

**EFFECT OF TEMPERATURE THE ELECTRON ON DISTRIBUTION
OF PLASMA PARAMETERS ON THE PHASE PLANES FOR
LOW-TEMPERATURE EMITTER OF THERMIONIC DIODE**

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For some combination of parameters thermionic diode plasma processing characteristics probe gives two distributions of the electron temperature in the electrode gap: in the low (thermal) energy of electrons and in high-energy of electrons. The latter group is associated with the electrons, which have major influence on the processes of generation of excited atoms and ions. There is a mechanism that does not mix the two groups of electrons and maintains temperature difference for these groups in the field of low plasma densities. Spectroscopic measurements make it possible to obtain only one distribution of electron temperature in high-energy.

Using known expressions (formulas) can receive the distribution of the plasma parameters which are not measured in the experiment: the ion current density, electron energy stream density, function generating ions in the plasma volume, for spectroscopic measurements of the potential of the space occupied by the plasma. It is interesting to study the influence of two electron temperature distribution in the distribution of unmeasured plasma parameters, including the function generating ions in the electrode gap diode.

As a method of research used analysis experimental and unmeasured plasma of distributions parameters on the phase planes.

In this paper we investigate the electron distributions of two temperature influence the distribution of experimental and unmeasured (calculated) parameters cesium plasma for low-temperature thermionic emitter diode on the configuration planes and on the phase planes. On the experimental material verified the results of theoretical research in the phase plane, developed in previous works.

Keywords: *Plasma, diode, Modeling.*