



Wednesday

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Rm 118 NSH

Detecting the tiny thump of the neutrino

Prof. Kate Scholberg
Department of Physics
Duke University

Neutrinos interact only rarely with matter. Coherent elastic neutrino-nucleus scattering (CEvNS) was first predicted in 1974; it's a process in which a neutrino scatters off an entire nucleus. By neutrino standards, CEvNS occurs frequently, but it is tremendously challenging to see. The only way to observe it is to detect the minuscule thump of the nuclear recoil. CEvNS was measured for the first time by the COHERENT collaboration using the unique, high-quality source of neutrinos from the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory. This talk will describe COHERENT's recent measurement of CEvNS, the status and plans of COHERENT's suite of detectors at the SNS, and the physics we will learn from the measurements.