

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

High-Purity Germanium Crystal Growth and the Performance of a SuperCDMS Detector Fabricated from a USD Crystal. GUOJIAN WANG, HAO MEI, DONGMING MEI, GANG YANG, Department of Physics, University of South Dakota — High-purity germanium crystals with 12 cm in diameter were grown by Czochralski method. The dislocation density was investigated by microscopy. The impurity distribution in the crystals was measured by Hall effect and Photo-thermal ionization spectroscopy (PTIS). A 2.3kg crystal was fabricated into a SuperCDMS detector by Texas A&M University, which was tested by University of Minnesota. The results show the detector has interesting performance. Keywords: High-purity germanium crystal, Czochralski method This work is supported by DOE grant DE-FG02-10ER46709 and the state of South Dakota.

Guojian Wang
Department of Physics, University of South Dakota

Date submitted: 12 Nov 2016

Electronic form version 1.4