

# SEARCH FOR ELONGATED SPATIAL STRUCTURES IN HADRONIC SHOWER CORES WITH KASCADE

**A. Iwan** and the KASCADE Collaboration

Institut für Kernphysik, Forschungszentrum Karlsruhe, 76021 Karlsruhe, Germany and , Department of Experimental Physics, University of Lodz, 90236 Lodz, Poland.

`iwan@ik1.fzk.de`

The observation of elongated air shower cores with primary energies above 5 PeV is reported in the literature. High-energy hadrons and gamma rays, detected in emulsion chambers, occasionally show a high degree of alignment. It is debated controversially, whether conventional physics is able to explain this phenomenon. In this analysis, the structure of hadronic shower cores is investigated with the 320 m<sup>2</sup> KASCADE calorimeter. The energy, position, and direction of incidence for individual hadrons above 50 GeV are measured. In parallel the spatial structure is studied using the simulation program CORSIKA with the hadronic interaction model QGSJET. First results are presented. Elongated showers can be found in both data sets — measurements and simulations. No significant deviation between them or hints for new physics have been found so far.