

Abstract Submitted
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SuperTower 1 - Status/Backgrounds/Leakage MANUNGU KIVENI,
Syracuse University — The Cryogenic Dark Matter Search (CDMS) collaboration employs depth-sensitive detectors to search for the dark matter that pervades the universe in the form of Weakly Interacting Massive Particles (WIMPs) by measuring simultaneously the ionization and the athermal phonons produced when WIMPs interact with the detectors. With this technique, CDMS discriminates the nuclear recoils (WIMP-like interactions) from electron recoil backgrounds with a discrimination power of $>10^4:1$. The SuperCDMS Soudan experiment has started, and the first of five SuperTowers of detectors has been installed and taking data since 06/05/2009. Each SuperTower contains 5 improved detectors, each 2.5 times thicker than CDMS-II detectors. Together, the five SuperTowers will have a total detector mass of 15 kg. In this presentation, I will report on the status of data-taking with the first SuperTower, focusing on measurements of surface event backgrounds and background rejection. Backgrounds are estimated from measurements of the photon rate and by the rate of tagged alpha-particle interactions, which determine the dominant background of surface electron events. The leakage of background events past discrimination cuts is estimated with data taken with a ^{133}Ba photon calibration source.

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