

STRUCTURAL PROPERTIES OF LAYERS OF
HgCdTe, GROWN BY THE LASER EPITAXY
METHOD ON SILICON SUBSTRATES

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S u m m a r y

Thin films (0.1 - 1.5 μm) of HgCdTe on substrates Si(100) and Si(111) from monocrystal and pressed sources $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ ($x = 0.22$) sprayed by laser IR radiation were grown and are investigated. The layers are characterized by a polycrystalline structure with preferred orientation (111) irrespective of the type of a source, temperature of substrates 290 - 463 K, and rate of average growth (15 - 25 $\text{\AA}/\text{c}$). The investigation of the chemical composition of films, obtained from $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ ($x = 0.22$) monocrystals sources, have shown the Hg enrichment and invariance of the composition for all thicknesses of a layer. The concentration of macrodefects (drops) on the surface of films is determined by the relation of the diameter of a laser beam and depth of the crater, formed by laser irradiation. The size of crystal grains almost does not depend on the temperature of a substrate and power densities of a laser radiation and increases with the thickness of a layer.