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Low-energy (100 GeV - few TeV) neutrino point source searches in the Southern sky with IceCube

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IceCube searches for neutrino point sources in the southern sky have traditionally been restricted to energies well above 100 TeV, where the background of down-going atmospheric muons becomes sufficiently low to be tolerated in searches. Recent developments of a data stream dedicated to the study of low-energy neutrinos from the Southern hemisphere enables searches to be extended far below this threshold. This data stream utilizes powerful veto techniques to reduce the atmospheric muon background, allowing IceCube for the first time to perform a search for point-like sources of neutrinos in the southern sky at energies between 100 GeV and a few TeV. We will present the event selection along with the results obtained using one year of data from the full detector.

Collaboration

IceCube

Registration number following "ICRC2015-I/"

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