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Enhanced Photocurrent in a Photovoltaic Cell involving a Non-conjugated Conductive Polymer, Poly(β-pinene) M. SANGAL, G. TELANG, M. THAKUR, Photonic Materials Research Laboratory, Auburn University, AL — Photovoltaic cells have been fabricated using titanium dioxide/doped poly(β-pinene)/carbon on ITO glass-substrates. Photocurrents and photo-voltages for different intensities of light (from a white illuminant light bulb, emission at 300-700 nm) have been measured. Use of iodine-doped nonconjugated conductive polymer film has led to significant enhancement of photocurrent compared to previous reports which included a different cell structure with undoped polymer-C_{60} composites. A maximum photocurrent of about 0.3 mA was observed for a light intensity of about 5mW/cm^2. The maximum photo-voltage as observed was about 0.6 V for the same light intensity.

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