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Invited Talk: Direct Detection with Cryogenic Experiments

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Cryogenic dark matter experiments composed of semiconductors operated at milliKelvin temperatures are one of the leading technologies in dark matter searches, currently setting the most stringent limits to the spin-independent WIMP-nucleon cross section for dark matter masses between 2-6 GeV. I will review the principles of direct dark matter detection and the various experiments using this technique, which offers exquisite background rejection capabilities for zero-background dark matter searches, the ability to achieve very low experimental thresholds for light-mass dark matter searches, and the ability to field different target materials which is crucial in the interpretation of potential positive signals.

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