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CEvNS with a liquid argon scintillation detector

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The COHERENT collaboration is deploying a suite of low-energy detectors in a low-background corridor of the ORNL Spallation Neutron Source (SNS) to measure coherent elastic neutrino nucleus scattering (CEvNS) on an array of nuclear targets employing different technologies. A measurement of CEvNS on a range of nuclei will test the N^2-dependence of the CEvNS cross section and further the physics reach of the COHERENT effort. The first step of this program has been realized recently with the observation of CEvNS in a 14.6 kg CsI detector. A 22 kg, single-phase, LAr detector (CENNS-10) started data-taking in 2017 and will provide results on CEvNS from a much lighter nucleus. Results from this detector, along with future outlook, will be presented.

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