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Electron muon identification in a new concept of an EAS detector

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We present results demonstrating the time resolution and muon-electron separation capabilities with a new concept of an EAS detector capable for measurements of cosmic rays arriving with large zenith angles. This kind of detector will be part of a large area (several square kilometer) surface array designed to measure Ultra High Energy (0.01-100 EeV) neutrinos using the Earth-skimming technique. Because of the very good time resolution and adjustable orientation of the detector elements, we can separate upward-moving tracks from downward tracks at any orientation with high efficiency.
The particle identification capability is tested by measurements in coincidence with the KASKADE-GRANDE experiment in Karlsruhe, Germany.
A method to identify muons and electron-gammas is presented and a validation from KASKADE-GRANDE is shown.

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