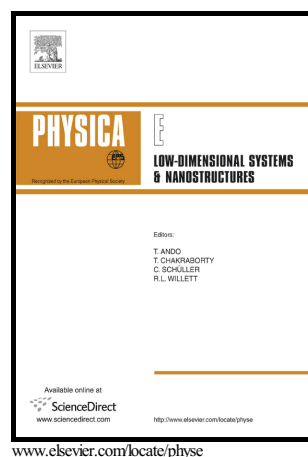


SILAR deposited Bi_2S_3 thin film towards
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SILAR deposited Bi₂S₃ thin film towards electrochemical supercapacitor**Shrikant S. Raut, Jyotsna A. Dhobale, Babasaheb R. Sankapal***

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Abstract

Bi₂S₃ thin film electrode has been synthesized by simple and low cost successive ionic layer adsorption and reaction (SILAR) method on stainless steel (SS) substrate at room temperature. The formation of interconnected nanoparticles with nanoporous surface morphology has been achieved and which is favourable to the supercapacitor applications. Electrochemical supercapacitive performance of Bi₂S₃ thin film electrode has been performed through cyclic voltammetry, charge-discharge and stability studies in aqueous Na₂SO₄ electrolyte. The Bi₂S₃ thin film electrode exhibits the specific capacitance of 289 Fg⁻¹ at 5 mVs⁻¹ scan rate in 1M Na₂SO₄ electrolyte.

Keywords

Thin film; SILAR; Bi₂S₃; supercapacitor.

1 Introduction

Nanostructure materials have attracted considerable scientific interest in the fields of energy storage devices such as fuel cells, battery and supercapacitor because of their unusual mechanical, electrical and optical properties endowed by confining the dimensions of

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