



Contribution ID: 1368

Type: **Oral Presentation**

SuperCDMS SNOLAB Status and Prospects (15' + 5')

Saturday, 6 August 2016 16:15 (20 minutes)

There is an overwhelming body of astrophysical data that confirms the existence of dark matter. This makes direct searches for dark matter one of the most promising ways to discover new particles and fields. For over a decade, the Cryogenic Dark Matter Search has pioneered the use of athermal phonon and ionization sensors to achieve world-leading sensitivity to a theoretically-favored dark matter candidate, the Weakly Interacting Massive Particle. This endeavor is far from complete, however. The discovery of the Higgs coupled with the lack of any confirmed new physics beyond the Standard Model, has made it increasingly important to explore all regions of parameter space in the search for dark matter. Thus the SuperCDMS collaboration is now focusing on the search for low mass WIMPs and other light dark matter particles. A “next-generation” (G2) experiment, to be built at SNOLAB, will push sensitivity to light WIMPs many orders of magnitude below present-day limits. This will be achieved with a mixed payload of germanium and silicon detectors and with two detector designs, the iZIP and the HV detector. I will describe the concept for the SuperCDMS SNOLAB experiment, discuss the sensitivity to dark matter achieved with iZIP and HV detectors, and present the current status and progress towards construction.

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Session Classification: Dark Matter Detection

Track Classification: Dark Matter Detection