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The KASCADE-Grande Experiment

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Abstract content

KASCADE-Grande is an extensive air shower experiment co-located to the original KASCADE site at Forschungszentrum Karlsruhe, Germany. Main parts of the experiment are the Grande array consisting of 37x10 sqm scintillation detectors spread over an area of 700x700 sqm, the original KASCADE array with 252 stations covering 200x200 sqm with unshielded and shielded detectors, and additional muon tracking devices. This multi-detector system allows to investigate the energy spectrum, composition, and anisotropies of cosmic rays in the energy range up to 1 EeV. The primary goals besides investigating the origin of the knee at a few PeV, are to verify the existence of the second knee at approximately 100 PeV and to measure the composition in the expected transition region of galactic to extragalactic cosmic rays. An overview on the performance of the apparatus, shower reconstruction methods, and first results will be given on the basis of three years of data taking with the Grande set-up.

If this papers is presented for a collaboration, please specify the collaboration

KASCADE-Grande

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 4 (HE part 1), pages 219-222

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