

Exploring the standard model with CEvNS

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Neutrinos offer an exciting view into the standard model of particle physics. One such aspect is the low energy coherent neutrino-nucleus scattering (CEvNS) process. When first proposed as a means of testing the structure of the weak neutral current it was noted the difficulty it would entail to make such a measurement. After 40 years and advances in low-energy threshold technology the first measurement of CEvNS was made in 2017 by the COHERENT Collaboration at Oak Ridge National Lab's Spallation Neutron Source. Since the first measurements of CEvNS on various target nuclei work has begun to make precision measurements of this process. Details on the history of the neutrino and its place in the standard model will be presented along with the past, present and future of how COHERENT will make contributions to our current understanding of CEvNS and the role it plays in understanding the standard model and beyond.