

Sub-GeV dark matter searches with SENSEI

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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 of millions of pixels, reducing the readout noise to a level that allows for resolution of single electrons. This low energy threshold, along with low rates of events with one, two, three, and four electrons, results in competitive sensitivity for low-mass dark matter candidates that interact with electrons over a wide range of dark matter masses. In this talk we present an overview of the SENSEI experiment, as well as the current status after the successful commissioning of the first batch of science-grade sensors at SNOLAB.

Primary author: STIFTER, Kelly (Fermilab)

Co-author: YU, Tien-Tien (University of Oregon (US))

Presenter: STIFTER, Kelly (Fermilab)

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