those observations in the context of different models predicting VHE emission from passive SMBH.

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. 3 (OG part 2), pages 933-936

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