Contribution ID: **49** Type: **Invited speaker**

Results from the ANITA Experiment

Wednesday 25 September 2019 15:00 (30 minutes)

I will summarize results to date from ANITA, a NASA Long Duration Balloon payload that has had four successful flights in Antarctica. ANITA is sensitive to two kinds of radio emission from particle showers: Askaryan emission from ultra-high energy (UHE) neutrinos interacting in the Antarctic ice, and Geomagnetic emission from UHE particles showering in the atmosphere. The latter channel is sensitive to cosmic ray air showers and air showers from any other UHE particles, such as tau leptons created in charged current tau neutrino interactions in the Earth or ice. I will discuss the results from searches in these channels with ANITA and possible interpretations of events observed with ANITA. I will also discuss a proposed follow-up NASA balloon mission, the Payload for Ultrahigh Energy Observations (PUEO), which will improve on ANITA's sensitivity dramatically, improving sensitivity to UHE neutrinos in this energy regime, and providing follow-up on the events observed thus far with ANITA.

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Session Classification: Presentation of recent results