



# NEW SUB-GEV DARK MATTER RESULTS FROM SENSEI

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**925-9114-6494**

**1:00pm ET**

SENSEI (Sub-Electron Noise Skipper Experimental Instrument) is pioneering the development of silicon CCDs with sub-electron charge resolution for low-threshold direct detection of dark matter. These "skipper CCDs" are the first detectors capable of resolving single electrons in each of millions of pixels, and the low thresholds possible with this technology give SENSEI world-leading sensitivity to sub-GeV dark matter.

During 2020, SENSEI conducted the first direct-detection search using a skipper CCD from a dedicated fabrication batch optimized for dark matter searches. Using 24 days of data collected ~100 m underground at Fermilab with a 2-gram CCD, we measure the lowest rates in silicon detectors of events containing one, two, three, or four electrons, and achieve world-leading sensitivity for a large range of sub-GeV dark matter masses.

I will present these recent results, and the status of the upcoming full-scale SENSEI run at the SNOLAB deep-underground facility.

