

## Upcoming Weak Interaction Discussion Group Talk

Tuesday, March 28, 2017

12:00PM

WL/EAL-108

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### Low-Mass WIMP-Search Results with the CDMS Low Ionization Threshold Experiment

The CDMS low ionization threshold experiment (CDMSlite) was a component of the SuperCDMS Soudan dark matter direct detection effort. CDMSlite focused on WIMPs with masses of  $\lesssim 10 \text{ GeV}/c^2$  by applying a higher-than-normal bias potential to the germanium detectors. This higher bias amplified a detector's phonon signal, through the Neganov-Trofimov-Luke effect, to achieve sub-keV energy thresholds. This talk will discuss the analysis and results from the second run of CDMSlite, which occurred during 2014, had a raw exposure of 70.10 kg d, and reached an energy threshold as low as 55 eV for electron recoils. Analysis improvements over the initial CDMSlite run include the implementation of a fiducial volume and better noise rejection and handling of uncertainties. Various results from the analysis will be presented, including upper limits set on the spin-independent and spin-dependent WIMP-nucleon interactions, where these results are generally the most sensitive below WIMP masses of 2–4  $\text{GeV}/c^2$ .

A pizza lunch will be served starting at 11:45 a.m. outside the WL/EAL-108 Conference Room.

**Host: Professor David Moore**

Sponsored by the Wright Laboratory, Physics Department, and Yale University