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Center for Ultra-Low Background Experiments at DUSEL (CUBED) DONGMING MEI, CHRISTINA KELLER, The University of South Dakota, CUBED COLLABORATION — With the selection of Homestake as the site for DUSEL, the state of South Dakota has sought ways to engage its faculty and students in activities planned for DUSEL. One such effort is the creation of a 2010 Research Center focused on ultra-low background experiments or a Center for Ultra-low Background Experiments at DUSEL (CUBED), which provides support for South Dakota scientists to continue participation in large experiments searching for rare and difficult to detect phenomena such as neutrinoless double-beta decay and dark matter. The CUBED focus is on material purification and crystal growth underground for ultra-low background experiments, to minimize the amount of cosmogenic isotopes such as ^{3}T, ^{68}Ge, and ^{60}Co, which one finds in surface-produced enriched ^{76}Ge or natural germanium crystals, and which limit the sensitivity of next generation double-beta decay/dark matter experiments. Purification and crystal growth performed underground avoids cosmogenic contamination that can occur if the crystals reside on the surface for as little as a week. We will provide an update on the progress made in developing underground capabilities for material purification and crystal growth.

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