

## INFLUENCE OF A HIGH-FREQUENCY PULSED NANOSECOND DIFFUSION DISCHARGE IN THE NITROGEN ATMOSPHERE ON THE ELECTRICAL CHARACTERISTICS OF A CDHGTE EPITAXIAL FILMS

DENIS V. GRIGORYEV<sup>1</sup>, ALEXANDR V. VOITSEKHOVSII<sup>1</sup>, ALEXANDR G. KOROTAEV<sup>1</sup>,  
DMITRY V. LYAPUNOV<sup>1</sup>, VICTOR F. TARASENKO<sup>2</sup>, MICHAIL A. SHULEPOV<sup>2</sup>,  
MICHAIL V. EROFEEV<sup>2</sup>, VASILIIY S. RIPENKO<sup>3</sup> AND KIRILL A. LOZOVY<sup>1</sup>

<sup>1</sup>*Tomsk State University (TSU), Russia*

<sup>2</sup>*High-Current Electronics Institute SB RAS, Russia*

<sup>3</sup>*National Research Tomsk Polytechnic University, Russia*

*denn.grig@mail.tsu.ru*

The effect of a high-frequency nanosecond volume discharge forming in an inhomogeneous electrical field at atmospheric pressure on the CdHgTe (MCT) epitaxial films is studied. The measurement of the electrophysical parameters of the MCT specimens upon irradiation shows that that the action of pulses of nanosecond volume discharge leads to changes in the electrophysical properties of MCT epitaxial films due to formation of a near-surface high-conductivity layer of the n-type conduction. The preliminary results show that it is possible to use such actions in the development of technologies for the controlled change of the properties of MCT narrow-band solid solutions and production of structures heterogeneous with respect to conduction.

**Keywords:** *high-frequency nanosecond volume discharge, CdHgTe, electrophysical parameters.*