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The AMIGA Muon Counters of the Pierre Auger Observatory: Performance and Studies of the Lateral Distribution Function

Thursday 30 July 2015 15:30 (1 hour)

The AMIGA enhancement (Auger Muons and Infill for the Ground Array) of the Pierre Auger Observatory consists of a 23.5 km^2 infill area where air shower particles are sampled by water-Cherenkov detectors at the surface and by 30 m^2 scintillation counters buried 2.3 m underground. The Engineering Array of AMIGA, completed since February 2015, includes 37 scintillator modules (290 m^2) in a hexagonal layout. In this work, the muon counting performance of the scintillation detectors is analysed over the first 22 months of operation. A parametrisation of the detector counting resolution and the lateral trigger probability are presented. Finally, preliminary results on the observed muon lateral distribution function (LDF) are discussed.

Collaboration

Pierre Auger

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