Investigation of thin films MgAl2O4, deposited on the Si substrates by vacuum thermal evaporation

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Abstract: The article presents data on the study of X-ray structural and microstructural characteristics of thin films of aluminum-magnesium spinel MgAl2O4 deposited on Si substrates by vacuum thermal evaporation. MgAl2O4 films have a polycrystalline rhombic structure. The values of the unit cell parameters of MgAl2O4 are calculated. Scanning electron and atomic force microscopy showed that MgAl2O4 films have a densely packed structure without cracks. Physical
characteristics and good adhesion of MgAl2O4 thin films to silicon substrates indicate their possibility of using in devices of opto- and microelectronics.