

## Studying Low Energy Neutrinos at the South Pole with the PINGU Detector

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### Abstract content

IceCube and its low energy extension DeepCore have been deployed at the South Pole and taking data since early 2011. DeepCore provides a neutrino energy threshold of about 10 GeV, which allows IceCube to access a rich variety of physics including indirectly searching for WIMP dark matter and studying atmospheric neutrinos. Currently under consideration is a new in-fill array named PINGU, which will continue to lower the threshold for neutrino detection. This new lower threshold opens up opportunities to explore a great deal of new physics, including the determination of the neutrino mass hierarchy. This talk will discuss the PINGU detector and the new physics it makes available with a focus on the hierarchy measurement.

### Summary

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