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Recent Results of the LUX Dark Matter Experiment

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LUX (Large Underground Xenon) was a dark matter direct detection experiment which used a two-phase xenon Time Projection Chamber and operated at the Sanford Underground Research Facility (SURF) in South Dakota from 2012 to late 2016. It previously set world-leading limits on spin-independent cross-section for Weakly Interacting Massive Particle (WIMP) dark matter. Recent LUX analyses are probing different dark matter models and other rare-event phenomena. Advanced analysis techniques extend the LUX sensitivity to lower dark matter masses and recoil energies. LUX is also being used to understand the potential detector performance of future dual-phase detectors, and to demonstrate new analysis methods and calibration techniques that can be used to improve our discrimination of backgrounds within next-generation experiments.

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