

Abstract Submitted
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Status of COHERENT's Neutrino-Induced Neutron Detectors

SAMUEL HEDGES, Duke University, COHERENT COLLABORATION — Neutrino-nucleus interactions can produce excited nuclear states that can de-excite by emitting particles, including neutrons. Neutrino-induced neutrons (NINs) produced in common gamma shielding material, such as lead and iron, can pose a background for neutrino and dark matter experiments. Additionally, NIN production in lead is the primary mechanism for the Helium and Lead Observatory (HALO) to detect supernova neutrinos, and iron-based supernova NIN detectors have been proposed. Two detectors seeking to study NIN production in lead and iron have been collecting data for several years, using the intense flux of pulsed neutrinos produced by the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory (ORNL). An overview of the detector design and update on the current status will be presented.

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