



Contribution ID: 432

Type: **Poster contribution**

Calibration of the TA-EUSO Prototype Instrument

Tuesday, August 4, 2015 4:00 PM (1 hour)

The Extreme Universe Space Observatory (EUSO) instrument is being developed for deployment on the International Space Station (ISS). Looking down from its berth on the ISS, EUSO will take high speed UV video of Extensive Air Showers (EAS) caused by cosmic rays. Using these videos, the energy and arrival direction of each cosmic ray will be reconstructed. In order to reconstruct the energy, the absolute sensitivity of EUSO must be known. To test the EUSO instrument concept a prototype of EUSO (TA-EUSO) has been deployed on the Telescope Array site in Utah, USA in order to take advantage of the calibration facilities available on the site and to make simultaneous observations of extensive air showers recorded by the Telescope Array's fluorescent detectors. In this paper we describe the use of calibrated LEDs to calibrate the TA-EUSO instrument. These calibrated LEDs will also be used for pre-flight calibration of the EUSO Balloon prototype.

Collaboration

JEM-EUSO

Registration number following "ICRC2015-I"

403

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