Contribution ID: **8** Type: **not specified**

Measurements of the cosmic rays spectrum and large scale anisotropies with the KASCADE-Grande experiment

Thursday, 26 September 2013 11:25 (25 minutes)

The KASCADE-Grande experiment measured with high precision EAS generated by cosmic rays in the 10^16-10^18 eV energy range, for each event the total number of charged particles and the number of muons were determined.
Based on these two observables we estimate the primary energy of each event and we separate the events into two samples generated by light and heavy primaries respectively.
The measurement of the all particle and of the light and heavy mass groups energy spectra will be presented.
Our results show that:
a) the all particle spectrum cannot be described by a single index power law;
b) the heavy primaries mass group one show a steepening at ~8x10^16 eV;
c) the light primaries mass group one show a hardening at ~10^17 eV.
A search for large scale anisotropies, based on the east-west method, will also be presented. No significant anisotropies were detected. The obtained upper limits will be discussed and compared with the results of other experiments.

Primary author: CHIAVASSA, Andrea (Universita‘ di Torino)

Co-author: FOR THE KASCADE-GRANDE, Collaboration (-)

Presenter: CHIAVASSA, Andrea (Universita‘ di Torino)

Session Classification: Measurements of the cosmic rays spectrum and large scale anisotropies with the KASCADE-Grande experiment - Andrea Chiavassa, U of Torino

Track Classification: Andrea Chiavassa