

Photo- and cathodoluminescence of strontium titanate xerogel films doped with terbium ions / M.V. Rudenko [etc.] // Poverkhnost'. Rentgenovskie, Sinkhrotronnye i Neitronnye Issledovaniya. – 2015. – No. 10. – Pp. 23–27.

Abstract

Terbium-doped strontium titanate thin films are synthesized via the sol-gel method. The xerogel is deposited onto single-crystal silicon and porous anodic alumina substrates formed on single-crystal silicon. The structure and phase composition of the films are studied. The strontium titanate xerogel on single-crystal silicon exhibits a photoluminescence spectrum with a selective terbium emission band that is difficult to identify. The photoand cathodoluminescence spectra of the xerogel in porous matrices contain emission bands due to the electronic transitions of trivalent terbium.

Keywords

luminescence strontium titanate rare-earth elements sol-gel method