

Accepted Manuscript

Title: Short-circuit current model of organic solar cells

Author: Nianduan Lu Ling Li Pengxiao Sun Ming Liu

PII: S0009-2614(14)00752-0

DOI: <http://dx.doi.org/doi:10.1016/j.cplett.2014.08.070>

Reference: CPLETT 32462



To appear in:

Received date: 27-6-2014

Revised date: 20-8-2014

Accepted date: 29-8-2014

Please cite this article as: N. Lu, L. Li, P. Sun, M. Liu, Short-circuit current model of organic solar cells, *Chem. Phys. Lett.* (2014), <http://dx.doi.org/10.1016/j.cplett.2014.08.070>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Short-circuit current model of organic solar cells

Nianduan Lu ¹⁾, Ling Li ²⁾, Pengxiao Sun and Ming Liu ³⁾

Institute of Microelectronics, Chinese Academy of Sciences, Beijing 100029, China

Abstract:

A physical model is presented for short-circuit current of organic solar cells based on the flow of both majority and minority carriers. According to the proposed model, the temperature, free carrier generation rate, light intensity, donor and acceptor dopant concentration dependences of short-circuit current can be well described. Good agreement between the calculated results and experimental data is found.

Keywords: Short-circuit current, organic solar cells, majority carrier flow, minority carrier flow

¹⁾ Electronic mail address: lunianduan@ime.ac.cn

²⁾ Electronic mail address: lingli@ime.ac.cn

³⁾ Electronic mail address: liuming@ime.ac.cn

Download English Version:

<https://daneshyari.com/en/article/5380539>

Download Persian Version:

<https://daneshyari.com/article/5380539>

[Daneshyari.com](https://daneshyari.com)