

Abstract Submitted  
for the APR14 Meeting of  
The American Physical Society

**Response of the LUX Dark Matter Detector to Ultra-Low Energy Nuclear Recoils** JAMES VERBUS, Brown University, LUX COLLABORATION  
— The LUX dark matter search experiment is a two-phase xenon time projection chamber located at the 4850' level of the Sanford Underground Research Facility in Lead, SD. I will describe the techniques used to calibrate the detector response to nuclear recoils for the first WIMP search result announced in October 2013 and report on subsequent calibration campaigns. A novel nuclear recoil calibration technique pioneered by LUX will be discussed and I will present a recent analysis of ultra-low energy nuclear recoil data down to  $\sim 1$  keV<sub>nr</sub> obtained using this technique. Results from the calibrations will be compared to existing LXe nuclear recoil calibrations and theory.

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Date submitted: 10 Jan 2014

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