

The SABRE North project at Gran Sasso Laboratory

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The SABRE experiment aims to deploy arrays of ultra-low-background NaI(Tl) crystals to carry out a model-independent search for dark matter through the annual modulation signature. SABRE will be a double-site experiment, consisting of two separate detectors in the two terrestrial hemispheres. The SABRE North detector will be installed underground at LNGS and will deploy an array of 9 ultra-high radio-purity NaI(Tl) detectors (5 kg mass each) in a Cu and PE passive shielding. The SABRE North collaboration has recently validated, through a series of tests, the technology for producing 5 kg NaI(Tl) crystals following zone refining purification and is now starting crystal production for the experiment. The first crystal grown using this technology is expected to be produced and delivered to LNGS in the first quarter of 2026. Result from zone refining runs and very first measurements of the new crystal will be reported. We also provide an update on the current status of SABRE North's installation at LNGS.