

ELECTROPHYSICAL PROPERTIES OF MnHgTe
EPITAXIAL LAYERS OBTAINED BY PULSED
LASER ASSISTED EVAPORATION
AND DEPOSITION

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S u m m a r y

Thin (2–3 μm) epitaxial $\text{Mn}_x\text{Hg}_{1-x}\text{Te}$ (MMT) layers have been obtained by the pulsed laser assisted evaporation and deposition. The peculiarities of the deposition of those layers onto CdTe (111) substrates have been studied. The influence of technological parameters on the structural and electrophysical properties of MMT layers has been investigated. The epitaxial growth of MMT layers has been found to occur in a narrow range of the substrate temperature, from 180 to 210 $^\circ\text{C}$. The as-grown layers are of the n -type with the electron concentration and mobility of $(0.6 \div 3) \times 10^{17} \text{ cm}^{-3}$ and $(3.5 \div 6.5) \times 10^3 \text{ cm}^2/(\text{V} \times \text{s})$, respectively, at 77 K. The two-stage thermal treatment of the specimens in Hg vapors induces a drastic increase of the current carrier mobility (by a factor of 30–50).