



Improvement in fast particle track reconstruction with robust statistics



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ARTICLE INFO

Article history:

Received 26 August 2013

Received in revised form

28 October 2013

Accepted 28 October 2013

Available online 6 November 2013

ABSTRACT

The IceCube project has transformed 1 km³ of deep natural Antarctic ice into a Cherenkov detector. Muon neutrinos are detected and their direction is inferred by mapping the light produced by the secondary muon track inside the volume instrumented with photomultipliers. Reconstructing the muon track from the observed light is challenging due to noise, light scattering in the ice medium, and the possibility of simultaneously having multiple muons inside the detector, resulting from the large flux of cosmic ray muons.

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