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Antarctic radio Askaryan neutrino telescopes

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There are strong motivations for a detectable flux of ultra-high energy (UHE) cosmic neutrinos above 10^{17-18} eV. Neutrinos in this regime are expected from interactions between the highest energy cosmic rays and cosmic microwave background photons, and can also originate from the UHE sources themselves. Radio Cerenkov technique is the most promising technique for instrumenting a detection volume large enough to detect the low expected fluxes. The RICE experiment pioneered the radio Cerenkov technique with antennas deployed along strings of the AMANDA experiment deep in the South Pole ice. New radio arrays being deployed in the Antarctic ice are designed to measure dozens of these unique cosmic messengers to exploit the rich particle physics and astrophysical information that they carry. I will discuss the status and results from initial deployments of the Askaryan Radio Array (ARA) near the South Pole, and the ARIANNA array on the Ross Ice Shelf. I will also describe how these experiments could measure neutrino-nucleon cross sections at energies that exceed those probed by the LHC.