

PECULIARITIES OF ELECTRONIC
PROCESSES IN HIGH-FLUORESCENCE
BORON-CONTAINING COMPOSITE FILMS

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S u m m a r y

The absorption and fluorescence spectra of new boron-containing dyes in pure thin films of these dyes, as well as in double-components films of the “matrix–dye (impurity)” type, are studied. As matrix materials, tris(8-hydroxyquinolato)aluminum (Alq3) and 3,6-di(9-carbazolyl)-9-(2-ethylhexyl) carbazole (Tcz1) are used. The thin films were obtained by the method of vacuum deposition. The comparison of the absorption spectra of the dyes in solutions and films shows that the destruction of dye molecules is not observed in the process of vacuum deposition. For double-component films, the electronic excitation energy transfer from matrix molecules to dye molecules is established. The optimum concentration of dyes for the light-emitting layers of organic light-emitting diodes (OLEDs) based on these compounds is determined.