

PRIMARY ENERGY SPECTRA OF COSMIC RAYS SELECTED BY MASS GROUPS IN THE KNEE REGION

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The KASCADE experiment measures the electron, muon and hadron component of extensive air showers between 0.5 PeV and 100 PeV. The main goal of the experiment is the determination of the energy spectrum of the cosmic rays in the knee region. Of special interest is not only the total energy spectrum but also the energy spectra of different mass groups. Due to the low observation level of 110 m a.s.l. special care must be taken to treat the large shower fluctuations in a consistent way. Using deconvolution techniques on size spectra of electrons and muons in different angular bins it is possible to reconstruct energy spectra for individual mass groups. These spectra show also a knee-like feature. Results will be presented and discussed.