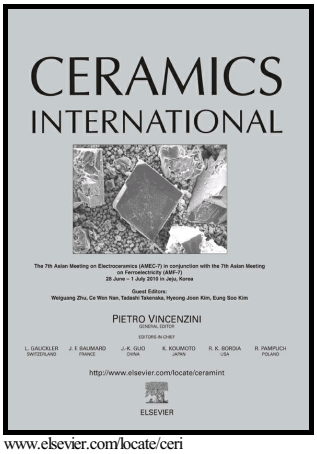

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Controllable synthesis and magnetic properties of hydrothermally synthesised $NiCo_2O_4$ nano-spheres

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Abstract

In the work, we explored an efficient synthetic platform to purposefully fabricate different morphologies of $NiCo_2O_4$ by controlling the hydrothermal temperature. All the obtained samples were characterized by means of X-ray diffraction, scanning electron microscopy, high resolution transmission electron microscopy. With the increase of hydrothermal temperature, the morphology of obtained samples transformed from spongy nanosphere to ellipse-like, then to peanut-like structure and an effective blue shifting of Raman spectroscopy occurred. The magnetic measurements indicated that the materials transform from paramagnetic to weak ferromagnetic with the increase of hydrothermal temperature.

Keyword: A. Powders: chemical preparation; $NiCo_2O_4$; Nanostructure; C. Magnetic properties

1. Introductions

In the past decades, nanopowders and nanostructured materials have aroused

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