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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'Olive, 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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