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Search for Astrophysical Tau Neutrinos with Three Years of IceCube Data[1] DONGLIAN XU, University of Alabama, ICECUBE COLLABORATION — High-energy cosmic neutrinos are expected to be produced in extremely energetic astrophysical sources such as active galactic nuclei (AGNs) and gamma ray bursts (GRBs). The IceCube neutrino observatory has recently detected a diffuse astrophysical neutrino flux at 5.7σ. One of the outstanding questions regarding astrophysical neutrinos is their flavor composition. Most standard oscillation scenarios predict tau neutrinos in the astrophysical flux, which have a negligible background from cosmic ray induced atmospheric neutrinos. I will present the analysis method and results from a recent search for astrophysical tau neutrinos with three years of IceCube data.

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