Contribution ID : **300** Type : **Poster**

Performance of the surface detector simulation for the Pierre Auger Observatory

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

Abstract content

The simulation of the surface detector of the Pierre Auger Observatory, consisting of water Cherenkov detectors, is based on GEANT4. Particles are explicitly tracked through a detector having realistic geometry. The simulation is accelerated by a dedicated re-implementation of the tracking of the numerous Cherenkov photons inside the tank. The simulated-tank response to cosmic muons at various zenith angles and to electrons from muon decays is compared to experimental data from a special tank equipped with a muon hodoscope. Good agreement is found.

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'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 315-318

Primary author(s) : THE PIERRE AUGER COLLABORATION, - (Pierre Auger Observatory); Dr. GHIA, Piera Luisa (IFSI-INAF, Torino and LNGS-INFN, Assergi)

Presenter(s) : Dr. GHIA, Piera Luisa (IFSI-INAF, Torino and LNGS-INFN, Assergi)

Session Classification : Posters 1 + Coffee

Track Classification : HE.1.4.A