

Abstract Submitted  
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**Germanium Detector Response to Nuclear Recoils in Searching for Dark Matter**<sup>1</sup> D'ANN BARKER, DONGMING MEI, University of South Dakota — The discrepancies in claims from the experiments that are searching for weakly interacting massive particle (WIMP) dark matter necessitate a model for ionization efficiency at energies below 10 keV. The focus of this work is on the construction of a model for the ionization efficiency in germanium by analyzing the components of stopping power, specifically that of nuclear stopping power, at low energies. To determine the validity of the proposed model, it will be compared to previous measurements of ionization efficiency in germanium as well as that of other theoretical models. The thresholds of both CDMS and CoGeNT will be analyzed and compared in terms of the nuclear recoil energy.

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D'Ann Barker  
University of South Dakota

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