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Status and prospects of SuperCDMS SNOLAB

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The SuperCDMS Collaboration is currently building a direct dark matter detection experiment at SNOLAB (Canada) consisting of an array of germanium and silicon crystals, with a total payload of 25 kg and 3.6 kg, respectively. Each crystal is instrumented to measure either a combination of phonon and ionization signals (iZIP detectors) or the phonon signal caused by charge carriers via the Neganov-Trofimov-Luke effect (HV detectors). Because of its low detector thresholds and background suppression, SuperCDMS SNOLAB will provide leading sensitivity to dark matter particles with mass from 5 GeV down to 500 MeV, under the standard elastic nuclear recoil assumption. In this talk, I will first explain the SuperCDMS SNOLAB detector concept and its current status, and then I will present the scientific reach of the experiment, including a detailed discussion on its sensitivity projections.

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