**Optical properties of Graphene Oxide reinforced PANI/PS Nanocomposite Solution Cast Thin Films**

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**Abstract**. Semiconductor band gap technology is essential in the quest to develop novel and advanced devices. Graphene-based polymer nanocomposites have recently been considered one of the most promising semiconducting materials for optoelectronic applications. In this study, camphor sulphonic acid doped polyaniline (PANI)-polystyrene (PS)-Graphene oxide(GO) composite films are prepared by the solution casting technique and are investigated by X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR), Transmission electron microscopy (TEM), and UV-Vis spectroscopy. The optical properties of the GO-PANI-PS polymer nanocomposite films exhibit higher refractive index (n), optical absorbance, andabsorption coefficient (α)than PANI-PS polymer matrix for UV-visible light. This is encouraging for optoelectronic applications and ultraviolet protection. Furthermore, the obtained low direct and indirect optical band gaps of the GO reinforced PANI-PS polymer nanocomposite prepared by a simple route fascinates the researchers towardsa new path for various optoelectronic applications.

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