

Searching for Dark Matter with the LUX experiment

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First postulated more than 80 years ago to address the ‘missing mass’ of the Milky Way galaxy Dark Matter remains as one of the best motivations for Physics Beyond the Standard Model. The Large Underground Xenon (LUX) experiment is a 350kg liquid xenon time projection chamber designed to directly detect galactic dark matter. Currently deployed 1 mile underground in the Sanford Underground Research Facility in Lead, South Dakota, LUX completed its first physics run in 2013 and produced a world-leading limit for spin-independent scattering of Weakly Interacting Massive Particles (WIMPs) using 95.3 live-days of WIMP-search data. After presenting these first results this talk will go on to discuss the calibration and detector development work following the first physics run as well as the current status of LUX and preparations for the upcoming 300-day run.

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