

# Discovering the Highest Energy Neutrinos with the Payload for Ultrahigh Energy Observations (PUEO)

Wednesday, July 14, 2021 1:18 PM (12 minutes)

The Payload for Ultrahigh Energy Observations (PUEO) is a NASA Long-Duration Balloon Mission that has been selected for concept development. PUEO have unprecedented sensitivity to ultra-high energy neutrinos above  $10^{18}$  eV. PUEO will be sensitive to both Askaryan emission from neutrino-induced cascades in Antarctic ice and geomagnetic emission from upward-going air showers that are a result of tau neutrino interactions. PUEO is also especially well-suited for point source and transient searches. Compared to its predecessor ANITA, PUEO achieves better than an order-of-magnitude improvement in sensitivity and lowers the energy threshold for detection, by implementing a coherent phased array trigger, adding more channels, optimizing the detection bandwidth, and implementing real-time filtering. I will discuss the science reach and plans for PUEO, leading up to a 2024 launch.

## Keywords

## Collaboration

### other Collaboration

PUEO

### Subcategory

Experimental Methods & Instrumentation

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**Session Classification:** Discussion

**Track Classification:** Scientific Field: NU | Neutrinos & Muons