

Performance studies for IceCube

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Abstract. The analysis of the AMANDA-B10 data has shown that neutrinos with energies larger 100 GeV can be detected with an open Cerenkov detector in the antarctic ice. In order to test the wide range of predictions for extraterrestrial neutrinos, larger effective areas are necessary. We present studies on geometry optimizations of IceCube, the planned 1 km² neutrino telescope at the South Pole. We evaluate the sensi-

tivity of IceCube with respect to a diffuse flux of high energy neutrinos as well as for neutrino point sources. We present event patterns for muon tracks and isolated showers at extremely high energies.

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