Abstract Submitted
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Measuring External Sources of Background at Homestake for DUSEL Experiments[1] DONGMING MEI, KEENAN THOMAS, CHAO ZHANG, The University of South Dakota, FRED GRAY, Regis University, JARET HEISE, Sanford Lab, DAN DURBEN, The University of South Dakota, BACKGROUND CHARACTERIZATION COLLABORATION — Fluxes of external radioactivity are known to vary in time and could mimic the experimental signature for dark matter and neutrinoless double-beta decay searches. Measuring and monitoring external sources of radioactivity at experimental sites is the key to success in low-energy neutrino and dark matter (WIMP search) experiments. Data from the background characterization program will be of use to both the DUSEL facility design as well as experiments. Researchers can use the information to understand shielding or other mitigation requirements as well as in the interpretation of their experimental results. This work aims to continue and expand our current efforts to measure and monitor external sources of background continuously for experiments planned for the Sanford Laboratory as well as those proposed for DUSEL.

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