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Energy Scales for Nuclear Recoils in CDMS II Silicon and Germanium Detectors SCOTT FALLOWS, University of Minnesota, CDMS COLLABORATION — A systematic calibration of the detector response to low-energy nuclear recoils is necessary to translate results from the direct detection of Weakly Interacting Massive Particles (WIMPs) into allowed ranges of WIMP mass and couplings. We present measurements of the energy scale for nuclear recoils for the Z-sensitive Ionization and Phonon (ZIP) detectors used by the Cryogenic Dark Matter Search (CDMS). The absolute energy scale and upper limits on its uncertainty are determined by comparing the observed energy spectra to those expected from detailed Monte Carlo simulations of neutrons incident from a ^{252}Cf source in calibration runs of the Ge and newly analyzed Si detectors, and cross-checked by comparisons of neutron ionization yields with those measured by other experiments. Implications on WIMP limits are shown.

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