

عنوان مقاله:

A novel coating process for preparation of ZnO nanostructure thin film on glass beads

محل انتشار:

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نویسندگان:

Mohammad Hossein Habibi - *Catalysis Division, Department of Chemistry, University of Isfahan, Isfahan*

mohammad khaledi sardashti

خلاصه مقاله:

ZnO was deposited onto glass beads (diameter 5mm) substrate by our novel centrifuge coating technique using sol-gel method. Glass beads were etched, covered with sol and placed in a centrifuge tube with 4000 rpm for 90 seconds. They were subsequently pre-heated at 275 0C for 5 min, and post-heated at 550 0C for 1 hour. The morphologies, phase structure and the optical properties of the thin films were investigated by scanning electron microscopy (SEM), X-ray diffractometer (XRD). ZnO nano-sized particles show an average diameter about of 40 nm. X-ray diffraction results showed polycrystalline wurtzite with a c-axis preferential (002) orientation with the sharp X-ray diffraction peak at 34.40 corresponding to the hexagonal ZnO. These sol-gel deposited ZnO films on glass beads have potential application as transparent electrodes in optic and electronic devices and immobilized catalyst

کلمات کلیدی:

Nanostructure; sol-gel; thin films; glass bead; coatings

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