

Novel phosphors based on porous materials

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Abstract

Technological conditions have been developed for the preparation of nanocomposite phosphors based on porous InP, GaP and GaAs semiconductor as well as Al₂O₃ and TiO₂ dielectric templates doped with rare earth and transition metal ions. Semiconductor and dielectric templates are prepared by electrochemical treatment of bulk semiconductor substrates and metallic plates, respectively. Doping is performed by impregnation from liquid solutions followed by thermal treatment.