



Contribution ID: 19

Type: **not specified**

Status and prospects of the SuperCDMS Dark Matter experiment

Tuesday, 20 August 2024 15:30 (30 minutes)

The SuperCDMS collaboration is currently constructing its next generation of a direct DM search experiment at the SNOLAB underground facility in Sudbury, Canada. SuperCDMS will employ two types of state-of-the-art cryogenic Ge and Si detectors capable of detecting sub-keV energy depositions. The unique mix of target substrates and detector technologies allows for a simultaneous study of intrinsic and external backgrounds as well as exploring the DM mass range below 10 GeV with world-leading sensitivity. In order to extend the sensitivity to lower DM masses, a precise understanding of the detector response down to the semiconductor band gap energy is required. This effort is driven by a comprehensive prototype testing program and the development of a sophisticated Detector Monte-Carlo to guide the data analysis and model building. This talk will present an overview of our detector technology and recent milestones towards science operation with SuperCDMS at SNOLAB.

Presenter: ZATSCHLER, Stefan (U Toronto)