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What we can learn from CEvNS? (CEvNS ⬚ Coherent Elastic Neutrino Nucleus Scattering)

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CEvNS process has been predicted in 1974 right after discovery of the neutral current of the week interactions. It took more than 40 years to confirm this prediction experimentally. In 2017 COHERENT collaboration reported of the first observation of CEvNS using 14 kg CsI detector and SNS neutrino source at the ORNL. Early in 2020 collaboration reported new result, first CEvNS detection on Argon. In my talk I will review first observations of CEvNS and present experimental status to study CEvNS. The focus of my talk will be how we can use accurate CEvNS measurements to test S-M of the particle physics and make contribution into nuclei physics and astrophysics.

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