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The Cryogenic Dark Matter Search: Results and Prospects

Thursday, 15 August 2013 16:00 (35 minutes)

The Cryogenic Dark Matter Search is sensitive to WIMP interactions with target nuclei in germanium and silicon crystals held at ~50 mK. Detailed information contained in both phonon and ionization signals are used to create a WIMP-search region with backgrounds of less than one event. Raw data taken with the CDMS-II detectors was reprocessed with a pulse reconstruction algorithm which improves timing for energies near threshold. Blind analyses were then performed for the 612 kg-days of Ge exposure which yielded 2 WIMP candidate events in the 2009 analysis, as well as for 140 kg-days from eight Si detectors never before analyzed. Three WIMP-candidates were found in the Si data and new limits were extracted from the Ge data. The implications for low mass WIMPs, as well as results from the currently-running SuperCDMS experiment will be discussed.

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