The structure of the quasistationary electromagnetic field of a high-frequency inductive discharge in the vicinity of the axis of a plasmoid

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Abstract

In approximating constant conductivity, a problem has been solved to show the distribution of the quasistationary electromagnetic field of a high-frequency inductive discharge of atmospheric pressure in the vicinity of the axis of a plasmoid. A system of equations, describing such a field, has been presented. The following parameters are included in this system of equations: amplitudes of longitudinal and radial components of the magnetic field; frequency; conductivity in discharge; the velocity of light in vacuum; the length of plasmoid.