



HEP 2013  
Stockholm  
18-24 July 2013



Contribution ID: 764

Type: **Talk presentation**

## High-energy cosmic rays measured with KASCADE-Grande

*Thursday 18 July 2013 17:45 (15 minutes)*

With KASCADE-Grande, the detection of high-energy cosmic rays above a few hundred TeV is realized by the observation of extensive air-showers. By using a multi-detector setup, energy spectrum, elemental composition, and anisotropies of high-energy cosmic rays in the energy range from below the knee up to 2 EeV are investigated. In addition, the large high-quality data set permits distinct tests of the validity of hadronic interaction models used in interpreting air-shower measurements. After more than 16 years, the KASCADE-Grande experiment terminated measurements end of 2012. Main results of the data analysis exhibited a knee-structure in the spectrum of the primary cosmic rays of light elements at a few PeV; a knee-like structure in the spectrum of heavy primaries at c.90 PeV; and an ankle-like structure for the light primaries at c.120 PeV. The implications of these findings to astrophysical models for the transition from galactic to extragalactic origin of cosmic rays will be discussed.

**Author:** HAUNGS, Andreas (Karlsruhe Institute of Technology)

**Co-author:** KASCADE-GRANDE, Collaboration (KIT)

**Presenter:** HAUNGS, Andreas (Karlsruhe Institute of Technology)

**Session Classification:** Astroparticle Physics

**Track Classification:** Astroparticle Physics