

EMISSION CHARACTERISTICS
AND PARAMETERS OF CuInSe₂
LASER TORCH PLASMA

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S u m m a r y

Radiation spectra and oscillograms of the spectral line intensity of the CuInSe₂-based laser erosion plasma are investigated. It is established that the radiation spectra from the hot zone of this laser erosion plasma include spectral lines of excited atoms of copper, indium, and selenium, as well as their singly charged ions. The main parameters and the characteristics of a CuInSe₂ laser torch such as the velocity of propagation, ion recombination times, temperature, and concentration of particles are determined. It is shown that, on the initial stages of existence of the plasma, the dominant process is the recombination, whereas, as the distance from a target and the time increase, the gas-dynamic and thermal effects arise. This determines, to a large extent, the peculiarities of the formation of excited atoms and ions.