

Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Low band gap polymer bulk heterojunction solar cell on a co-planar digitated electrodes structure ABRAR QUADERY, FERAS ALZUBI, Nanoscience Technology Center, Department of Physics, University of Central Florida, SIMON TANG, ANDRE J. GESQUIERE, Nanoscience Technology Center, Department of Chemistry, University of Central Florida, SAIFUL KHONDAKER, Nanoscience Technology Center, Department of Physics, University of Central Florida — Usage of additive in a bulk heterojunction organic solar (BHJ) cell to enhance absorption of solar spectrum in the NIR range is attracting significant research interest. At present, the BHJ solar cells are fabricated in a vertical geometry where a transparent electrode is necessary limiting the choice to mostly ITO. This may create a significant challenge as the performance of organic solar cell is dependent on the work function matching of active materials and the electrode. In order to address this challenge, we fabricated solar cell by dropcasting a ternary blend of P3HT:PC₆₀BM: PCPDTBT on a simple structure comprising of co-planar digitated electrodes with different work functions. We will discuss the performance of our device and its implication.

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Date submitted: 23 Nov 2011

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