

# Counting electrons with the DAMIC-M dark matter experiment

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The DAMIC (Dark Matter in CCDs) experiment uses scientific grade silicon charge-coupled devices (CCDs) to detect potential ionization signals from dark matter interactions. These approx. mm thick devices feature impressively low leakage current ( $< 10^{-21}$  A cm<sup>2</sup>) and a very low energy threshold, making them ideal low-mass dark matter detectors. The kg-size next generation DAMIC-M detector, funded for operation, will use “Skipper” instrumented CCDs - a novel readout technique that allows for counting of individual charges, with a demonstrated resolution of  $0.07 e^-$  - which ushers in a new era of sensitivity to low-energy interactions. In this talk I will present the physics potential of using Skipper CCDs as particle detectors for dark matter & neutrino interactions, highlight ongoing challenges in deploying these devices, and summarize the broad applicability of Skipper technology for scientific applications.

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