Studying the Thermodynamic Properties of Composite Magnetic Material Based on Anodic Alumina

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Abstract: Magnetic nanoparticles based on Fe_3O_4 and their modifications of surface with therapeutic substances are of great interest, especially drug delivery for cancer therapy includes boron-neutron capture therapy. In this paper we study the thermodynamic, morphological, structural, and chemical properties of a composite material consisting of nickel nanowires (NWs) electrochemically deposited in the pores of the membrane of porous anodic aluminum oxide (PAA) by methods of differential thermal analysis (DTA), scanning electron microscopy (SEM), X-ray diffraction analysis (XRD), and dispersive X-ray spectroscopy (EDX).

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