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Dark Matter Reach of the MAJORANA DEMONSTRATOR

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— Neutrinoless double-beta decay experiments are reducing backgrounds to unprecedented levels, allowing them to expand their physics reach. The MAJORANA DEMONSTRATOR is currently being built at the 4850 ft level of the Sanford Underground Research Facility (SURF) in Lead, SD. The experiment will utilize multiple p-type point-contact (PPC) germanium detectors constructed from approximately 40 kg of ultra-pure germanium (30 kg enriched) and radiopure components. Because of the large overburden, low thresholds, and low background of the experiment, the DEMONSTRATOR will be well positioned to search for light ($<10 \text{ GeV}/c^2$) WIMPs. To do so, the low energy region ($< 20 \text{ keV}$) of the DEMONSTRATOR spectrum will need to be well characterized. This talk will discuss backgrounds in this region and the potential dark matter reach of the MAJORANA DEMONSTRATOR. This work is supported by grants from the DOE Office of Nuclear Physics and the NSF Particle Astrophysics program.

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