GDR Neutrino meeting June 25-26 2019



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DAMIC-M

mardi 25 juin 2019 14:30 (30 minutes)

The DAMIC experiment uses thick fully-depleted charge-coupled devices (CCDs) to search for low-mass dark matter particles. The low pixel readout noise and leakage current make DAMIC extremely sensitive to ionization signals from the interaction of dark matter particles with nuclei or electrons in the silicon target. The CCDs' excellent energy and spatial resolutions, provide unique capability to identify surface and bulk radioactive backgrounds. Since early 2017, DAMIC has collected data with 40-gram silicon target installed in the SNOLAB underground laboratory. An upgrade of the detector, DAMIC-M, to be installed at the Laboratoire Souterrain de Modane, features a kg-size silicon target and unprecedented single electron resolution resulting in a detection threshold as low as 2 ionized electrons. We will review the key components of the experiment, the current results and the status of DAMIC-M

Summary

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Classification de Session: GDR Neutrino GT4 session: Accélérateurs, Moyens de détection, R&D et valorisation: (Amphi Charpak)