

Testing and Characterization of SuperCDMS HV Detectors at CUTE

Friday, 16 February 2024 21:30 (15 minutes)

The SuperCDMS collaboration uses cryogenic silicon and germanium detectors to directly search for dark matter. Among the full payload of 24 detectors are 12 HV detectors. These utilize a bias voltage across the crystal substrate to amplify the phonon signal created from particle energy depositions. We have operated 4 Ge and 2 Si HV detectors in a deep underground environment for the first time at the Cryogenic Underground TEst Facility (CUTE) at SNOLAB. This detector characterization campaign aims to understand the behavior of the detectors as well as look at the development of analysis cuts that may aid future SuperCDMS analyses. This talk will describe the testing efforts undertaken at CUTE and the results we've learned from this program thus far.

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