

Low Cost Growth and Characterization of Metallic Oxide Thin Film, Geopolymers and Silver Nanowires

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Abstract

Developing facile methods for the synthesis of thin films and active and stable hierarchical nanostructure, are of great interest. It consists of higher assembly-level of constituents by low dimensional nano-building blocks which has received an extensive attention in the latest advancements in nanomaterial science and nanotechnology development. The ordered hierarchical nanostructures could offer merits such as more active sites, synergistic properties owing to their geometric complexity and building blocks variation, as well as the resultant multi-functional capabilities. Indeed, obtaining materials of controlled size and shape at the nanometric scale is a necessary prerequisite to develop many applications.

We are therefore interested in optimizing the physical methods combined with green chemical approaches like Seed mediated-growth and mist CVD, [1], SILAR [2-3], electrodeposition [4], and hydrothermal to grow high quality thin films layers and stable hierarchical nanostructure [5].

In this presentation we will focus on the preparation of metallic oxide thin films, silver nanostructures and geopolymer foams coated with a catalyst ZnO and their applications for sensing, photocatalysis and photovoltaic application.

References

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