

## Recent results from IceCube

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IceCube neutrino observatory is 1km<sup>3</sup> detector located at the South Pole in Antarctica. Its construction with was completed in 2010. Since then it has continuously collected data: cosmic rays with IceTop, cosmic rays induced muons with in-ice arrays, low energy atmospheric neutrinos with Deep Core, and high energy atmospheric and astrophysical neutrinos with IceCube. The unexpectedly large astrophysical diffuse neutrino flux has been discovered by IceCube in 2013. Its spectrum has been characterized with all-flavor neutrino events starting in the detector, muon neutrino induced tracks as well as cascades events, which are dominated by electron and tau neutrino flavors. The energy spectrum is well described by a single power law with a spectral index of 2.5. The origin of astrophysical diffuse neutrino flux remains largely unknown. Data samples utilizing various event topologies have been used to search for astrophysical point sources. So far, IceCube has found an evidence of astrophysical neutrinos originating from two point sources, the TXS 0506+056 blazar and from the NG 1068 active galaxy. High statistics of atmospheric neutrinos collected with the DeepCore array are used for neutrino oscillation analyses and for searches of sterile neutrinos. In this talk we will present most recent physics results from IceCube with astrophysical and atmospheric neutrinos as well as cosmic ray results with IceTop.

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