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The Absolute, Relative and Multi-Wavelength Calibration of the Pierre Auger Observatory Fluorescence Detectors

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Abstract content

Absolute calibration of the Pierre Auger Observatory fluorescence detectors uses a 375 nm light source at the telescope aperture. This end-to-end technique accounts for the combined effects of all detector components in a single measurement. The relative response has been measured at wavelengths of 320, 337, 355, 380 and 405 nm, defining a spectral response curve which has been normalised to the absolute calibration. Before and after each night of data taking a relative calibration of the photo tubes is performed. This relative calibration is used to track both short and long term changes in the detector response. A cross check of the calibration in some photo tubes is performed using an independent laser technique. Overall uncertainties, present results and future plans 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 343-346

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