

Abstract Submitted
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Measurement of Compton scattering on silicon atomic shell electrons with Skipper CCDs JULIAN CUEVAS-ZEPEDA, DANIELLE NORCINI, PAOLO PRIVITERA, University of Chicago — For direct detection searches, reaching detector energy thresholds $\mathcal{O}(\infty|\mathcal{V})$ is necessary for sensitivity to low-mass dark matter candidates. In this regime, ionization signals from small-angle Compton scattering of environmental γ -rays need to be calibrated for proper background estimation in silicon-based detectors, such as DAMIC-M. Using ^{241}Am and ^{57}Co γ -ray sources, we report the first measurements of scattering on silicon atomic shell electrons in a Skipper charged-coupled device (CCD) with single-electron resolution. Agreement between data and a theoretically-motivated parameterization of the spectral features will be discussed.

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