

Abstract Submitted
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POLARIS: Portable Liquid Argon Imaging Scintillator YANYU JIA, BENJAMIN KOVACS, NICHOLAS KAMP, CHRISTINE AIDALA, Univ of Michigan - Ann Arbor, POLARIS TEAM — Liquefied noble gas detectors have become widely used in nuclear and particle physics, in particular for detecting neutrinos and in dark matter searches. However, their potential for neutron detection in low-energy nuclear physics has not yet been realized. The University of Michigan has been constructing a hybrid scintillating time projection chamber for detection of neutrons in the 200 keV – 10 MeV range. The scintillation material is argon, and various dopants to improve detector efficiency are being explored. With collection of both scintillation light and ionization charge, improved energy resolution for neutrons is expected compared to existing measurement techniques.

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