Contribution ID : **246** Type : **Poster**

Measuring the ionization energy loss of EAS in atmosphere

Wednesday, 4 July 2007 14:45 (0:00)

Abstract content

Ionization loss of electrons in atmosphere, as a corresponding fraction of extensive air shower (EAS) energy dissipated along cascading, amounts to a major part of the primary particle energy. It has been shown that there is a relation between the loss and the total flux of air Cherenkov light induced by relativistic electrons where the model dependence is parameterized by the shower maximum position. We have analysed the Yakutsk array data using the total flux as a measure of EAS energy loss for ionization in atmosphere; and furthermore, as the robust estimator of cosmic ray energy with supplementary data from scintillators.

If this papers is presented for a collaboration, please specify the 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 191-194

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Session Classification : Posters 1 + Coffee

Track Classification : HE.1.3.A