

Abstract Submitted
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The Road to Discovering Sub-GeV Dark Matter Using Supercooled Liquids¹ MATTHEW SZYDAGIS, University at Albany, SNOWBALL COLLABORATION — The latest developments in the search for low-mass dark matter with the snowball chamber technology, essentially a reverse bubble chamber using supercooled water instead of superheating, will be presented. The latest calibration data sets with neutron and gamma-ray radioactive calibration sources will be discussed, with implications reviewed on the extremely low energy threshold expected (sub-keV) and background discrimination as a function of thermodynamic conditions. The most recent three-dimensional image analysis will be shown with position reconstruction and multiple scattering. Information gathered from all prototypes will be analyzed together to form a projected sensitivity curve for both spin-independent and spin-dependent (proton) coupling.

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