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SELECTION OF POLYDISPERSE DUST PARTICLES IN RF INDUCTIVE DISCHARGE *)

Novikov L.A., Dzlieva E.S., Golubev M.S., Morozova M.B., Pavlov S.I., Karasev V.Yu.

St. Petersburg State University, St. Petersburg, Russia, leontiynovikov@gmail.com

It is important to have a stable dust trap when experimentally studying dusty plasma [1], in particular, under external influences. A feature of dust traps is the ability to form a volumetric dust structure. For example, a volumetric trap poses a huge problem when magnetic field influence is carried out, [2].

Under conditions of a glow discharge [3], the research problem turned out to be the instabilities of the discharge itself in a strong magnetic field [4]. The problem discussed does not appear in an RF discharge, but for a volumetric dust structure an induction type discharge is required.

This report presents the first results on the creation of volumetric dust structures from polydisperse dust particles under conditions similar to the works [5, 6]. Experiments on the selection of dust particles using a technique similar to [7] are described. The first experiments on the creation of dusty plasma in RF discharge of induction type in a magnetic field of up to 100 G are also presented.

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