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Type : **Poster**

The muon component and its relation with shower age in the EAS initiated by primaries of knee region

Abstract content

Measurements, obtained by the muon magnet-spectrographs ($m \sim 500 \text{ GeV}/c$) of NBU air shower array, representing lateral structure of low and high- energy muons in extensive air shower (EAS) with sizes ranging from $10^{4.6}$ to $10^{6.4}$ particles at sea level are studied to investigate its potential significance in understanding the primary composition and the development of EAS in the atmosphere. The relation between the electron cascade age (s), which represents the longitudinal development of EAS in atmosphere, and the muon component, which as the progeny of nucleon cascade, has been studied in detail. Our observations with different muon energy threshold ($E_{\text{muon}} > 2.5 \text{ GeV}$) and radial distance from shower core as measured directly by magnet spectrographs will be presented in this paper. Our measurements of the distribution of muons in young and old showers are seen to be similar to those measured in other experiments and observed to vary considerably with the shower age. This dependence of muon distribution on shower age would be presented in detail and its importance to understand the kinematics of particle production at high energy, their propagation in atmosphere and their implication in the development of EAS would be explored and discussed.

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

Summary

Reference

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