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Toward precision neutrino physics with DeepCore and beyond

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DeepCore, the fully contained low energy extension to IceCube, extends IceCube's sensitivity for indirect dark matter searches and atmospheric neutrino oscillations. With the first year of DeepCore data we observe a significant sample of atmospheric neutrino-induced cascades, confirming the scientific potential of this approach. We will discuss ideas for PINGU, a further IceCube infill array which aims for an energy threshold of around 1 GeV to support a precision IceCube neutrino physics program. In the longer term, we are exploring the feasibility of a precision neutrino physics program with a multi-megaton, sub-GeV detector in the Antarctic ice cap.

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