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IceTop as Veto for IceCube

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The IceCube neutrino observatory includes a surface array, IceTop, designed to detect and study cosmic rays. This array, located directly above IceCube, can be used to distinguish astrophysical neutrinos from atmospheric neutrinos and penetrating muons, increasing the effective volume of the IceCube detector for the southern sky. In this contribution we present the efficiency of such a veto technique as a function of energy, and compare data and simulation. In particular we focus on one event which was found in a separate analysis (starting event search) in IceCube and passing through IceTop and we study the probability of this event being background.

Collaboration

IceCube

Registration number following "ICRC2015-I/"

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