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## The ANITA and HiCal experiments in Antarctica.

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The balloon-borne ANITA experiment is designed to detect the radio-frequency Cherenkov radiation resulting from collisions of either ultra-high energy (UHE) neutrinos colliding with ice molecules, or cosmic rays interacting with air molecules in the atmosphere. Thus far, four flights over the last decade have yielded world's-best sensitivity in the  $E > 1 \text{ EeV}$  regime. The HiCal experiment, consisting of a transmitter hung off a smaller balloon, was designed to provide an in-air calibration of ANITA, and has also allowed calibration of the Antarctic ice- surface. We discuss recent science results from ANITA and HiCal, which produced pinger signals observed at distances of almost 1000 km from ANITA, as well as complementary studies of radio frequency ice properties, which have been derived from studies of data from similar neutrino-detection experiments (RICE, ARA, and ARIANNA) within the last several months, and how these most recent results impact estimates of cosmic ray (both charged and neutral) sensitivity.

### Experimental Collaboration

HiCal/ANITA/RICE

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