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Building the Askaryan Radio Array (ARA) - The search for ultra-high energy neutrinos at the South Pole

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Ultra-high energy neutrinos from sources outside our solar system provide an opportunity to study particle physics at energies unobtainable at terrestrial accelerators. This weakly interacting messenger can be used to probe the high energy Universe alongside the astro-physical objects and mechanisms that produce them.

The Askaryan Radio Array (ARA) is a new teraton-scale ultra-high energy neutrino detector under construction in the deep radio-transparent ice near the South Pole. ARA will consist of an array of 37 sub-detectors designed to detect radio emission from neutrino induced cascades with primary energies greater than 1017eV.

This talk will report on the successful installation and initial performance of the first four ARA sub-detectors.

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