

Abstract Submitted
for the APR10 Meeting of
The American Physical Society

Modeling optoelectronic devices incorporating colloidal quantum dots¹ IAN ROUSSEAU, MIT — We present a computational model that explains operation of LEDs and solar cells incorporating amorphous semiconductors as transport layers and films of colloidal quantum dots as the optically active layers. The material parameters in the model can be determined experimentally. The model breaks the problem down into pieces and applies approximations taught in undergraduate-level physics to explain device operation.

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Date submitted: 23 Oct 2009

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