Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Position and energy dependent calibration of CDMS-II detectors KEVIN MCCARTHY, ZEESHAN AHMED, Caltech, SCOTT HERTEL, MIT, DAVID MOORE, Caltech, MATTHEW PYLE, Stanford University, BRUNO SERFASS, U.C. Berkeley, CDMS COLLABORATION — The Cryogenic Dark Matter Search (CDMS) detectors use measurements of the ionization and phonon energies deposited by interactions within the detector substrate to distinguish background electron recoils from WIMP candidate nuclear recoils. The primary discrimination quantities exhibit dependencies on the energy of an interaction and its position within a detector, which can significantly deteriorate the experiment's background rejection capabilities if not properly accounted for. I will describe the method used by the CDMS collaboration to estimate event position and calibrate the discrimination parameters to correct for position dependencies, and discuss how this position correction scheme affects the background rejection and nuclear recoil acceptance of the CDMS analysis.

Kevin McCarthy

Date submitted: 26 Oct 2009 Electronic form version 1.4