

RELICS: A liquid xenon time projection chamber for reactor CEvNS

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Exhibiting the largest cross-section of all interaction channels for MeV neutrinos, coherent elastic neutrino-nucleus scattering (CEvNS) offers a compelling pathway for the remote monitoring of nuclear reactors. Liquid xenon time projection chambers (LXeTPCs) have emerged as an ideal technology for CEvNS detection, primarily due to their low backgrounds and energy thresholds. The RELICS (REactor neutrino LIquid xenon Coherent Scattering) experiment leverages this technology to target reactor CEvNS. RELICS is designed to perform precise measurements of the CEvNS cross-section, thereby advancing our understanding of fundamental neutrino properties and facilitating the search for physics beyond the Standard Model. This talk will introduce the status of the RELICS experiment and discuss its physics potential.

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