

Abstract Submitted
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The Sanford Underground Research Facility at Homestake¹

MARK HANHARDT, South Dakota Science Technology Authority (SDSTA) — The Sanford Underground Research Facility, on the site of the former Homestake gold mine in Lead, South Dakota, is a dedicated research facility designed for the pursuit of rare-process physics research as well as research on topics in biology, geology, and other fields. The major laboratories for physics are located at the 4850-foot level (4300 m.w.e.). These include the LUX dark matter experiment and the MAJORANNA DEMONSTRATOR neutrinoless double-beta decay experiment at the Davis Campus and the CASPAR nuclear astrophysics accelerator facility and the Black Hills State University Underground Campus for low-background counting at the Ross Campus. Work is being done to prepare for future experiments at this level, most notably DUNE, the Fermilab-led international long-baseline neutrino program, and LUX-ZEPLIN, a next generation direct-detection dark matter experiment. SURF is a dedicated research facility with significant expansion capability.

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