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## The KASCADE-Grande experiment: recent results about the energy spectrum

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The study of the cosmic ray energy spectrum in the interval  $10^{16}$  eV -  $10^{18}$  eV results of particular importance for several reasons, one of them is the possible existence of a second knee, other one is the possible presence of a galactic-extragalactic transition in the cosmic ray flux and another one is the prediction from some astrophysical models of a knee in the energy spectrum of the heavy component of galactic cosmic rays. To address these questions precise measurements of the arrival direction, energy and composition of cosmic rays in this energy regime need to be performed. For this purpose the KASCADE-Grande air-shower detector was built at the place of the Karlsruhe Institute of Technology. The detector covers a  $0.5 \text{ km}^2$  surface with different arrays of detectors which allows to measure simultaneously the charged and muon components of the air-shower events. With this information a lot can be learned about the composition and energy of the primary cosmic ray particles. In this talk, the KASCADE-Grande detector is described and first results of the experiment are shown, mainly about the all-particle cosmic ray energy spectrum in the energy region from  $10^{16}$  eV to  $10^{18}$  eV.

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