

THE INFLUENCE OF ELECTRON  
EMISSION ON THE CHARGE AND EFFECTIVE  
POTENTIAL OF A DUST PARTICLE IN PLASMA

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S u m m a r y

The dynamics of charging of a dust particle in an electron-ion plasma in the presence of the external volume-ionization sources generating the plasma is investigated by means of numerical methods with regard for the electron photoemission from the surface of a dust particle. The stationary distributions of electron and ion concentrations in the neighborhood of the dust particle, as well as its charge and effective potential, are calculated. It is shown that the sign of this charge is determined by both the emission properties and the intensity of the external sources of ionization. The results of numerical calculations are presented in the graphical form.