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Organic Solar Cell with Carbon Nanotubes as Anode[1] ROSS ULBRICHT, XIAOMEI JIANG, KANZAN INOUE, KAMIL MIELCZARECK, CARLOS MEDINA, SERGEY LEE, ANVAR ZAKHIDOV — Organic, polymer based solar cells present a low cost more versatile alternative to the current inorganic silicon based solar cells. In this research, carbon nanotubes have been used to replace the conventional anode used, indium tin oxide. Carbon nanotubes exhibit electronic, optical and mechanical properties desirable for polymeric based organic solar cells. In this study, an oriented muliwall carbon nanotube sheet is used as the hole collecting electrode with RR-P3HT as the donor material and PCBM as the acceptor material. An open circuit voltage of 0.57V, a short circuit current of 5.53mA/cm2, a fill factor of 0.37, and an efficiency of 1.16% has been obtained. Performance dependence on incident light intensity and spectral studies along with other various investigations are presented.

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