# Simulation of plasma parameters of dc discharges at medium and high pressures within the kinetic approximation

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The paper presents a one-dimensional model of a direct current glow discharge at medium and high pressures in inert gases. The model includes the kinetic Boltzmann equation for the electron distribution function $f_0(x, w)$, taking into account the spatial derivatives both with respect to the coordinate and with respect to energy; block of continuity equations for ions and excited particles; Poisson's equation for a self-consistent field; equation of thermal conductivity to describe gas heating; equation for the external circuit. The collision integral of the kinetic equation includes elastic and inelastic processes (excitation, ionization, superelastic collisions), electron–electron collisions, and recombination. Preliminary numerical experiments have been carried out for such discharges with $pL = 3$ and 7 cm Torr at pressures from 10 to 150 Torr. This work was supported by the President's scholarship C-239.2021.1.