

The SABRE South Experiment at the Stawell Underground Physics Laboratory

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SABRE aims to provide a model independent test of the signal observed by DAMA/LIBRA through two separate detectors that rely on joint ultra-high NaI(Tl) purity crystal R&D activities: SABRE South at SUPL Australia and SABRE North at LNGS Italy. SABRE South is designed to disentangle seasonal/site-related effects from the dark matter-like modulated signal. Ultra-high purity crystals are immersed in a liquid scintillator veto, further surrounded by passive shielding and a plastic scintillator muon veto. Significant work has been undertaken to assess and mitigate background from the detector materials, and to understand the performance of both the crystal and veto systems. SUPL is a newly built facility located 1024 m underground in Australia. SABRE South is currently being assembled and will be completed in 2025, with first subsystems already installed in SUPL. This talk will report on the general status of the SABRE South assembly, its expected performance, and the design of SUPL.

Alternate track

1. Detectors for Future Facilities, R&D, Novel Techniques

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Yes

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