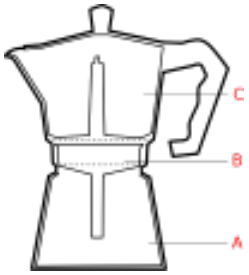

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The SENSEI Experiment: An Ultrasensitive Search for Sub-GeV Dark Matter

Thursday 8 October 2020 09:00 (25 minutes)

Devices with low energy thresholds are one of the main pillars for the direct detection of dark matter, and tremendous progress has been made in the past few years in probing dark matter with sub-GeV masses. The SENSEI (Sub-Electron Noise Skipper Experimental Instrument) Collaboration has pioneered the silicon-based Skipper-Charge Coupled Device (CCD) technology capable of detecting electron recoils from dark matter interactions with sub-electron-noise precision and has already achieved world-leading sub-GeV dark matter results. Over the past year, SENSEI has been testing, characterizing, and taking science data with new Skipper-CCDs, which demonstrate the excellent performance and promise of this technology for sub-GeV dark matter searches. This talk will describe these developments and recent dark matter search results. The current status and future plans of SENSEI will also be discussed, including the status of installing at SNOLAB a detector consisting of about 100-grams of Skipper-CCDs.

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