

Magnetic field influence on the silica particles size utilizing modified sol-gel method

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In this study, well-dispersed silica nanoparticles with a diameter reach less than 1 nm were prepared via a modified sol-gel method. The modulation of particles size was utilized through directing strong magnetic fields (0.5- 3T), on the silica sol, during the polycondensation process. Through controlling the preparation conditions; pH, magnetic field strength and exposure time, the silica nanoparticles size, which suspend in the sol, were decreased or increased

accordingly.

Effects of magnetic field on the particle size and particle size distribution of silica sols were examined by means of dynamic light scattering. XRD spectra showed crystalline features for some silica sol coated films that were dried at room temperature.

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