



Canadian Association  
of Physicists

Association canadienne  
des physiciens et physiciennes

Contribution ID: 3747

Type: **Invited Speaker / Conférencier(ère) invité(e)**

## **(I) Searching for Dark Matter with SENSEI**

*Tuesday 20 June 2023 09:00 (30 minutes)*

SENSEI (Sub-Electron Noise Skipper Experimental Instrument) is a direct detection dark matter experiment with detectors operating at Fermilab and at the SNOLAB underground facility. The experiment consists of silicon Skipper-CCD sensors that make multiple non-destructive measurements of the charge contained in each pixel, reducing the readout noise to a level that allows for resolution of single electrons. This low energy threshold, along with low rates of events which may contain up to four electrons, results in competitive sensitivity for low-mass dark matter candidates which interact with electrons over a wide range of dark matter masses. This presentation will give an overview of the SENSEI experiment and the current status after the successful commissioning of the first batch of science-grade sensors at SNOLAB.

### **Keyword-1**

Dark Matter

### **Keyword-2**

CCDs

### **Keyword-3**

**Primary author:** Dr LAWSON, Ian

**Presenter:** Dr LAWSON, Ian

**Session Classification:** (PPD) T1-3 Discovering New Paths to Discovery: New Technologies and Methods to Uncover BSM Physics Symposium | Symposium sur les nouvelles technologies et méthodes pour découvrir la physique au delà du modèle standard (PPD)

**Track Classification:** Symposia Day (Tues. June 20) / Journée de symposiums (mardi, le 20 juin): Symposia Day (PPD - PPD) - Discovering New Paths to Discovery: New Technologies and Methods to Uncover BSM Physics | Découvrir de nouvelles voies vers la découverte : Nouvelles technologies et méthodes pour découvrir la physique au-delà du modèle standard