

Measurement of the cosmic ray energy spectrum and composition from 10^{17} to 10^{19} eV using HiRes prototype detector

Hires collaboration

Abstract. We study the spectrum and average mass composition of cosmic rays with primary energies between 10^{17} eV and 10^{19} eV using High Resolution Fly's Eye (HiRes) prototype detector. A monocular timing fitting is used to obtain shower geometries. Measurements have been made of the energy spectrum and shower elongation. The spectrum is

consistent with earlier Fly's Eye and HiRes/MIA measurements. A comparison between measured and simulated shower elongation also supports the conclusion that the cosmic ray intensity is changing from a heavier to a lighter composition in this energy range. discussed.
