

Neutrino flux normalization to enable precise CEvNS analysis

Friday 14 June 2024 12:00 (15 minutes)

COHERENT Collaboration has the first heavy-water Cherenkov detector deployed in the Spallation Neutron Source (SNS) at Oak Ridge National Laboratory (ORNL), in the same location where CEvNS events have been observed in cesium iodine, argon, and germanium. This detector, in combination with the second module (light water), has the goal of lowering the neutrino flux uncertainty at the SNS from 10% to only 2-3%, which will impact data analysis from COHERENT detectors from past, present, and future. Precise knowledge of the neutrino flux is crucial to enable more precisely testing the Standard Model, probing non-standard neutrino interactions (NSI), and searches for new physics. This detector will continue to collect data for many more years. In this talk, I will present initial results of commissioning of this detector.

Author: BERNARDI, Igor (University of Tennessee Knoxville)

Presenter: BERNARDI, Igor (University of Tennessee Knoxville)

Session Classification: Talks