

UNDERSTANDING COSMIC RAY SHOWERS AT LARGE ZENITH ANGLES

M.T.Dova(1) and A.Mariazzi(1)

(1) Universidad Nacional de La Plata

Particle density distributions are essential for the analysis of the showers generated in the atmosphere by cosmic rays of ultra high energy. Several useful parametrizations of lateral distribution of particles (l.d.f) have been used by different experiments to study showers produced at low zenith angles. Very inclined showers are of particular interest since they would increase the acceptance of any air shower array. We present an approach to analyse lateral distributions of electrons and muons produced by high zenith angle cosmic ray particles. The proposed l.d.f fits very well to data obtained by MC simulations. Studies of the evolution of l.d.f. parameters with the atmospheric depth are also presented