

Status of the Precision IceCube Next Generation Upgrade (PINGU)

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The IceCube Neutrino Observatory, located at South Pole Station Antarctica, is currently the world's largest neutrino telescope with an instrumented volume greater than 1 GT. Completed in December 2010, the detector's high energy neutrino program was augmented with the low-energy DeepCore extension that provides a neutrino energy threshold near 10 GeV. DeepCore has established a rich Antarctic particle physics program that includes measurements atmospheric neutrino oscillations and indirect searches for lower mass WIMP dark matter. Currently under consideration is a new in-fill array, the Precision IceCube Next Generation Upgrade (PINGU), that builds on the strengths of the IceCube-DeepCore design to further lower the neutrino detection threshold to a few GeV. The very large sample of atmospheric neutrinos expected with PINGU provides significant potential for neutrino oscillation parameter measurements, including a first determination of the mass hierarchy. This talk will present the current status of PINGU.

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