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Tests of the Interaction Models with Muon Pseudorapidities in KASCADE-Grande

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Abstract content

The Muon Tracking Detector in the KASCADE-Grande experiment allows the measurement of muon directions up to 700 m from the shower center. It means, that nearly all muons produced in a shower and surviving to the ground level are subject of investigation. It is important not only for studying mean muon production heights but, even more, for investigations of EAS muon pseudorapidity distributions. In this case these distributions are nearly identical to the pseudorapidity distributions of their parent mesons produced in hadronic interactions. Lateral distribution of muon pseudorapidity in EAS is a sensitive probe of hadronic interaction parameters embedded in the model. In this quantity lateral distribution of muon energy and lateral distribution of muon transverse momenta are hidden. Results of the analysis compared with the predictions of QGSJetII and FLUKA2002 models will be discussed.

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

KASCADE-Grande

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 111-114

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