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Beyond TeV: Searching for Ultrahigh Energy Neutrinos with PUEO

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In recent years, significant strides have been made in the field of neutrino astronomy, with the discovery of the TeV/PeV astrophysical neutrino flux by the IceCube collaboration. However due to the limitations of current detectors, the neutrino flux at EeV+ energies has yet to be observed. Probing this energy region is essential for understanding the extreme-energy universe at all distance scales. The Payload for Ultrahigh Energy Observations (PUEO) is a balloon-borne experiment intended to study the ultrahigh energy neutrino regime by utilizing the Askaryan effect to observe neutrino interactions in the Antarctic ice. PUEO builds upon the previously successful Antarctic Impulsive Transient Antenna (ANITA) program, and boasts an improved design that is expected to have world-leading sensitivity to the ultrahigh-energy neutrino flux above 1 EeV. This talk will discuss the science goals, recent developments, and timeline of the PUEO experiment.

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