Co-doped Ni(OH)₂ Ultrafine Particles with High Supercapacitor Performance

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Ni(OH)₂ and Co-doped Ni(OH)₂ ultrafine particles were synthesized by coprecipitation method. When the molar ratio of Ni²⁺:Co²⁺ in the precursor solution was 5:1, the resulted Co-doped Ni(OH)₂ ultrafine particles displayed a high specific capacitance of 669.57 F g⁻¹ at a current density of 1 A g⁻¹, and 94% initial specific capacitance remained after 500 charge-discharge cycles at a current density of 16 A g⁻¹, showing better electrochemical performance than Ni(OH)₂ ultrafine particles. The introduction of Co²⁺ improved the electrochemical performance of Ni(OH)₂ electrode material.

Keywords: Co-doped Ni(OH)₂, ultrafine particles, coprecipitation, supercapacitor.

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