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Influence of Electrodeposited Ni-Mo Alloy on Hydrogen Evolution Reaction at Nickel Foam Cathode

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This communication covers an electrochemical investigation of hydrogen evolution reaction (HER), studied at unmodified (pure) Ni foam and Ni foam modified by MoNi alloy deposit. The quantity of electrodeposited Mo on nickel foam was derived by scanning electron microscopy (SEM) technique, combined with Energy Dispersive X-Ray spectroscopy (EDX) analysis. Kinetics of the HER were studied at room temperature in 0.1 M NaOH for the cathodic overpotential range of 100-400 mV. The electrochemical parameters for examined catalyst materials were recorded based on a.c. impedance spectroscopy and Tafel polarization techniques.

Keywords: Nickel foam; HER; MoNi alloy; Electrochemical impedance spectroscopy

FULL TEXT