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First results from the LUX dark matter experiment at the Sanford Underground Research Facility

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The LUX (Large Underground Xenon) experiment is performing a direct-detection search for WIMP dark matter using a two-phase liquid xenon TPC. The target mass is 370 kg (100 kg fiducial), making it the largest such detector in operation and providing excellent self-shielding. Additional background rejection is provided by nuclear recoil discrimination via simultaneous detection of charge and light. LUX is deployed in a water shield at the 4850' level of the Sanford Underground Research Facility (SURF) in Lead, SD. The projected cross-section sensitivity of LUX is <3e-46 cm^2 for a 50 GeV WIMP and <4e-46 cm^2 for 100 GeV, after 300 live days. An update will be presented here on the status of the experiment.

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