



## Optical properties of the ZnSe nanocrystals embedded in PMMA matrix

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Résumé en  
anglais

In this paper we report linear and nonlinear optical properties of the thin films based on nanocrystals ZnSe embedded in centrosymmetric matrix PMMA, deposited by spin coating technique. Absorption and emission spectroscopy are shown respectively a blue shift and a strong band emission near the band gap of bulk material ZnSe, which is tunable with particles size. Blue shift of the absorption edge used to evaluate the average size of nanoparticles by using the E.M.A model. The size of NCs of ZnSe was estimated to 1.98 nm, compared to the exciton Bohr radius of bulk material. We established a strong quantum confinement state for the NCS ZnSe. Using Nd:YAG laser at 1064 nm in picoseconds regime, Second order susceptibilities were measured by SHG technique. The obtained value was four order of magnitude larger compared with the bulk (ZnSe) value.

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