

RECOMBINATION PROCESSES
IN ELECTROLUMINESCENCE
STRUCTURES METAL - GaN <Zn>

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S u m m a r y

Mechanisms of luminescence in the structures Au-GaN <Zn> are studied, and it is shown that if the content of Zn is less than 10^{17} cm^{-3} , the recombination with participation of single energy centres, which are associated with one-charge vacancies of nitrogen V_N^* and gallium V_{Ga} and donor-acceptor pairs $V_N^* - V_{Ga}$ formed by them, dominates. Starting from the zinc concentration of $2 \cdot 10^{18} \text{ cm}^{-3}$, the recombination with participation of substitution centers Zn_{Ga} prevails, and the spectrum of luminescence is defined by the electron-phonon interaction of the centers with LO-phonons.