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## First Evidence for Energetic Cosmic Neutrinos with IceCube

Department of Physics Colloquium

**N**eutrino astronomy was proposed in the early 1960s as a way to explore high energy phenomena in the Universe. After 20 years of experimental efforts towards a large neutrino telescope at the South Pole, IceCube has come in full operation since May 2011. One of the primary goals of IceCube is the search for an energetic astrophysical neutrinos flux. I will discuss searches for high-energy neutrinos (energies  $> 100$  TeV) with IceCube, which have recently produced the first evidence for a flux of neutrinos beyond expectations from neutrinos generated in the Earth's atmosphere. This includes the detection of events with energies above 1000 TeV—the highest energy neutrinos ever observed. I will discuss our recent findings as well as strategies underway that may help to shed more light on the origin of highest energy particles in the Universe.



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