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Measurement of the UHECR Energy Spectrum using data from the Surface Detector of the Pierre Auger Observatory

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Abstract content

At the southern site of the Pierre Auger Observatory, which is close to completion, an exposure that significantly exceeds the largest forerunner experiments has already been accumulated. We report a measurement of the cosmic ray energy spectrum based on the high statistics collected by the surface detector. The methods developed to determine the spectrum from reconstructed observables are described. The energy calibration of the observables, which exploits the correlation of surface detector data with fluorescence measurements in hybrid events, is presented in detail. Systematic uncertainties in the measured cosmic ray energy spectrum are discussed.

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. 4 (HE part 1), pages 327-330

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