

# SBC-SNOLAB Material Radiopurity Campaign

*Friday, 14 February 2025 22:00 (15 minutes)*

The Scintillating Bubble Chamber (SBC) collaboration is combining the well-established technologies of bubble chambers and liquid noble scintillators to develop a detector sensitive to low-energy nuclear recoils with the goal of a GeV-scale dark matter search. Liquid noble bubble chambers benefit from excellent electronic recoil suppression intrinsic in bubble chambers with the addition of energy reconstruction provided by scintillation signals. The detector to be operated at SNOLAB is currently in development, featuring 10 kg of xenon-doped liquid argon superheated to 130 K at 1.4 bar. Surrounding the active volume are 32 FBK VUV-HD3 silicon photomultipliers to detect the emitted scintillation light. Deploying at SNOLAB allows for excellent cosmogenic suppression from exposure to 6010 m.w.e. of overburden, however, radiocontaminants embedded in detector materials and the surrounding rock become the major source of background. This talk aims to discuss the radiopurity campaign and current progress leading to the quasi-background-free low-mass ( $< 10 \text{ GeV}/c^2$ ) WIMP dark matter search.

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## Your current academic level

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