

The LUX-ZEPLIN (LZ) dark matter experiment: Construction and commissioning of the liquid xenon detector

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The LUX-ZEPLIN (LZ) experiment is a next generation dark matter search designed to achieve unprecedented sensitivity to a wide range of dark matter candidates. At the core of the LZ detector is a dual-phase xenon time projection chamber (TPC) with a 7 ton active mass. LZ will begin taking data in 2020 and achieve a sensitivity of about $1.4 \times 10^{-48} \text{ cm}^2$ at $40 \text{ GeV}/c^2$ WIMP mass after 1000 days of live time. In this talk, I will present the construction and commissioning status of the LZ detector, as well as the anticipated physics reach of the experiment.

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