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Synthesis, properties and potential applications of Fe / Ni-based nanostructures

Bimetallic nanostructures received a lot of attention because of their modified properties compared to their monometallic counterparts. They perform a simple combination of properties associated with their individual counterparts, as well as many exciting new properties with a combination of several functions. Among all materials, FeNi nanostructures in various structural forms attract considerable attention due to the multitude of outstanding catalytic, magnetic and mechanical properties. Recently, it has been found that amorphous metal oxides and especially multicomponent Fe / Ni-based oxides have much higher productivity than the pure form characteristics of their bulk analogues. The paper presents the results of synthesis of Fe / Ni-based nanostructures by electrochemical deposition. Dependences of the change in structural parameters on the synthesis conditions as well as phase composition are established.

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