

Abstract Submitted
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Performance of ZnO nanowire-based hybrid solar cells decorated with CdTe quantum dots deposited by a pulsed electron beam technique¹
ROBERTO AGA, RICHARD MU, Fisk University, Nashville TN 37208, KENNETH SINGER, Case Western Reserve University, Cleveland OH 44106 — More efficient nanocomposite hybrid solar cells require facile charge transport to the collecting electrodes as well as photon-to-electron conversion over the broad solar spectrum. In this work, we employ ZnO nanowires (ZnO-NW) as direct conduction pathways for electrons to the collecting electrode by growing them directly on ITO-coated glass substrates. Photovoltaic nanocomposites are then formed by spin-coating of poly(3-hexylthiophene). By decorating the ZnO-NW with CdTe quantum dots deposited by a pulsed electron beam technique, we have extended the photon-to-electron conversion sensitivity beyond 600 nm.

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Roberto Aga
Fisk University

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