



Fabrication and electrical characterization of Au/ZnPc/p-Si/Al and Au/AlPc/p-Si/Al organic heterostructures

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Abstract

The electrical properties of Au/ZnPc/p-Si/Al and Au/AlPc/p-Si/Al organic heterostructures in dark condition are investigated. For this purpose, we measure the current-voltage (I-V) characteristics at room temperature under dark conditions for both organic zinc and aluminum phthalocyanine materials. The electronic parameters of the organic heterojunctions under dark including ideality factor n , barrier height (Φ_b), series resistance (RS) are extracted using the Cheung-Ceung and Norde methods respectively. These parameters are found to be 4.9 and 2.3, 0.69 eV and 0.74 eV, 8 k Ω and 10 k Ω respectively for ZnPc/p-Si and AlPc/pSi contacts.

Acknowledgment

This research is supported by the Algerian Ministry of High Education and Scientific Research through the CNEPRU project No. B00L02UN310220130011, www.mesrs.dz, and www.univ-usto.dz. This project is also included in ANVREDET PROJECT N° 18/DG/2016 “projet innovant: synthèse et caractérisation de films semi-conducteurs nanostructurés et fabrication de cellule solaire” 2016, <http://www.anvredet.org.dz/>

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Contribution:

Oral