



Optical properties of ZnO/PMMA nanocomposite films

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Auteur	Kulyk, B. [1], Kapustianyk, V. [2], Tsybulskyy, V. [3], Krupka, Oksana [4], Sahraoui, Bouchta [5]
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Résumé en anglais	<p>The ZnO nanocrystals (ZnO NCs) with particle size, less than 100 nm, have been blended with polymethylmethacrylate (PMMA) by solution mixing to prepare PMMA/ZnO nanocomposite films. The structure of ZnO/PMMA nanocomposite films was characterized using X-ray diffractometry. The prepared nanocomposite films are highly transparent and a clear excitonic peak is observed in their absorption spectra. Measurements of temperature evolution of the photoluminescence (PL) spectra show intensive UV emission peak corresponding to the donor-bound excitons with binding energy of 51 meV and green emission band related to the intrinsic defects in ZnO. The temperature evolution of the emission peaks energy position, intensity and integral intensity in ZnO/PMMA nanocomposite films were examined.</p>
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