

Nanocomposites and nanomaterials

The influence of silver doping on the structure of ZnSe:Ag nanocrystals

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Zinc selenide (ZnSe) nanocrystals belong to II-VI group of semiconductor which has attracted considerable interest in recent years for their unique electrical and optical properties. NCs due to the quantum size confinement of charge carriers and extremely large surface area relative to volume possess a novel electronic and optical properties [1]. The use of one-dimensional nanocrystals for the formation of hybrid polymer nanocomposites may positively effects on achieving the electrical percolation threshold and thus results in better charge carriers transfer in such systems [2].

In this work the synthesis of ZnSe and ZnSe:Ag nanowires with different shapes and properties are presented. ZnSe and ZnSe:Ag nanowires were synthesized by the hot injection method using octadecylamine as coordinating solvent. Zinc stearate, selenourea and silver nitrate as precursors of zinc, selenium and silver were used.

ZnSe nanocrystals depending on the conditions of the reaction characterized by maximum emission and absorption at 430 nm and 300 nm, respectively. The typical length of the ZnSe nanorods was about 15-20 nm, and the width of about 2 nm.

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2. Xia Y., Yang P., Sun Y. Chemistry And Physics Of Nanowires // Adv. Mater.-2003.-**15**.P. 351-352.