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Comparison of preshower characteristics at Auger South and North

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Abstract content

Due to geomagnetic cascading, the properties of air showers initiated by photons above 10^19 eV depend strongly on the arrival direction and on the geographical location of the experimental site. This offers the possibility of a complementary search for such ultra-high energy photons with observatories located at sites with significantly different local geomagnetic field. In this paper we compare the characteristics of photon showers at the southern and northern sites of the Pierre Auger Observatory. The complementarity of the shower features seen by the two sites is demonstrated. We study how this complementarity can be used to search for ultra-high energy photons.

If this papers is presented for a collaboration, please specify the 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. 4 (HE part 1), pages 511-514

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