



Contribution ID : 1172

Type : Oral

High Resolution Measurements of Cosmic-ray Air Showers with the Track Imaging Cerenkov Experiment

Friday, 6 July 2007 12:41 (0:12)

Abstract content

The Track Imaging Cerenkov Experiment (TrICE) is an air Cerenkov telescope designed to use a high resolution method for measuring cosmic-ray composition at TeV-PeV energies. The method aims to separate the fast and compact direct Cerenkov signal produced by primary cosmic ray nuclei in the upper atmosphere from the light produced by the subsequent air shower cascade. Efficient discrimination of the direct Cerenkov signal benefits from the use of small camera pixels to improve the angular resolution of the air shower image. Multi-anode photomultipliers are used in the TrICE camera to achieve 0.086 degree pixel spacing over a 1.5 degree field of view. The telescope was completed in late 2006 at Argonne National Laboratory. We present the results from the first observations with TrICE.

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

TrICE

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. 2 (OG part 1), pages 475-478

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Session Classification : OG 1.5

Track Classification : OG.1.5