

عنوان مقاله:

Synthesis, Characterization, and Nonlinear Optical Properties of Silver Nanoparticles

محل انتشار:

سومین کنفرانس نانوساختارها (سال: 1388)

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خلاصه مقاله:

Silver nanoparticles have been prepared using hydrogen gas as the reducing agent for silver nitrate and poly(vinyl pyrrolidone) as the capping agent; the reaction was carried out at 70 °C for 3 hours. The size of these nanoparticles was found to be about 20 nm as analyzed using transmission electron micrographs. The X-ray diffraction pattern revealed the face-centered cubic (fcc) structure of silver nanoparticles. Optical limiting property of silver nanoparticles is studied. The nonlinear refractive indices of silver nanoparticles were defined by the z-scan technique using CW He-Ne laser ($\lambda = 632.8$ nm) at different incident intensities. The magnitude of nonlinear refractive index (n_2) was measured to be in the order of (cm^2/W) with a negative sign.

کلمات کلیدی:

Nanomaterials; Optical Materials and Properties; Silver Nanoparticles

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