

Measuring density of Earth's core using high-energy neutrinos observed by IceCube

Saturday, July 30, 2022 3:15 PM (25 minutes)

The world largest neutrino observatory IceCube, located at the South Pole, is collecting high-energy neutrino events for over 10 years, and has observed a diffuse cosmic neutrino flux since 2013. While the main aim is searching for extra-terrestrial neutrinos, the collected data contains a large sample of atmospheric neutrino interactions as background events. Using our understanding of the atmospheric neutrino flux and detector systematics of IceCube, these events can be utilised to probe for the density structure of the Earth's interior. In this talk we discuss the analysis method and expected performance using the IceCube muon neutrino sample collected from 2010 to 2020.

Attendance type

In-person presentation

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