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**Investigation of the Muon Momenta in EAS with the KASCADE Muon Tracking Detector** — ●J. ZABIEROWSKI<sup>1</sup>, C. BÜTTNER<sup>2</sup>, K. DAUMILLER<sup>3</sup>, P. DOLL<sup>4</sup>, and R. OBENLAND<sup>4</sup> for the KASCADE collaboration — <sup>1</sup>Soltan Institute for Nuclear Studies, Cosmic Ray Phys. Dept. 90950 Lodz, Poland; — <sup>2</sup>Max-Planck-Institut für Physik, 80805 München; — <sup>3</sup>Universität Wuppertal, 42119 Wuppertal, Germany; — <sup>4</sup>Institut für Kernphysik, Forschungszentrum Karlsruhe, 76021 Karlsruhe, Germany.

Extensive Air Shower (EAS) Experiment KASCADE [1] with its Muon Tracking Detector (MTD) [2] enables precise measurements of the muon directions in EAS. These directional data with the method introduced in [3] allow to obtain a quantity  $\zeta$ , being a ratio of transversal to longitudinal muon momentum components.

Using this quantity and a fixed, e.g. mean value of muon transverse momentum ( $p_t=0.3$  GeV), an upper limit on muon momentum spectrum in EAS is obtained for large sample of KASCADE data. The dependence of the results on the  $p_t$  values is investigated. The comparison with simulated showers for different primaries shows the possibility to use the muon momentum spectrum for model tests and tuning.

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[1] Antoni, T. et al., Nucl. Instr. and Meth., A513, (2003), 490.

[2] Doll, P. et al., Nucl. Instr. and Meth., A488, (2002), 517.

[3] Zabierowski, J. et al., Nucl. Phys. B (Proc.Suppl.) 122, (2003), 275.

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