

Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Determination of the neutrino mass hierarchy with PINGU TYCE DEYOUNG, Pennsylvania State University, ICECUBE-PINGU COLLABORATION — The Precision IceCube Next Generation Upgrade (PINGU) is a proposed low energy infill extension to the IceCube Neutrino Observatory, with the primary scientific goal of determining the neutrino mass hierarchy. With an effective neutrino target mass of several megatons and an energy threshold of a few GeV, PINGU will be able to determine the mass hierarchy at a significance of 3σ with an estimated 3.5 years of data by measuring matter effects on atmospheric neutrinos traversing the Earth over a wide energy range and on a variety of baselines. PINGU will use technology similar to the existing IceCube instrumentation, enabling it to be deployed quickly and at a relatively modest cost.

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Date submitted: 10 Jan 2014

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