

Fig. 1. TEM image of the AlGaN heterostructure on the substrate c-Al₂O₃ (a) and its active region - the waveguide layer QW Al_{0.6}Ga_{0.4}N (2.3nm) / Al_{0.7}Ga_{0.3}N (b).

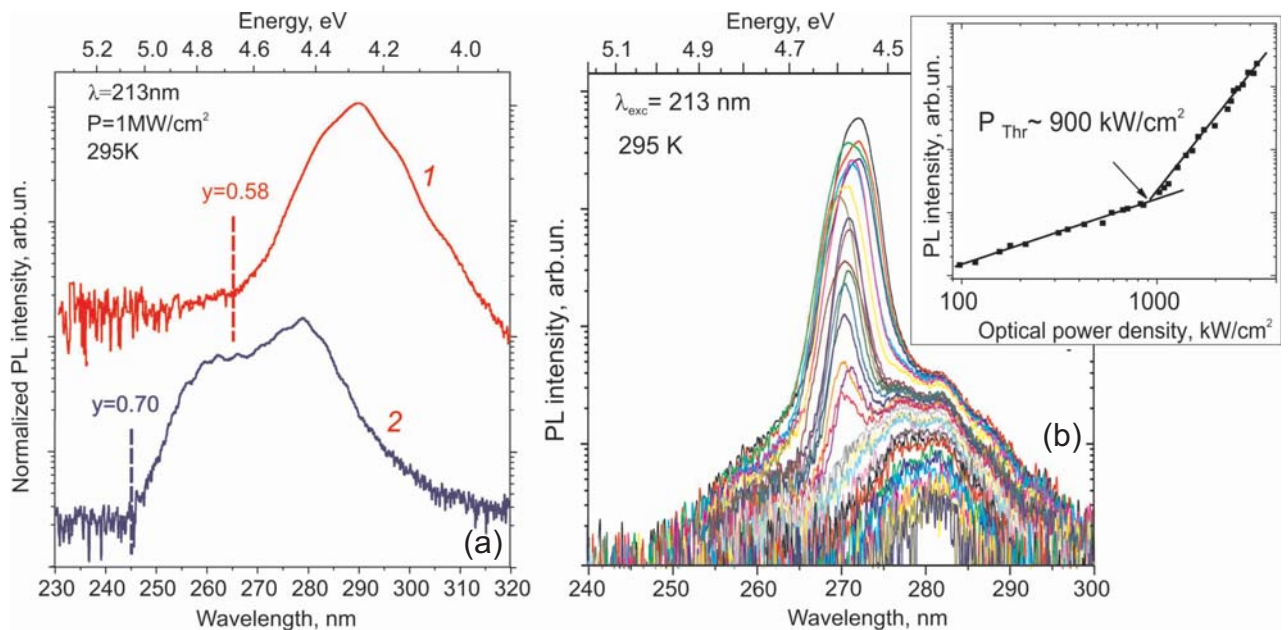


Fig. 2. PL spectra of the structures with QW Al_{0.48}Ga_{0.52}N/Al_{0.58}Ga_{0.42}N (1) and Al_{0.6}Ga_{0.4}N/Al_{0.7}Ga_{0.3}N (2), measured at 295K and power density field 1 MW/cm². Dotted lines show the energy positions corresponding to the expected values of the band gap (E_g) of the barrier layers.

(b) - The PL spectra of the sample # 2 measured from the end of the heterostructure at different excitation levels. The inset shows the dependence of the integrated PL intensity on the excitation level, which was used to measure the threshold power density of stimulated emission.

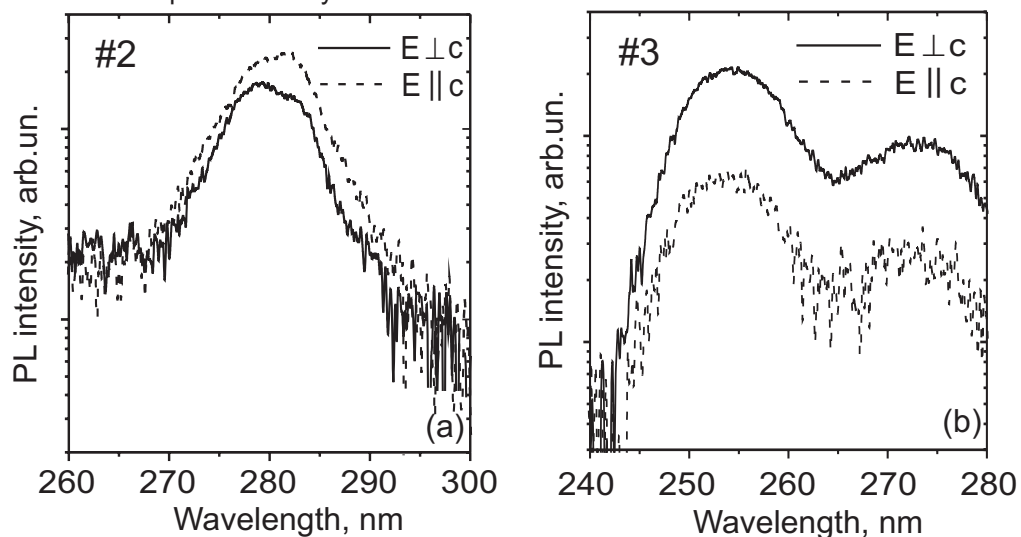


Fig. 3. Polarised PL spectra of spontaneous emission (295K) in the relaxed AlGaN heterostructures # 2 (a) and pseudo-morphically grown AlGaN heterostructures # 3 (b). The spectra were measured under marked conditions of excitation. Both structures were grown on the standard c-Al₂O₃ substrates.