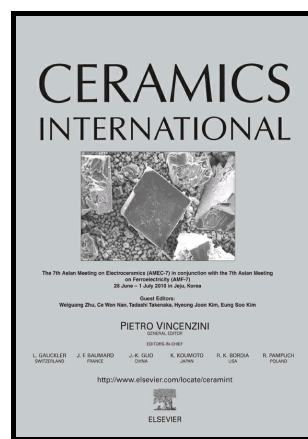


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Synthesis of 2-D Nanostructured BiVO₄:Ag Hybrid as an Efficient Electrode Material for Supercapacitors

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Abstract

2-D BiVO₄ nanosheets with monoclinic phase were synthesized at room temperature, and incorporated with Ag to form BiVO₄:Ag hybrid materials. The experiments demonstrated that doping Ag has largely increased the electrochemical performances of supercapacitor. Furthermore, the specific capacitance can reach up to 109 F g⁻¹ at 1 A g⁻¹ (the undoped one is of 27 F g⁻¹); energy density has enhanced to 15.2 Wh kg⁻¹ compared with the pristine one without Ag (3.8 Wh kg⁻¹). Therefore, doping Ag into bismuth-based compound provides us an alternative approach for the synthesis of 2-D nanostructured hybrid as an efficient electrode material for supercapacitors

Keywords: Monoclinic BiVO₄; Ag doping; Electrode material; Supercapacitor.

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