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Results from ANITA

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The ANtarctic Impulsive Transient Antenna (ANITA) long-duration balloon payload searches for Askaryan radio emission from ultra-high-energy ($> 10^{18}$ eV) neutrinos interacting in Antarctic ice. ANITA is also sensitive to geomagnetic radio emission from extensive air showers. After a brief overview of the experiment, this talk will detail recently released results from the third flight of ANITA. Updates will also be provided on ongoing analysis of ANITA-IV and future plans. The most sensitive search from ANITA-III identified one neutrino candidate with an *a priori* background estimate of $0.7^{+0.5}_{-0.3}$. When combined with previous flights, ANITA sets the best limits on diffuse neutrino flux at energies above $\sim 10^{19.5}$ eV. While the candidate is consistent with the pre-unblinding background estimate, a neutrino interpretation of the event remains plausible even after being subjected to post-unblinding examination. Additionally, ANITA-III searches identified nearly 30 extensive air shower candidates. One such event appears to correspond to an upward-going air shower similar to an event from ANITA-I. A tau neutrino could induce an upward-going air shower, but this interpretation is inconsistent with limits from other experiments and, due to the implied path length through the Earth, potentially in tension with the Standard Model's predicted neutrino-nucleon cross-section.

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