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Abstract for an Invited Paper for the APR10 Meeting of the American Physical Society

Results from the Cryogenic Dark Matter Search Experiment

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The Cryogenic Dark Matter Search (CDMS-II and SuperCDMS) uses high-purity Ge crystals operated at 40mK to look for WIMPs, a leading dark matter candidate. The CDMS experiment is housed in the Soudan Underground Laboratory in Soudan, MN, and the collaboration has published world-leading limits on WIMP-nucleon cross sections. The CDMS-II detectors, 1-cm thick crystals, use ionization and phonon signals to distinguish bulk nuclear recoils (caused by WIMPs) from electron recoils and from surface events caused by electromagnetic backgrounds. I will report on the most recent results from the operation of 5 towers of detectors (6 detectors per tower) for 612.13 kg-days of exposure, during what was the final run of CDMS-II. I will also address the progress in R&D work on the next generation of CDMS Ge detectors, and the status of the first run of SuperCDMS, a run including 6 SuperCDMS 1-inch thick Ge detectors with newly developed phonon sensors.

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