

Diffuse neutrino measurements with IceCube high energy starting events

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The IceCube neutrino observatory has firmly established the existence of an astrophysical high-energy neutrino component. This discovery was made using the high energy starting events sample (HESE), which uses a veto to significantly reduce atmospheric background. In this talk I will present the latest astrophysical neutrino flux measurement using seven years of HESE. This latest iteration of the analysis has a new extended systematic treatment as well as added statistics. As part of this new characterization, I will report on the compatibility of our observations with detailed isotropic flux models proposed in the literature, measurements of the neutrino cross section, and tests of fundamental space-time symmetries such as Lorentz Violation.

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