

Preparation of ZnO Nanoparticles by Sol-Gel Method and Thickness Control of ZnO Thin Films by Various Organic Media

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The nano-sized ZnO particles were prepared by hydrolysis and condensation of zinc acetate dihydrate using potassium hydroxide in methanol. The synthesized ZnO nanoparticles were dispersed in various organic media and 2-(2-Methoxyethoxy)acetic acid was used as a ligand to stabilize ZnO dispersions. In order to fabricate ZnO thin films, ZnO dispersions were coated on the glass substrate by spin coating process. The film thickness was influenced by viscosity, boiling point and other properties of organic medium. The characterizations were performed by using FE-SEM, TEM, DLS, XRD and UV-Vis spectrophotometer.