

Contribution ID: 1149

Type: Poster

## Design of the Payload for Ultrahigh Energy Observations

Ultrahigh-energy cosmic rays (UHECR) should produce ultrahigh-energy neutrinos (UHEN) as byproducts of their propagation. Many candidate UHECR source models also predict an emission of UHEN local to their acceleration sites. The Payload for Ultrahigh Energy Observations (PUEO) is a balloon-borne observatory that scans the Antarctic ice for these UHEN through their Askaryan emission and is the successor to the ANtarctic Impulsive Transient Antenna (ANITA). The payload design is optimized to detect these Askaryan signals with wide bandwidth measurements of dual-polarized antennas. The challenge in reaching high neutrino sensitivity includes outfitting many low-noise channels with linear polarization measurements and efficient filtering of backgrounds with size, power, and weight constraints to fit on a balloon-borne instrument. This poster will present the antennas, filtering, and data acquisition system in the context of meeting the science requirements of the PUEO mission.

## **Collaboration(s)**

PUEO

Author: Dr MCBRIDE, Keith (University of Chicago)Presenter: Dr MCBRIDE, Keith (University of Chicago)Session Classification: PO-2

Track Classification: Neutrino Astronomy & Physics