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The DAMIC dark matter experiment

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The DAMIC (Dark Matter in CCDs) experiment uses high resistivity scientific grade CCDs to search for dark matter. The CCD's low electronic noise allows an unprecedentedly low energy threshold of few tens of eV that makes it possible to detect silicon recoils resulting from interactions of low mass WIMPs. In addition the CCD's high spatial resolution and the excellent energy response results in very effective background identification techniques. The experiment has a unique sensitivity to dark matter particles with masses below 10 GeV. Previous results have demonstrated the potential of this technology, motivating the construction of DAMIC100, a 100 grams silicon target detector currently being installed at SNOLAB.

In this presentation, the mode of operation and unique imaging capabilities of the CCDs, and how they may be exploited to characterize and suppress backgrounds will be discussed, as well as the expected physics results after one year of data taking.

Collaboration

– not specified –

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