

Measurement of Resistance on CdSe/P3HT Active Layer by Using the Transmission Line Method (TLM)

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Fabrication of hetero-junction solar cells was investigated by using blend of cadmium selenide quantum dots with conjugated polymer poly (3 hexythiophene-2,5-diyt) P3HT. Measurement of sheet resistance of active layer was studied by using Transmission line method (TLM). The loading amount of (CdSe/P3HT) in the solution was varied from 5 mg/ml up to 20 mg/ml. The sheet resistance of the active layer with approximately same thickness was measurement. It was shown that the sheet resistance of active layer not vary significantly until the loading amount reaches 15 mg/ml but decreases vary fast at the loading amount up to 20 mg/ml. This result clearly shows that percolation pathway was developed in the composite active layer. The solar cells of the structure ITO/PEDOT:PSS/Active Layer/Al was fabricated. Power conversion efficiency was obtained reach to 0.2%.

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