

MAS20-2020-000046

Abstract for an Invited Paper
for the MAS20 Meeting of
the American Physical Society

Detecting Cosmic Neutrinos with IceCube at the Earth's South Pole

NAOKO KURAHASHI NEILSON, Drexel Univ

The Universe has been studied using light since the dawn of astronomy, when starlight captured the human eye. The IceCube Neutrino Observatory observes the universe in a different and unique way: in high-energy neutrinos. IceCube discovered a diffuse flux of astrophysical neutrinos, in other words, celestial emission of high energy neutrinos, and started a new era of neutrino astronomy. I will motivate why neutrinos are a necessary messenger in high-energy astronomy, and discuss spatial analyses that aim to identify the sources of such astrophysical neutrinos. An attempt to reconcile our many results will draw a picture that is the current state of neutrino astronomy.