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Fabrication and Characterization of HPGe Detectors Using Crystals Grown at USD[1] KYLER KOOI, University of South Dakota, PIREGEMADARC COLLABORATION — High purity germanium (HPGe) detectors are widely used in dark matter and neutrino experiments such as CDEX, TEXONO, CoGeNT, COHERENT, GERDA, Majorana, etc. In order to understand and improve the performance of HPGe detectors at various environmental and system configurations in a convenient and economic way, we are in the process of fabricating mini-PPC and planar detectors from HPGe that has been purified with zone refining and grown into HPGe crystals at USD. This way we avoid risking expensive commercial detectors in unconventional operating environments. We take advantage of resources, facilities, and equipment at both USD and Lawrence-Berkeley National Lab. In this presentation, we will describe the process of the fabrication and report our current status and progress.

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