

Abstract Submitted
for the TS4CF08 Meeting of
The American Physical Society

Effects of non-uniformities on thin-film solar module performance¹ GALYMZHAN KOISHIYEV², Physics Department, Photovoltaics Lab, Colorado State University — A mathematically rigorous circuit model to numerically simulate a thin-film solar module has been developed. General results were obtained for a uniform baseline module. In particular analytic relations between physical and model parameters were obtained. The model was then used to study effects of non-uniformities such as shunts, weak diodes and shading. It was also used to predict and fit experimental data for shading non-uniformities, and qualitative results were obtained for selected types of shading.

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²I would like to acknowledge James R. Sites for helpful discussions and Jun Pan for experimental assistance.

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Date submitted: 08 Sep 2008

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