

论文

快速沉淀法制备多孔纳米NiO及其电容性质研究

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摘要:

本文提出一种简单、低成本和无污染的快速沉淀法, 在没有添加任何有机试剂的条件下, 制备了高比表面积并具有良好孔径分布的Ni(OH)₂, 于300 °C下焙烧得到了多孔纳米NiO, 它在2.0 mol/L KOH电解液中的单电极比容量约为255 F/g.

关键词: 超级电容器 快速沉淀 纳米氧化镍 多孔

Preparation of Porous Nano-nickel Oxide by Fast Precipitation and Its Capacitance Characteristics

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Abstract:

Ni(OH)₂ with a high specific surface area was synthesized by a facile fast precipitation method. Porous nano-NiO was obtained by calcining Ni(OH)₂ at 300 °C. The NiO sample possesses a fine porous distribution at around 3-10 nm. The BET specific surface area and pore volume of this sample are 218.1 m²/g and 0.31 cm³/g, respectively. The electrochemical characteristics of the samples were studied by cyclic voltammetry and constant current charge/discharge. The specific capacitance of the NiO sample is about 255 F/g in the 2.0 mol/L KOH solution. The sample also has a fine electrochemical stability.

扩展功能

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