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The Sanford Underground Research Facility

Tuesday, June 20, 2023 10:00 AM (45 minutes)

The Sanford Underground Research Facility (SURF) has been operating for more than 15 years as an international facility dedicated to advancing compelling multidisciplinary underground scientific research in rare-process physics, as well as offering research opportunities in other disciplines. SURF laboratory facilities include a Surface Campus as well as campuses at the 4850-foot level (1500 m, 4300 m.w.e.) that host a range of significant physics experiments, including the LUX-ZEPLIN (LZ) dark matter experiment and the MAJORANA DEMONSTRATOR neutrinoless double-beta decay experiment. The CASPAR nuclear astrophysics accelerator completed the first phase of operation and is planning for the second phase beginning in 2024. SURF is also home to the Long-Baseline Neutrino Facility (LBNF) that will host the international Deep Underground Neutrino Experiment (DUNE). SURF offers world-class service, including an ultra-low background environment, low-background assay capabilities, and electroformed copper is produced at the facility. SURF is preparing to increase underground laboratory space. Plans are advancing for construction of new large caverns (nominally 100m L x 20m W x 24m H) on the 4850L (1500 m, 4200 mwe) on the timeframe of next-generation experiments (˜2030). SURF plans to leverage existing advisory and community committees as well as engage the underground science community to inform plans for future laboratory space.

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