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Impact of atmosphere on HPGe crystal growth[1] GUOJIAN WANG, GANG YANG, WENCHANG XIANG, JAYESH GOVANI, MUHAMMAD KHIZAR, YUTONG GUAN, DONGMING MEI, Department of physics, University of South Dakota — The growth of high-purity germanium crystals for radiation detectors is being developed at the University of South Dakota. High-purity germanium crystals were grown in argon and hydrogen atmosphere, individually. The growth parameters were compared and analyzed. The relationship between thermal field and crystal quality was discussed. Based on the thermal properties of argon and hydrogen gases, different thermal fields were designed to grow lower dislocation density of high-purity germanium crystals.

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Guojian Wang
guojian.wang@usd.edu
Department of physics, University of South Dakota

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