

COHERENT: A future tonne-scale LAr detector for CEvNS

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Coherent elastic neutrino-nucleus scattering (CEvNS) has been detected in a 24 kg single-phase liquid argon (LAr) scintillator detector. To obtain an event rate 20 times that of the 24 kg detector with a low threshold, the 750 kg LAr scintillator detector COH-Ar-750 has been designed by the COHERENT collaboration to be deployed at the Spallation Neutron Source at Oak Ridge National Laboratory. Work on the cryogenics system and light collection is ongoing. The 750 kg detector will be sensitive to non-standard neutrino interactions, nuclear form factors, inelastic charged-current and neutral-current events, and to light accelerator-produced dark matter. This poster will be an update on the work done towards the tonne-scale LAr detector.

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