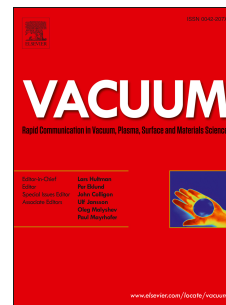


Accepted Manuscript

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PII: S0042-207X(15)30024-5

DOI: [10.1016/j.vacuum.2015.07.020](https://doi.org/10.1016/j.vacuum.2015.07.020)

Reference: VAC 6756

To appear in: *Vacuum*

Received Date: 23 May 2015

Revised Date: 27 July 2015

Accepted Date: 28 July 2015

Please cite this article as: Nie C, Li F, Wu J, Zeng Q, Ooi PC, Veeramalai CP, Guo T, Solution-processed flexible blue organic light emitting diodes using graphene anode, *Vacuum* (2015), doi: 10.1016/j.vacuum.2015.07.020.

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Solution-processed flexible blue organic light emitting diodes using graphene anode

Chen Nie, Fushan Li*, Jiaqi Wu, Qunying Zeng, Poh Choon Ooi, Chandrasekar

Perumal Veeramalai, Tailiang Guo*

Institute of Optoelectronic Display, Fuzhou University, Fuzhou 350002,

People's Republic of China

ABSTRACT:

In this paper, we demonstrate a simple solution-processed route to fabricate flexible blue organic light emitting diodes (OLEDs) with graphene as its bottom electrode on flexible polyethylene terephthalate (PET) substrate. The device structure consists of Al/Zinc oxide (ZnO)/poly(9,9-dioctylfluorene) (PFO)/poly(3,4-ethylenedioxythiophene):poly(styrenesulfonate)(PEDOT:PSS)/Graphene/PET. The PFO as a blue emitter layer and the ZnO nanoparticles as electron transport layer were deposited by using spin-coating technique. The flexible blue OLEDs based on graphene anode exhibits a stable deep blue emission with a CIE color coordinates of (0.17, 0.17). This study suggests a simple fabrication approach to construct graphene electrode-based flexible blue organic light emitting diodes.

Keywords: Graphene; Zinc oxide; PFO; Solution process; Flexible device.

*Corresponding author. E-mail address: fushanli@hotmail.com (F.Li);

gtl_fzu@hotmail.com (T. Guo)

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