

Measuring the Flavor of UHE Neutrinos with PUEO

Tuesday, 18 June 2024 17:30 (2 hours)

The Payload for Ultrahigh Energy Observations is a balloon-borne detector for astrophysical neutrinos with energies in the EeV range. Flying on a long duration balloon over Antarctica, it will measure the radio signals from particle showers that are produced when UHE neutrinos interact within the ice.

A neutrino undergoing charged current interaction will also result in a charged lepton, which can produce additional particle showers. Identifying the characteristic radio emission from these secondary showers would allow us to measure the flavor composition of the UHE neutrino flux.

We will present an outlook for the measurement of the flavor of UHE neutrinos with PUEO, which would give valuable insight into their production processes, let us probe neutrino oscillations at the highest energies, and search for beyond standard model interactions.

Poster prize

Yes

Given name

Christoph

Surname

Welling

First affiliation

University of Chicago

Second affiliation

Institutional email

christophwelling@uchicago.edu

Gender

Male

Collaboration (if any)

PUEO

Primary author: WELLING, Christoph (University of Chicago)

Presenter: WELLING, Christoph (University of Chicago)

Session Classification: Poster session and reception 1

Track Classification: Astrophysical neutrinos