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## **(G\*) Projected Sensitivities for Future Upgrade Scenarios of SuperCDMS SNOLAB**

*Monday, 6 June 2022 12:00 (15 minutes)*

The Super Cryogenic Dark Matter Search (SuperCDMS) Collaboration uses cryogenic semiconductor detectors to look for evidence of dark matter interactions with ordinary matter. The current generation is under construction at SNOLAB, and will use two target materials (silicon and germanium) and two detector types (HV and iZIP) to probe low mass dark matter.

For potential future upgrades, SuperCDMS is exploring possibilities in both reducing known background contributions and improving detector performance. Multiple detector optimization scenarios have been modelled, with various detector sizes and sensor configurations, to enhance detector resolution and background discrimination ability.

This talk will describe sensitivity projections for such future upgrades. Forecasts for nucleon-coupled dark matter ( $5 \text{ MeV}/c^2 - 5 \text{ GeV}/c^2$ ), dark photon-coupled light dark matter ( $1 - 100 \text{ MeV}/c^2$ ), and dark photons and axion-like-particles ( $1 - 100 \text{ eV}/c^2$ ) will be shown.

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