

The COHERENT Experiment at the Spallation Neutron Source

Tuesday 28 July 2020 20:00 (15 minutes)

The pioneering experiments by the COHERENT collaboration at the Spallation Neutron Source (SNS) at the Oak Ridge National Laboratory yielded the first observations of coherent elastic neutrino nuclear scattering (CEvNS). The first observation on argon was recently presented and demonstrates the potential of this new neutrino laboratory to exploit CEvNS as a new probe of physics topics including electromagnetic properties, searches for physics beyond the standard model, and nuclear form factors. COHERENT is deploying two new instruments to measure CEvNS on sodium and germanium nuclei and is pursuing multiple ton-scale detectors to improve precision and accuracy. The SNS is also ideally suited for a broader set of high-precision neutrino physics measurements and dark matter searches because of the accelerator's intensity, pulsed-structure, and proton beam energy. The experimental features of this new capability as well as the recent results of our operating detectors will be presented.

I read the instructions

Secondary track (number)

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