

Abstract Submitted
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Radon Mitigation for the SuperCDMS-SNOLAB Dark Matter Experiment JOSEPH STREET, South Dakota School Mines Technology, SUPERCDMS COLLABORATION — Experiments that seek to detect very rare processes, such as interactions of the dark matter particles thought to make up 85% of the mass of the universe, may suffer background interactions from radon daughters that have plated out onto detector surfaces. To reduce these backgrounds, an ultra-low-radon cleanroom was built at the South Dakota School of Mines & Technology. Cleanroom air is supplied by an optimized vacuum-swing-adsorption radon mitigation system that has achieved a $> 300\times$ reduction from an input activity of 58.6 ± 0.7 Bq/m³ to a cleanroom activity of 0.13 ± 0.06 Bq/m³. Expected backgrounds due to radon daughters for the SuperCDMS dark matter search will be presented.

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