

Low Radioactivity Techniques (LRT2024)



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Tritium Production in SuperCDMS

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The SuperCDMS experiment, which is under installation at SNOLAB, will use Ge and Si detectors to search for low-mass dark matter interactions. In the corresponding energy regime of interest, tritium produced by the cosmogenic activation of the detectors is expected to produce significant backgrounds. In this talk, I will discuss the exposure history of these detectors, as well as additional efforts by SuperCDMS to mitigate the exposure of other materials used in the construction of the experiment. In addition to the discussion of above-ground exposure, I will also present a study on the expected neutron flux and resulting tritium production at various underground sites used by SuperCDMS collaboration to mitigate cosmogenic activation on the detectors.

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