STUDY OF PLASMA FLOWS ON DUSTY STRUCTURES IN DIFFERENT INERT GASES IN A MAGNETIC FIELD

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The work is devoted to an experimental study of the effect of plasma particle flows on the bulk dust structure in a glow discharge stratum in two inert gases (neon and argon) in a weak magnetic field.

The ion flows are most intense in the used dust trap in the standing stratum, in its phase close to the maximum concentration of ions and electrons. Result of the action of an ambipolar ion flow in an axial magnetic field on horizontal dust sections is considered. The parameters of discharges for creating three-dimensional dust structures from dust particles of the same size in both gases in a magnetic field are determined. The dependences of the angular velocities of rotation of dust structures in two gases on the magnetic field induction, as well as the dependences on the gas pressure, are obtained. The ion flows affecting the dust formations are compared based on the rotation velocities of dust particles in a magnetic field.

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