Abstract Submitted
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**High-Purity Germanium Crystal Characterization for DUSEL Experiments**[1] DONGMING MEI, CHAOYANG JIANG, OLEG PEREVOZCHIKOV, NICK WEINANDT, YONGCHEN SUN, The University of South Dakota, CUBED COLLABORATION — Understanding the nature of neutrinos and dark matter was identified by a National Academy of Sciences panel as one of the key problems facing physicists today. The CUBED (Center for Ultra-Low Background Experiments at DUSEL) collaboration is working on the development of techniques to manufacture crystals in an underground environment with unprecedented purity levels that may be used by experiments proposed for DUSEL. Growing high-purity germanium crystals depends strongly on the understanding of various impurities in the grown crystals and developing new techniques to eliminate them. This paper will present the characterization techniques to identify the impurity levels according to their energy levels and distributions. The results will provide feedback for the crystal growth process that would eliminate the impurities in the grown crystals for DUSEL experiments.

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