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# The LUX-ZEPLIN dark matter experiment

*Monday 25 July 2016 17:15 (15 minutes)*

## Summary

LUX-ZEPLIN (LZ) is a large dark matter detector to be installed 4850 ft underground at the Sanford Underground Research Facility in Lead, South Dakota, USA. The detector will be a two-phase xenon liquid/gas time projection chamber with a total mass of 10 tonnes. The liquid xenon target has a mass of 7 tonnes in the 'active' region where there is an electric drift field and a 5.6 tonne fiducial mass. The size of the detector makes it capable of reaching unprecedented sensitivity to WIMPs, but to achieve this goal careful characterisation of experimental backgrounds is required. In this talk I will discuss the LZ detector design, expected sensitivity and background-control strategy, in particular Monte-Carlo simulations and radioactivity screening techniques.

## Based on (arXiv number)

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