

Abstract Submitted
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Novel Fabrication of Carbon Spheres Decorated with Nickel Nanoparticles for Supercapacitors¹ CESAR NIEVES, Univ of Puerto Rico - Humacao, JOSHUA ROBLES, University of South Florida, NICHOLAS PINTO, IDALIA RAMOS, Univ of Puerto Rico - Humacao, PENN-UPR PARTNERSHIP FOR RESEARCH AND EDUCATION IN MATERIALS COLLABORATION — Carbon spheres (CS) were synthesized by hydrothermal method using a 0.8M aqueous sucrose solution as the carbon source. The starting solution was heated in a stainless steel autoclave at 200°C for 4h to produce carbon spheres with regular shapes having diameters in the range of 1-20 μ m. Ni-nanoparticles were deposited on the CS surfaces by an electro-less deposition technique. Our work is the first attempt to decorate CS with nickel nanoparticles using this method. The obtained Ni-CS was studied using Scanning Electron Microscopy (SEM), Energy Dispersive Spectroscopy (EDS) and Ultra-Violet/Visible Spectroscopy (UV-Vis). CS decorated with Nickel nanoparticles increase their capacity to conduct a current making them useful in catalysts and in supercapacitors. Conductivity measurements on these Ni decorated CS and their use in supercapacitors will be presented.

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