

Experimental and theoretical investigation of emission spectra of aluminum targets irradiated by picosecond laser pulses

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Emission spectra of aluminum targets irradiated by picosecond laser pulses with intensities of $10^{17} - 10^{19}$ W/cm² were measured in detail in the wavelength range $5.5 < \lambda < 8.4$ Å. Experimental data are compared with simulations allowing for the spatial nonuniformity of the target temperature and density along with the deviation from the local thermodynamic equilibrium conditions.