

عنوان مقاله:

Cathodic Electrodeposition and Characterization of YAG Nanostructure: Effect Current Density on the Morphology

محل انتشار:

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نویسندگان:

Mojtaba Hosseinifard - *materials and energy research center*

(Kamran Ahmadi - *Department of Semiconductors, Materials and Energy Research Center (MERC*

Alireza Badiei - *Chemistry, University of Tehran*

خلاصه مقاله:

Abstract YAG (Yttrium Aluminum Garnet) was successfully prepared through cathodic electrodeposition process using applying different current densities to the mixture of YCl_3 and $AlCl_3$ dissolved in water/ethanol 1:1 solution. Hydroxide precursors were cathodically grown on the cathode surface (at different current densities) and then the obtained hydroxide powder was heat-treated at $1100\text{ }^\circ\text{C}$ for 4 h. The oxide products were characterized by XRD, FTIR, DSC-TGA, SEM and EDAX techniques. The effect of applied current density on the morphology and particle size of YAG nanostructures were investigated through SEM images. Results showed that the cathodic electrodeposition followed .by heat-treatment can be used as a facile method for preparation of YAG nanostructures with different morphologies

کلمات کلیدی:

Yttrium aluminum garnet, Nanostructure, Cathodic electrodeposition, Hydroxide

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