

New Measurement of the flavor composition of high-energy neutrino events with contained vertices in IceCube

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Abstract content

The IceCube Neutrino Observatory at the South Pole detects Cherenkov light from charged particles produced in neutrino interactions. At the highest energies, the neutrino flux is of cosmic origin, but its astrophysical sources are yet unknown. A measurement of the flavor ratio on Earth can provide important constraints on sources and production mechanisms. In this talk we present the measurement of the flavor composition performed on IceCube's High-Energy Starting Event sample with a livetime of 7 years. 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.

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