

ACOUSTIC EMISSION ON THE RELAXATION
OF LOCAL THERMOMECHANICAL STRESSES
IN THE PROCESS OF DEGRADATION
OF LIGHT-EMITTING HETEROSTRUCTURES
ON THE BASIS OF InGaN AND GaAsP

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S u m m a r y

We present the results of studies of the correlation of acoustic emission (AE) and reversible and irreversible changes of electrophysical characteristics of the light-emitting heterostructures on the basis of InGaN and GaAsP in the process of their degradation on the passage of the forward current with a critical density. It is established that the process of local rearrangement of a defective structure on the passage of a current, which is accompanied by AE, has thermoactivation character: with increase in the temperature, the AE occurrence threshold decreases, and, at the same time, the number of active sources of AE grows. With decrease in the temperature, the AE occurrence threshold approaches the destruction threshold. In this case, the processes of natural ageing considerably increase the thresholds of the AE occurrence and the destruction of a structure.