Ministry of Education and Science of Ukraine Oks? Gonchar Daipro National University, Faculty of Physics, Electronics and Computer Systems, Department of Applied Radiophysics, Electronics and Nanomaterials

PHOTOLUMINESCENCE OF EU3+ IONS IN THIN-FILM OPALS AND RESONATOR STRUCTURES BASED ON THEM WITH SPATIAL LOCALIZED FEEDBACK

Moiseienke V.N., Gavrilyak V.R., Derhachov M.P., Ohiienko O.V.

PHOTOS OF BULK SYNTHETIC OPALS AS PHOTONIC CRYSTALS



The images of the initial globules obtained by Transmission Eelectron Microscope (left) and of the bare opal surface in the [111] growth direction obtained by

Electron Probe Microanalyzer JEOL - JXA-8200 (right)



PHOTOS OF THE THIN-FILM OPALS ON A GLASS SUBSTRATE



Excitation geometry (Fig. 2) of the C6H9EuO6xH2O salt in the pores of the resonator structures based on thin-film opals on a glass substrate (Fig.1: 1 - D = 301 nm. 2 - D = 294 nm. 3 - salt-impregnated region)



Photoluminescence spectrum of a resonator structure based on thin-film opals



A sharp increase in the luminescence intensity was observed in the region 610 - 615 nm