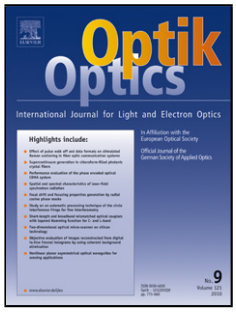

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Numerical modelisation of ZnO interfacial layer on P3HT:PCBM based organic photovoltaic bulk heterojunction devices

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Abstract

The interface layers thickness effect has been studied for inverted organic solar cells based on Poly(3-hexylthiophene):[6,6]phenyl-C61-butyric Acid Methyl Ester *(P3HT :PCBM). We used the SCAPS simulation tool from which we reproduced and predicted the properties of the components introduced into the composition of the inverted structure photovoltaic device in order to model the cell parameters. We varied the cathode layer thickness used as electron transport layer (ETL) and calculated the J-V characteristics of the solar cells and their external quantum efficiency (EQE). The highest*