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The Sanford Underground Research Facility at Homestake

The former Homestake gold mine in Lead, South Dakota has been transformed into a dedicated laboratory to pursue underground research in rare-process physics, as well as offering research opportunities in other disciplines such as biology, geology and engineering. A key component of the Sanford Underground Research Facility (SURF) is the Davis Campus, which is in operation at the 4850-foot level (4300 m.w.e.) and currently hosts two main projects: the LUX dark matter experiment, the MAJORANA DEMONSTRATOR neutrinoless double-beta decay experiment. Screening capabilities are also coming online with installation of the CUBED and Berkeley (formerly Oroville) low background counters at the Davis Campus. Plans for possible future experiments at SURF are well underway and include long baseline neutrino oscillation experiments, future dark matter experiments as well as nuclear astrophysics accelerators. Facility upgrades to accommodate some of these future projects have already started. SURF is a dedicated facility with significant capacity for expansion, and applications from other experiments are welcome.

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