Novel Optical Sensor Based on Zinc Phthalocyanine

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Abstract

Zinc-based phthalocyanines have been attracted considerable research intrest for their applications in p-n junctions and dye-sensitized solar cells. In the present work, we have investigated the properties of Zn-Pc for optical sensor applications. The current voltage (I-V) characteristics of the Zn-Pc/p-Si junction were studied under dark and various light intensities. The ideality factor and barrier height of the diode was observed to be 3.58 and 0.63 eV, respectively. It was observed that the photocurrent of the device increases with increase in light intensity. The transient photo-current, capacitance, and conductance measurement were performed to study the effect of transienet photo on the junction properties of the device. The present study suggests that Zn-Pc could be used as photosensor.

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