

SENSEI: performance, results, and prospects for sub-GeV dark-matter searches

Thursday, May 12, 2022 5:00 PM (20 minutes)

Recently developed science-grade Skipper Charge-Coupled Devices (Skipper-CCDs) have unprecedented sensitivity to low-energy particle interactions in Silicon and are an outstanding technology to search for ultra-light dark-matter candidates. SENSEI (Sub-Electron Noise Skipper Experimental Instrument) is the first experiment to implement Skipper-CCDs for this purpose, achieving world-leading sub-GeV constraints. In this talk, we present the SENSEI experiment status and prospects. We discuss its latest results from the first year of data taking with a science-grade Skipper-CCD operated in a low-radiation environment. In the second part of this talk, we present the Oscura project, a future large-scale experiment using Skipper-CCDs for dark-matter searches.

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