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Abstract for an Invited Paper for the SES19 Meeting of the American Physical Society

Looking for Dark Matter in Northern Canada: The SuperCDMS SNOLAB experiment¹ TAREK SAAB, University of Florida

The Universe is a wild and woolly place, simultaneously very cold (with a CMB temperature of 2.7 K) and exceedingly hot (full of $\sim 10^6$ K intergalactic x-ray emitting gas), and full of exotic components like the strangely named Cold Dark Matter (whose temperature in our Solar neighborhood is $\sim 10^7$ K for typical WIMP models). In an effort to understand the inner workings of the Universe, physicists (i.e. The SuperCDMS collaboration), are making use of highly sensitive, lowbackground cryogenic detectors to potentially detect energy deposited by the flux of dark matter particles streaming through the Earth. This talk will present the ongoing efforts in building the SuperCDMS experiment as well as future operational plans to ultimately deploy an array of 24 silicon and germanium detectors at SNOLAB in Sudbury, Canada, with the goal of improving sensitivity to light dark matter particles by orders of magnitude compared to existing limits.

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