



Contribution ID: 196

Type: Oral

The Next-Generation Dark Matter Project, LUX-ZEPLIN

Tuesday 8 August 2017 16:15 (15 minutes)

Xenon-based dark matter experiments have been leading the field of direct detection for a decade now, as realized most recently by the PandaX, LUX, and now XENON1T results, setting increasingly stringent limits on WIMP scattering. The near-future commencement of construction of LUX and ZEPLIN's 10-ton-scale scale-up, next-generation successor, LZ, will be discussed here. We plan on achieving our baseline sensitivity of $2.3 \times 10^{-48} \text{ cm}^2$ for a WIMP of $40 \text{ GeV}/c^2$ rest mass, with a 5.6-ton fiducial mass in a two-phase xenon time-projection chamber. LZ has recently passed its final CD-2/3 approvals from the DOE, and unveiled its design details, background estimates, and projected sensitivities for different types of dark matter in its technical design Report. These will all be presented.

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Session Classification: Dark matter

Track Classification: Dark matter (direct detection, indirect detection, theory, etc.)