

Spectroscopy of PbS and PbSe quantum dots in fluorine phosphate glasses

© M.S. Kuznetsova^{1,2}, R.V. Cherbunin^{1,2}, V.M. Litvyak^{1,2}, E.V. Kolobkova^{3,4}

¹ Physics Department, St. Petersburg State University,
198504 St. Petersburg, Russia

² Spin Optics Laboratory, St. Petersburg State University,
199034 St. Petersburg, Russia

³ Department of Optical Informatics, Technologies and Materials, ITMO University,
199034 St. Petersburg, Russia

⁴ St. Petersburg State Institute of Technology (Technical University),
190013 St. Petersburg, Russia

E-mail: mashakuznecova@bk.ru

Transmission spectra of the narrow-bandgap semiconductor quantum dots PbS and PbSe in the fluorine phosphate glass are experimentally studied at different temperatures. Energies of 1s exciton transitions observed in the absorption spectra are used to determine characteristic sizes of the quantum dots under study. A nontrivial temperature behavior of the ground and excited quantum confined states in the quantum dots of different sizes are observed.

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