CORNELL LABORATORY FOR ACCELERATOR-BASED SCIENCES AND EDUCATION (CLASSE)

Journal Club

Doug Cowen

Penn State

Particle Physics in the South Pole Ice Cap

The IceCube Neutrino Observatory consists of over 5000 photosensors buried in the ice beneath the South Pole in Antarctica. Although originally designed to map the high-energy neutrino sky--IceCube's recent discovery of astrophysical neutrinos in the 100 TeV regime being a first key step in that direction--the array also has excellent sensitivity to neutrino oscillations through detection of atmospheric neutrinos in the 10-100 GeV regime. We will present recent and anticipated neutrino oscillation results from IceCube and its "DeepCore" subarray and make the case for the Precision IceCube Next Generation Upgrade (PINGU), a new subarray that will be able to measure the neutrino mass hierarchy.

Friday

Mar. 28, 2014, 4pm

301 Physical Sciences Building

Refreshments, 3:45pm

LEPP and CHESS resources have merged and a new lab, (CLASSE), has formed. LEPP's primary source of support is the National Science Foundation.
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