

Abstract Submitted  
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**The LUX experiment - TPC design and performance** JEREMY CHAPMAN, Brown University, LUX COLLABORATION — The Large Underground Xenon (LUX) experiment will facilitate direct detection of Weakly Interacting Massive Particles (WIMPs) with a 350 kg xenon TPC (Time Projection Chamber). The LUX TPC is a dual-phase (liquid/gas) detector with a 49 cm drift length, walled by PTFE reflector panels. The active region is observed by 122 photomultiplier tubes, 61 in the top array and 61 in the bottom array. The LUX detector is calibrated using external gamma and neutron sources, and internal calibration lines using activated xenon and Kr-83m. I will discuss the detector design and performance and expected WIMP sensitivity for the upcoming dark matter search.

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