Contribution ID: **8** Type: **not specified**

RELICS: Search for Coherent Elastic Neutrino-Nucleus Scattering from reactor neutrinos using LXeTPC

Saturday, 25 May 2024 17:00 (20 minutes)

The precise measurement of the Coherent Elastic Neutrino-Nucleus Scattering (CEνNS) cross-section is of significant importance to understanding the properties of neutrinos and constraining new physics beyond the Standard Model. However, due to the background noise in the low energy region, the detection of CEνNS signals from reactor neutrino is quite challenging. The Liquid Xenon Time Projection Chamber (LXeTPC), which demonstrates good performance in dark matter detection and shows great potential in detecting events with nuclear recoil energy lower than 1keV, is a promising technology for detecting CEνNS signals. Reactor neutrino Liquid xenon Coherent Scattering experiment (RELICS) looks forward to employing this technology to detect CEνNS caused by ˜MeV neutrinos from the reactors. This presentation will introduce the latest developments of the RELICS experiment.

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Session Classification: Leptons and Neutrinos