

عنوان مقاله:

Investigation of nucleation and growth of Ni-P particles on porous alumina substrate

محل انتشار:

دومین کنفرانس بین المللی پژوهش در علوم و مهندسی (سال: 1395)

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خلاصه مقاله:

In this project studied nucleation and growth of Ni-P particles on alumina substrate that produced by electrochemical method. After this step electroless process applied for deposition of Ni-P particles on substrate. Nucleation sites in this project is non-activated and these sites definite by σ that is the number of activation sites per unit surface area. Field emission scanning microscopic (FESEM) analyze used for investigation of morphology and particles deposition in pores that illustrated to growth of particles on substrate have a inhomogeneous structure. Also energy dispersive spectroscopy (EDS) used for elemental analyze of precipitated particles. Finally a new perspective presented for non-completely deposition in pores. According to this perspective, air pressure is trapped in depth of the pores and prevents from diffusion of Ni-P particles to pores inside. Thus if eliminate this factor by vacuum condition, maybe deposition in pore depth will be easy.

کلمات کلیدی:

Electroless deposition, Alumina nanotube, Nucleation and growth, Porous substrate

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