

IceCube high energy starting events at 7.5 years - new measurements of flux and flavor

The IceCube Neutrino Observatory at the South Pole, which detects Cherenkov light from charged particles produced in neutrino interactions, firmly established the existence of an astrophysical high-energy neutrino component. In this talk I will present IceCube's High-Energy Starting Event sample, the updates made and the new results obtained with a livetime of 7 years. I will focus on the new measurement of the flavor composition performed on this sample. We are directly sensitive to each neutrino flavor via the single cascade, track and double cascade event topologies, the latter being the topology produced in tau-neutrino interactions above an energy threshold of ~ 100 TeV. A measurement of the flavor ratio on Earth can provide important constraints on sources and production mechanisms within the SM, and also constrain various BSM processes.

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