

# DYNAMICS OF VOLUME DUST STRUCTURES CREATED IN GLOW DISCHARGE IN MODERATE AND STRONG MAGNETIC FIELD

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Over the past three years, significant progress has been made in studies of dusty plasma in a strong magnetic field. In the works of the E. Thomas a number of features of the movement and state of dust particles in the monolayer were observed. A. Melzer made a record strong impact on small structures with the magnetic field with an induction of up to 6 T. M. Thoma observed the instability of structures in the magnetic field during their compaction and crimping.

In the presented work the volume plasma-dust formations in the magnetic field with the induction of up to 2 T are studied. There were significantly different dynamics of the rotational motion of dust clusters and structures in traps in strata and in the area of narrowing the current channel in the glow discharge (from 4 rad/s to 100 rad/s). Extended dust structures made it possible to observe the dusty plasma for the first time in a highly inhomogeneous magnetic field, while the rotation velocity has very large gradients.

The presentation is an overview of experimental studies carried out with dust clusters (RSF No. 18-72-10019), with dust structures (RNF No. 18-12-00009) in strong magnetic fields and in moderate magnetic fields up to 1 T (RFBR No. 18-02-00113).