



Contribution ID: 91

Type: **not specified**

## Current State of Neutrino Astronomy - IceCube and Beyond

*Tuesday 22 October 2024 14:00 (40 minutes)*

A decade ago, the IceCube Neutrino Observatory at the South Pole opened a new window into the universe by detecting an astrophysical neutrino flux in the TeV - PeV range. Since then, the field has rapidly evolved. The energy spectrum of astrophysical neutrinos has been measured with ever-increasing precision in multiple detection channels. The first point sources are emerging, with the blazar TXS 0506+056 and the Seyfert Galaxy NGC 1068. Adding to the complexity of the neutrino sky, IceCube has recently measured neutrino emission from the Galactic Plane, which offers valuable new information to the study of galactic cosmic ray production and transport. In the meantime, the instrumented volumes of next-generation telescopes, such as KM3NeT and Baikal-GVD, are becoming comparable to IceCube. As they are located in the Northern Hemisphere, these instruments complement IceCube's field of view, promising exciting results in the following years. In this talk, I will present IceCube's recent results on astrophysical neutrinos and highlights from the next-generation instruments.

**Author:** Dr HAACK, Christian (ECAP, FAU Erlangen)

**Presenter:** Dr HAACK, Christian (ECAP, FAU Erlangen)

**Session Classification:** Plenary Session