

Abstract Submitted  
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**Overview of the ANITA-III Long-duration Balloon Payload Flight and the Improvements in the ANITA-IV Scheduled Mission<sup>1</sup>**

VIATCHESLAV BUGAEV, Department of Physics and McDonnell Center for the Space Sciences, Washington University in St. Louis, ANITA COLLABORATION — The high-altitude balloon-borne Antarctic Impulsive Transient Antenna mission (ANITA) was designed to detect cosmogenic neutrinos using radio impulses generated via the Askaryan effect in the Antarctic ice. ANITA is also sensitive to geomagnetic emission from ultra-high energy cosmic rays as well. ANITA-III was launched from McMurdo, Antarctica on December 17th, 2014 and flew for 23 days. We present preliminary analysis results of the data collected during this period. Preparations for the ANITA-IV campaign are underway, with the expected flight in December 2016. We provide an overview of the ANITA-IV instrument, which has significant improvements in hardware. These will reduce neutrino energy threshold by 50 – 60% compared to ANITA-III, moving the sensitive energy range closer to the peak of the cosmogenic neutrino spectrum.

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