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## ON THE LOCATION OF DUST PARTICLES IN SECTIONS PERPENDICULAR TO THE MAGNETIC FIELD <sup>\*)</sup>

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Dusty plasma [1] in a magnetic field is created mainly in the form of two-dimensional structures perpendicular to the magnetic field [2-3]. In volumetric plasma-dust formations, the study of the particle arrangement and the effect of a magnetic field on it was carried out only in horizontal sections [4-5]. The effect of a magnetic field is one of the possibilities for creating a phase transition in a "plasma crystal". In relatively wide sections of structures in a magnetic field, disordering is observed. In different types of discharges, it is associated either with a change in discharge conditions or with the action of various forces causing non-uniform rotation. But traces of hexagonal symmetry are observed in a field of about 1 T. With rapid rotation of structures, which occurs in a magnetic field above 1 T, a fundamentally different effect is observed. The structures are compressed, and the dust particles in them form thin orbital shells. The effect is observed in an experiment when filming with a high-speed camera. Dusty plasma is a system of nested coaxial cylinders. In this paper, some aspects of the experimental observations and calculations of the pair translation function are presented.

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### References

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<sup>\*)</sup> [abstracts of this report in Russian](#)