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Title

Photoconductivity of PbTe:In films with variable microstructure

Source

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Abstract

It is shown that the microstructure and features of formation of surface states in nanocrystalline and polycrystalline PbTe:In films most significantly affect the character of photoconductivity in the spectral range of 1-2.5 THz. We present the results of a study and comparative analysis of the character of conductivity of PbTe:In films in the temperature range from 4.2 to 300 K in a static mode and in variable electric fields with a frequency of up to 1 MHz with illumination with white light and under the effect of high-power terahertz laser pulses with a wavelength of up to 280 μm .