

Recent results from the LUX-ZEPLIN (LZ) dark matter experiment

Wednesday 20 November 2024 15:11 (18 minutes)

The LZ experiment, the largest liquid xenon time-projection chamber (TPC) built to date, continues to provide world leading sensitivity to WIMP dark matter candidates. In this talk, I will present the most recent results searching for WIMP dark matter from the combined 2022-2024 exposure. In addition to the increased exposure, the latest result showcases a number of refinements to LZ's background modelling, such as a radon tagging analysis, that reduces the dominant background by 60%, and detailed modelling and in-situ measurement of charge attenuation of the rare decay of ^{124}Xe via double electron capture. Alongside the target mass and strict control of radiogenic backgrounds, the sensitivity of LZ and other dark matter detectors depends critically on achieving a low detector threshold. This talk will also cover how LZ has achieved a keV-level detection threshold, with a particular focus on the VUV photomultipliers and their readout.

Do you need a VISA letter for traveling to Canada ?

No

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