Contribution ID: **36** Type: **not specified**

IceCube: Cosmic Neutrinos and Multimessenger Astronomy

Tuesday, 11 January 2022 16:15 (40 minutes)

Below the geographic South Pole, the IceCube project has transformed one cubic kilometer of natural Antarctic ice into a neutrino detector. IceCube detects more than 100,000 neutrinos per year in the GeV to 10 PeV energy range. From those, we have isolated a flux of high-energy neutrinos of cosmic origin, with an energy flux that is comparable to that of high-energy photons. We have also identified the first source: on September 22, 2017, following an alert initiated by a 290-TeV neutrino, observations by other astronomical telescopes pinpointed a flaring active galaxy, powered by a supermassive black hole. We will review recent progress in measuring the cosmic neutrino spectrum and in identifying its origin.

Primary author: HALZEN, Francis (University of Wisconsin-Madison)

Presenters: HALZEN, FRANCIS; HALZEN, Francis (University of Wisconsin-Madison)

Session Classification: Astrophysical neutrinos I