**Abstract**

Solar energy has become a vital type of renewable energy because of its environmental friendliness and the potential for high power conversion efficiency in solar energy harvesting devices. Dye-sensitized solar cells (DSSCs) have gained considerable interest as alternatives to the semiconductor-based thin film solar cells. Natural dye sensitized solar cells have become promising candidates for the replacement of synthetic dyes. Graphene oxide exhibited impressive photoelectric properties, large surface area, high charge-carrier mobility, high conductance and fast electron transfer. Thus graphene oxide was considered as the most promising material for various potential applications. Nickel oxides have been of particular interest because of its good electro-catalytic properties, low toxicity and low cost, which made them suitable for photo-anode in dye sensitized solar cells. In the present work, a hybrid material consisting of nickel oxide nanoparticles anchored onto the nitrogen doped graphene oxide sheets was prepared by chemical precipitation method. The structural and morphological studies of the prepared nanocomposites were investigated by X-Ray diffraction analysis and electron microscopy (FE-SEM). The presence of functional groups in the synthesized nanocomposites was studied by Fourier transform infrared spectroscopy (FT-IR). The electrochemical activity of the prepared nanocomposites was investigated by cyclic voltammetry (CV). The prepared nanocomposites were suitable for dye sensitized solar cell applications.