Short Communication

Shape-controlled Co_3O_4 as Advanced Electrode Materials for High-Performance Supercapacitor

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Long-term cycle performance is a key factor for the supercapacitors that used pseudocapacitive materials. It is known to all that the morphology structures have direct influences on the electrochemical performance of the supercapacitors. In this work, shape-controlled Co_3O_4 electrode materials are successfully prepared and used as electrode materials for the supercapacitors. The different morphologies are Co_3O_4 nano-spheres and Co_3O_4 nano-rods, respectively. Among these two Co_3O_4 electrode materials, the Co_3O_4 nano-spheres shows more excellent electrochemical performance, with 96% capacity retention after 5000 cycles at the high current density of 5 A g^{-1} .

Keywords: Co_3O_4 , nano-spheres, nano-rods, supercapacitors, capacity, electric vehicle

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