

Sensitivity Studies and Experimental Reach for Ge-mini, a COHERENT CEvNS Detector

Wednesday 12 June 2024 17:55 (5 minutes)

Ge-mini is a germanium detector subsystem, part of the COHERENT Experiment at Oak Ridge National Lab. Using stopped-pion neutrinos from the Spallation Neutron Source, this ~16 kg array of Ge detectors searches for coherent elastic neutrino-nucleus scattering (CEvNS) on germanium. The low threshold and ultra-low noise nature of the germanium detectors allows for further studies in nuclear physics and physics beyond the standard model, such as measures of neutron skin depth and non-standard neutrino interactions. Following COHERENT's measurement of CEvNS on germanium, we present future experimental sensitivity for CEvNS, as well as the full experimental reach for Ge-mini's planned exposure and subsequent mass upgrades.

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Session Classification: Lightning talks