

**Investigation of the optical absorption spectra of thin epitaxial lead selenide layers approaching the nanoscale thickness.** / A. M. Pashaev, O. I. Davarashvili, M. I. Enukashvili, Z. G. Akhvlediani, L. P. Bychkova, V. P. Zlomanov / Nano Studies. – 2015. – # 11. – pp. 103-110.– eng.

By sophisticated treatment of the optical absorption spectra of thin epitaxial layers of lead selenide of different thickness approaching the nanorange, the presence of similar additional absorption for all layers was revealed. Such absorption was detected between the absorption edge and the absorption on free current carriers increasing with the wavelength. When constructing the absorption spectra by the experimentally investigated transmission spectra, the criteria of their treatment were strengthened by considerations for the absorption relation between the layers with low and high concentrations of current carriers, and from which level of absorption the transitions related to the absorption edge were to be considered. This resulted in the fact that, upon straightening the squared absorption coefficients, the obtained values of the forbidden gap width were in good correlation with the results obtained with the corresponding deformation of thin layers, and the contribution of the additional absorption to their determination was negligible. Fig. 6, Tab. 2, Ref. 12.

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