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

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The measurement of the Coherent Elastic Neutrino-Nucleus Scattering (CEνNS) offers a unique probe of the properties of neutrinos and new physics beyond the Standard Model.
However, large amount of background from cosmic rays and environmental radiations in the low-energy region makes the detection of CEνNS signals from reactor neutrino challenging.
The Liquid Xenon Time Projection Chamber (LXeTPC), which demonstrates good performance in dark matter detection and shows great potential in detecting nuclear recoil events within the relevant energy region (<1 keV), is a promising technology for detecting CEνNS signals. Reactor neutrino Liquid xenon Coherent Scattering experiment (RELICS) proposes to employing this technology to detect CEνNS caused by $\sim$MeV neutrinos from the reactors. This presentation will introduce the latest developments of the RELICS experiment.

Collaboration you are representing

RELICS

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