Contribution ID: **167** Type: **Poster**

Charge Mobility of Organic Solar Cells using Low Cost Pulsed Laser for photo-CELIV

Wednesday, 24 May 2017 15:45 (15 minutes)

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Abstract
Charges mobility is the key factor to determine the performance of bulk heterojunction organic solar cells. Many relevance approaches have been utilized to investigated the charges mobility. Charge extraction by linearly increasing voltage (CELIV) is one of the famous technique. However, the excitation light source is limited to the commercial short pulse laser or LED which is rather high cost. Herein, the simple <100 ns pulse generator circuit to drive the cheap laser diode have been developed and used as the light source in photo-CELIV. The set-up has been performed with the standard bulk heterojunction organic solar cells. Then the charges mobility of such device is carried out and compared with the literature.

Keywords: photo-CELIV, charge mobility, organic solar cells, short pulse circuit

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Presenter: Mr CHANGSALAK, Sorawit

Session Classification: Poster Presentation I

Track Classification: Photonics and Optoelectronics