

Cobalt Oxide on Reduced Graphene Oxide for Supercapacitor Application

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The uniform cobalt oxide nanoparticles with average diameter 400 nm on the surface of reduced graphene (rGO) [Co₃O₄/rGO composite] were made by hydrothermal method in water. Their morphology and structure were characterized by Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD), scanning electron microscopy (SEM), and transmission electron microscopy (TEM). The composites were doped on nickel form and then the electrochemical properties were measured in 3M KOH solution. The result shows a potential application for supercapacitor electrode materials as they have a high specific capacitance of 626 F/g at a current density 1/3 mA/mg.