

Abstract Submitted  
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**Simple method to examine the work function of transparent conducting oxide for traditional and organic based photovoltaics** JOSEPH BERRY, MATTHEW REESE, JOHN PERKINS, DAVID GINLEY, National Renewable Energy Laboratory, NATIONAL CENTER FOR PHOTOVOLTAICS TEAM — Transparent conducting oxides (TCOs) are key components in both traditional and organic based optoelectronic devices. In photovoltaic applications in which TCOs are employed as transparent electrical contacts, the matching of the TCO work function to that of the active material is critical to device performance. We report the adaptation of a commercial electrostatic voltmeter to measure the work function of In-Zn-O and other TCO materials relevant to photovoltaics. The applicability of this technique to high-throughput combinatorial studies of compositionally graded TCO libraries will be presented. We will also examine correlations between the observed work function and other material properties in these TCO libraries. The relationship between device performance and the measured work function will also be assessed.

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