

Abstract Submitted
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In-Depth Evaluation of CdTe Solar Cells RUSSELL GEISTHARDT,
Colorado State University — Thin-film polycrystalline CdTe solar cells have already had a significant research and commercial impact, but need to continue to improve in efficiency in order to contribute to the global energy supply. Device physics evaluation of these cells is crucial towards improving performance through better understanding of losses in efficiency. Standard evaluation techniques include current-density/voltage (J-V), quantum efficiency, and capacitance measurements. These measurements have been expanded to include variations in temperature and light intensity, which can be used to demonstrate non-ideal behavior of the current and voltage. Further graphical analysis of the J-V data has been done to determine diode parameters and parasitic losses. Data will be presented which illustrates the importance of these techniques by comparing non-ideal behavior with more ideal behavior.

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