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The Majorana Low-Background Experiment at KURF (MALBEK)

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The MAJORANA DEMONSTRATOR is an array of natural and enriched high purity germanium detectors that will search for the neutrinoless double-beta decay of germanium-76 and perform a search for WIMPs with masses below 10 GeV. As part of the MAJORANA research and development efforts, we have deployed a modified, low-background broad energy germanium detector at the Kimballton Underground Research Facility. With its sub-keV energy threshold, this detector is sensitive to potential non-Standard Model physics, including interactions with weakly interacting massive particles. This presentation will present studies of background in this detector and how they affect light WIMP searches in this and similar experiments.

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