

Abstract Submitted
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Underground Performance of SuperCDMS iZIP Detectors ADAM ANDERSON, Massachusetts Institute of Technology, SUPERCDMS COLLABORATION — SuperCDMS is currently operating a 10-kg array of cryogenic germanium detectors in the Soudan underground laboratory to search for weakly interacting massive particles, a leading dark matter candidate. These detectors, known as iZIPs, measure both ionization and athermal phonons from particle interactions with multiple sensors on both sides of a Ge crystal. The information from each event provides excellent discrimination between electronic recoils and nuclear recoils, as well as discrimination between events on the detector surface and those in the interior. I will discuss the multiple redundant methods for background rejection in the iZIP, present the background discrimination power that has been demonstrated during underground running in Soudan, and comment on the operational stability and performance of the iZIP. Based on current performance, these detectors are scalable to a 200-kg array proposed for installation in SNOLAB as the next phase of SuperCDMS.

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