

Abstract Submitted
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Detector Technologies for the COHERENT Experiment¹ JACOB ZETTLEMOYER, Indiana University, COHERENT COLLABORATION — The COHERENT experiment aims to make a first detection of Coherent Elastic Neutrino-Nucleus Scattering (CEvNS), measure the N^2 dependence of its cross section, and search for new physics beyond the standard model using the few $\times 10$ MeV neutrinos from the pion decay at rest (π DAR) source at the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory. A suite of four detector technologies will be deployed near the neutrino source at the SNS to meet these goals. The detectors must be low-threshold and low-background in order to detect the low-energy nuclear recoils that occur from the CEvNS process with the SNS beam neutrinos. A 14 kg CsI[Na] crystal detector has been running for the past year. A 185 kg NaI[Tl] crystal detector array was commissioned at the SNS in the Summer of 2016. Next to be commissioned at the SNS in the Fall of 2016 are a 35 kg single phase liquid argon detector and a high-purity germanium detector. The performance of these detectors with regards to the CEvNS process will be presented.

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