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Type: **Talk**

Jingke Xu (LLNL): A search for annual and diurnal rate modulations in the LUX experiment

Friday, 23 February 2018 08:45 (15 minutes)

We will report a search for annual and diurnal rate modulations using over 20 months of LUX data acquired between 2013 and 2016. This study focuses on electron recoil events at low energies. We obtained a low and stable event rate by using the innermost volume of the LUX detector and by developing robust cuts and corrections to address the observed time-dependence of the detector performance. A remarkable stability was demonstrated with the event rates outside the energy region of interest after all cuts. In this talk, we will present the analysis strategy, the correction algorithms, and the findings of the modulation search.

Presenter: XU, Jingke

Session Classification: Session 12