ICRC

The Astroparticle Physics Conference
34th International Cosmic Ray Conference
July 30 - August 6, 2015
The Hague, The Netherlands

Contribution ID: **1332**   Type: **Poster contribution**

Cosmic Ray Shower Profile Track Finding for Telescope Array Fluorescence Detectors

Thursday 30 July 2015 15:30 (1 hour)

A simple cosmic ray track finding pattern recognition analysis (PRA) method for fluorescence detectors (FD) has been developed which significantly improves Xmax resolution and its dependence on energy. Events which have a clear rise and fall in the FD view contain information on Xmax that can be reliably reconstructed. Shower maximum must be extrapolated for events with Xmax outside the field of view of the detector, which creates a systematic dependence on the fitting function. The PRA method is a model and detector independent approach to removing these events, by fitting shower profiles to a set of triangles and applying limits on the allowable geometry.

Collaboration

Telescope Array

Registration number following "ICRC2015-I/"

992

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Session Classification: Poster 1 CR

Track Classification: CR-EX