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Fabrication and properties of porous silicon – iron magnetic nanocomposites

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Аннотация : Porous silicon (PS)/Fe nanocomposites were fabricated by electrochemical deposition of Fe into pores of mesoporous silicon template under the stationary galvanostatic regime. Magnetic properties of PS/Fe nanocomposite were investigated by measuring the temperature dependence (77 – 700 K) of the specific magnetization (T) dependencies allowed us to determine the Curie temperature, T_c , which is very close to of the Curie temperature of the bulk Fe. A crystalline of the PS/Fe nanocomposites was studied by XRD. No peaks corresponded to Fe oxides are revealed on the XRD patterns.

Ключевые слова : porous silicon, iron, electrochemical deposition, magnetic nanocomposite.