

The Scintillating Bubble Chamber experiment a 10 kg liquid Ar bubble chamber, overview and update

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The Scintillating Bubble Chamber (SBC) collaboration is developing a liquid argon bubble chamber for GeV scale dark matter searches, and CEvNS searches using reactor neutrinos. Combining scintillation readout with bubble nucleation can provide significant nuclear recoil discrimination. Depending on the bubble nucleation threshold nuclear recoils will cause both a bubble to be generated and a scintillation signal, while electron recoils provide only a scintillation signal. We are currently constructing a 10 kg detector at Fermilab to explore the bubble nucleation threshold, along with calibration strategies to be able to measure nuclear recoils down to 100 eV. I will be providing an overview of the technology and an update on the progress of the detector construction, and early hardware testing.

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