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OPTICAL AND PHOTO-ELECTROCHEMICAL PROPERTIES OF CONDUCTING POLYMER/INORGANIC SEMICONDUCTOR NANOPARTICLE.

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In this work, optical and photoelectrochemical properties of polybithiophene (PBiTh) films electrochemically synthesized and modified with incorporation of silicon nanoparticles (n-Si or p-Si) dispersed in the electrolytic during polymerization.
For the characterisation of the modified surface electrode by PBith/n-Si and PBith/p-Si, the photocurrent measurements and UV-visible spectroscopy were used. Cyclic voltammetry (CV) and electrochemical impedance spectroscopy (EIS) have been used to investigate the electrochemical behaviour of the resulting materials.
It was found that the photosensitive composite materials (PBiTh-InP) have good photoelectrochemical and optical properties and show that these films have potential in the photovoltaic cells applications.