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## SuperCDMS HV Detector R&D

*Tuesday, 23 July 2019 18:45 (15 minutes)*

SuperCDMS has been pursuing R&D on a new style of detector (HVeV) that has already demonstrated single electron-hole pair discrimination. We have recently produced a second detector which has achieved 0.06 electron-hole pair resolution in Silicon, a record charge resolution for a gram-scale calorimeter. Using a contact-free biasing scheme, this detector has attained 3 eV phonon energy resolution. In this talk I will discuss these new results and the performance of recent prototypes, as well as the goals and future of this R&D program. In particular, I will present the path to 10 gram detectors with sub-eV resolution for electron recoil dark matter particle scattering, as well as applications to neutrino physics and photon science.

### **Less than 5 years of experience since completion of Ph.D**

Y

### **Student (Ph.D., M.Sc. or B.Sc.)**

N

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