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Calibration Systems of the Multi-Tonne Scale Xenon Detector in LZ

Wednesday, 8 November 2023 11:00 (20 minutes)

The LUX-ZEPLIN (LZ) experiment utilizes 7 tonnes of active liquid xenon to search for dark matter at the Sanford Underground Research Facility (SURF) in Lead, South Dakota, USA. The core of the LZ detector is a dual-phase xenon time projection chamber, primarily designed for detecting Weakly Interacting Massive Particles (WIMPs). In this talk, I will discuss the novel features and performance of the LZ calibration systems, which played a crucial role in enabling LZ's world-leading WIMP search results and will facilitate its broad scientific program in the future. The description of the LZ calibration systems presented in this talk will be a valuable reference for future calibration efforts in direct dark matter search experiments.

Early Career

Yes

Primary author: XIA, Qing (LBNL)

Presenter: XIA, Qing (LBNL)

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