



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 GeV/c² 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.

Author: Prof. SZYDAGIS, Matthew (University at Albany, SUNY)

Presenter: Prof. SZYDAGIS, Matthew (University at Albany, SUNY)

Session Classification: Dark matter

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