

CEvNS detection with Ge-Mini

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Coherent elastic neutrino nucleus scattering (CEvNS) occurs when a neutrino interacts with the nucleus as a whole resulting in a recoil of the nucleus. The interaction requires neutrino energies below 50 MeV as prevalent at the pulsed beam of the Spallation Neutron Source at Oak Ridge National Laboratory. The COHERENT experiment is located there, detecting CEvNS with a multitude of different detector technologies.

The most recent detection was achieved with low threshold high-purity Germanium spectrometers during the summer beam run of 2023. We measured CEvNS on Germanium for the first time with an analysis threshold of 1.5 keV ionization energy and with more than 3 sigma significance.

On my poster, I will illustrate the analysis in detail and show how the detection was achieved. I will also provide a brief outlook on the future developments for the experiment.

Poster prize

Yes

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