

Abstract Submitted  
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**Synthesis of Nanostructured Graphene/Metal-oxides Hybrid for High-performance Supercapacitors** JUN-BO SIM, Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology, Daejeon 305-701, Republic of Korea, SUNDAR MAYAVAN, Division of Corrosion & Materials Protection, Central Electrochemical Research Institute, Karaikudi-630006, Tamil Nadu, India, SUNG-MIN CHOI, Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology, Daejeon 305-701, Republic of Korea — Graphene has been considered as promising material for supercapacitor electrodes due to their large surface area, good chemical stability and excellent electrical conductivity. However, until now, conventional graphene-based supercapacitors cannot provide enough energy storage ability due to irreversible restacking behavior of graphene sheets. Various methods have been explored to solve this problem, but most of methods require complex and multi-step process, which will prevent scalable synthesis. Here, we present an easy and scalable synthesis method for nanostructured graphene/metal-oxides hybrid starting from graphene-oxide. The hybrid material prepared in this method provides high specific capacitance with high electrochemical stability. The sample characterization using XRD, XPS, FE-SEM, FE-TEM and Cyclic-Voltametry will be presented.

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