

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.

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