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The Northern Site of The Pierre Auger Observatory

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Abstract content

The Pierre Auger Observatory is a multi-national project for research on ultra-high energy cosmic rays. The Southern Auger Observatory in Mendoza province, Argentina, is approaching completion in 2007 with an instrumented area of 3,000 square kilometers. It will accurately measure the spectrum and composition of ultra-high energy cosmic rays up to and beyond the predicted GZK feature. We have obtained first results on the energy spectrum, mass composition and distribution of arrival directions on the southern sky.

The Northern Auger Observatory is designed to complete and extend the investigations begun in the south. It will establish charged particle astronomy and thus open a new window into the universe. The distribution of arrival directions of the highest energy events will point the way to unveiling the almost century old mystery of the origin and nature of ultra-high energy cosmic rays. Achieving this goal requires collecting many more events in spite of the steeply falling energy spectrum. The planned northern site will have an instrumented area of 4,000 square miles (10,370 square kilometers) in South-East Colorado, USA. The presentation covers the science of particle astronomy, the layout and the technical implementation of the Northern Auger Observatory.

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

The Pierre Auger 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. 5 (HE part 2), pages 889-892

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