NiO/ZnO Nanocomposite as Electrode Material for Supercapacitors

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doi: 10.20964/2018.04.45

Received: 15 December 2017 / *Accepted:* 4 February 2018 / *Published:* 6 March 2018

In this work, NiO/ZnO nanocomposites with different Ni/Zn ratio are grown on nickel foam by a hydrothermal and subsequent calcination process. The nanocomposites have sheet-like morphology, and the size of the nanosheets varies with the change of Ni/Zn ratio. The NiO/ZnO nanocomposites can be used as electrode material for supercapacitors. The specific capacitances of NiO/ZnO nanocomposites are higher than NiO and ZnO alone, and the NiO/ZnO nanocomposites with a Ni/Zn ratio of 3:2 show the highest specific capacitance. This work demonstrates that the construction of binary oxide nanocomposites is a strategy to develop high performance supercapacitor electrode materials.

Keywords: Hydrothermal synthesis; Nanocomposite; Supercapacitor

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