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4. High energy cosmic rays (HE-CR I)

The spectrum of cosmic rays in the energy range of 10^{14} - 10^{18} eV

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The KASCADE experiment and its extension KASCADE-Grande have significantly contributed to the current knowledge about the energy spectrum and composition of cosmic rays (CRs) with energies between the knee and the ankle. However, the data of both experiments were analysed separately, although Grande used the muon information of the KASCADE-array. A coherent analysis based on the combined data of both arrays is expected to profit from reconstructed shower observables with even higher accuracy compared to the stand-alone analyses. In addition, a significantly larger fiducial area is available.

The aim of this analysis is to obtain the spectrum and composition of CRs in the range from 10^{14} to 10^{18} eV with a larger number of events and further reduced uncertainties using one unique reconstruction procedure for the entire energy range. This contribution will be a short review of the analysis procedures of the individual arrays, as well as the concept and the current status of the combined analysis.