

The Precision IceCube Next Generation Upgrade (PINGU)

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The IceCube Neutrino Observatory, completed in 2010 and located at the geographic South Pole, is the largest neutrino telescope in the world. IceCube includes the more densely instrumented DeepCore subarray, which increases IceCube's sensitivity at neutrino energies down to 10 GeV. DeepCore has recently demonstrated sensitivity to muon neutrino disappearance from atmospheric neutrino oscillation. A further extension is under consideration, the Precision IceCube Next Generation Upgrade (PINGU) which would lower the energy threshold and increase the sensitivity to low energy neutrino physics. In particular, PINGU would be sensitive to the effects of the neutrino mass hierarchy, which is one of the outstanding questions in particle physics. I will discuss the planned PINGU array and its potential for new physics.

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