

Abstract Submitted
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Implementation of IceTop data in IceCube realtime alert system

NAJIA MOUREEN BINTE AMIN, University of Delaware, ICECUBE COLLABORATION — IceCube Neutrino Observatory is searching for astrophysical neutrino candidates and whenever the data acquisition system identifies a small fraction of neutrinos that are likely to be coming from an astrophysical origin, an alert is sent out to the multi-messenger observational community for rapid follow-up observations. A realtime analysis framework is implemented for Multimessenger time-domain astronomy. The main background in astrophysical neutrino detection from the northern hemisphere are the up-going atmospheric neutrinos, and down-going atmospheric muons constitute the largest background from the southern hemisphere. Data from IceTop, the surface component of the neutrino observatory, can be used to tag in-ice muon bundles produced by cosmic ray air showers as there will be coincident muon hits on the surface. On the contrary, astrophysical neutrinos will be identified alone if they interact inside the detector. Our goal is to implement IceTop data in the realtime alert system.

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