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**Optimizing scintillation light collection in the CENNS-10 liquid argon neutrino-nucleus scattering detector** MARIA DEL VALLE COELLO, REX TAYLOE, Indiana University, COHERENT COLLABORATION — The CENNS-10 detector is a liquid argon chamber currently running at the SNS at ORNL to observe nuclear recoils from Coherent Elastic Neutrino-Nucleus Scattering (CEvNS) and is one of several technologies implemented by the COHERENT collaboration to measure the CEvNS process' dependence on nuclear size. The observation and measurement of CEvNS is vital to understanding energy propagation in supernovae, a test for physics beyond the standard model, an irreducible background for dark matter direct detection, and a probe into nuclear structure. The functioning of the detector depends on its ability to see light from the neutrino-nuclear scattering, which produces extreme UV radiation. To attain optimum light yield in the detector, several optical measurements and changes were necessary. This poster will discuss these measurements, as well as the future expansion of the liquid argon system.

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