

Development of Cryogenic Thermal Detectors for Sub-GeV Dark Matter

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An important topic in dark matter research is the search for sub-GeV dark matter. Direct detection searches for sub-GeV dark matter can be conducted through scattering on Silicon nuclei utilizing a detector with energy threshold on the order of 10 eV. This low threshold can be achieved by thermalizing a Transition-Edge Sensor (TES) based detector with gram scale silicon absorbers. This talk describes the design of a 10 eV threshold TES based detector as well as recent fabrication and testing progress.

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