



Contribution ID: 50

Type: **Talk**

The COHERENT collaboration and its first observation of $CE\nu\text{NS}$

Monday, July 23, 2018 12:40 PM (20 minutes)

The Coherent Elastic Neutrino-Nucleus Scattering ($CE\nu\text{NS}$) has been observed at a 6.7-sigma confidence level by the COHERENT collaboration using a 14.6-kg CsI[Na] scintillator at Oak Ridge National Laboratory. The $CE\nu\text{NS}$ process predicted by the standard model is a neutral-current weak interaction where the cross section is enhanced by N^2 , where N is the number of neutrons in the nucleus. This indicates a new way to build compact neutrino detectors and unlocks new channels to test the standard model. More detectors are being and will be deployed at Oak Ridge to further test $CE\nu\text{NS}$ including a single-phase liquid argon detector, a p-type point contact germanium detector array and a NaI[Tl] detector array. The result, present status and future plans of the COHERENT collaboration will be presented.

Primary author: LI, Long

Presenter: TOLSTUKHIN, Ivan (Indiana University)

Session Classification: 1.2 Plenary Session

Track Classification: Neutrino Physics