

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Towards high performance inverted polymer solar cells XIONG GONG, The University of Akron — Bulk heterojunction polymer solar cells that can be fabricated by solution processing techniques are under intense investigation in both academic institutions and industrial companies because of their potential to enable mass production of flexible and cost-effective alternative to silicon-based electronics. Despite the envisioned advantages and recent technology advances, so far the performance of polymer solar cells is still inferior to inorganic counterparts in terms of the efficiency and stability. There are many factors limiting the performance of polymer solar cells. Among them, the optical and electronic properties of materials in the active layer, device architecture and elimination of PEDOT:PSS are the most determining factors in the overall performance of polymer solar cells. In this presentation, I will present how we approach high performance of polymer solar cells. For example, by developing novel materials, fabrication polymer photovoltaic cells with an inverted device structure and elimination of PEDOT:PSS, we were able to observe over 8.4% power conversion efficiency from inverted polymer solar cells.

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Date submitted: 06 Nov 2012

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