

SuperCDMS Searches for Low-Mass Particle Dark Matter

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The SuperCDMS collaboration has recently published results from two prototype detectors with thresholds below 20 eV, setting world-leading limits on dark matter nuclear recoils down to $90 \text{ MeV}/c^2$ in dark matter mass, and confirming the previous world-leading limits on electron-recoil dark matter down to $\sim 500 \text{ keV}/c^2$ with improved resolution. Results from these prototype detectors have begun to probe regions of parameter space where detector response is unmeasured, and these detectors are also being used to measure the electron, x-ray, and nuclear recoil response of Si detectors below 1 keV. In this talk, I will present our recent dark matter results, discuss their implications for detector response models, and conclude with the status and plans for the upcoming SuperCDMS SNOLAB experiment.

Secondary track (number)

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