# The Search for Light Dark Matter with DAMIC and DAMIC-M

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**Abstract**

The DAMIC (Dark Matter in CCDs) experiment employs the bulk silicon of scientific-grade charge-coupled devices (CCDs) to detect dark matter particles. Since 2017, DAMIC has operated a seven-CCD detector (40-gram target mass) installed in a low radiation environment in the SNOLAB underground laboratory. The CCDs have excellent energy and spatial resolutions, low-energy thresholds, and a unique capability to identify surface and bulk radioactive backgrounds. DAMIC-M, the next phase of the program, will be installed at the Laboratoire Souterrain de Modane in France. It will feature a kg-size silicon target consisting of record-mass, ultra low-noise CCDs, and will look for dark-matter-induced nuclear and electron recoils in order to probe different types of low-mass dark matter candidates. DAMIC-M CCDs implement an innovative Skipper readout that utilizes a non-destructive, multiple measurement of charge and enables a detection threshold as low as 2 ionized electron-hole pairs. We present results from the ongoing 13.4 kg-d WIMP search analysis of the DAMIC experiment at SNOLAB. We also review key development efforts of the DAMIC-M experiment, including obtaining single electron resolution with our first batch of Skipper CCDs deployed in a test chamber at Laboratoire de Physique Nucléaire et de Hautes Énergies.

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