DUSTY PLASMAS IN RADIO FREQUENCY INDUCTION DISCHARGE IN MAGNETIC FIELD

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Dusty plasmas in RF induction discharge in magnetic field is investigated for the first time. In range of magnetic induction up to 0.02 T dusty plasma becomes steadily rotating. Angular velocity vector of the structure is directed opposite to the magnetic induction vector. Dependences of the speed of rotation of the structure and the average horizontal interparticle distance on the magnitude of the magnetic field were obtained. The direction of rotation, the resulting linear dependence on magnetic induction and the coincidence with theoretical estimate of the angular velocity of rotation indicate the action of the mechanism of ion drag force on the dust particles under experimental conditions.

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