

ON THE QUESTION OF FREE
OSCILLATIONS OF A BEAM-PLASMA SYSTEM
WITH INHOMOGENEOUS WEAKLY
MAGNETIZED PLASMA

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S u m m a r y

A dispersion of waves excited by a fast electron beam in a beam-plasma system with weakly magnetized plasma, inhomogeneous along its trajectory, is studied experimentally. Beyond local plasma resonance zones, these waves are shown to be space charge ones in the electron beam and to be amplified in the overcritical plasma. Certain features of the amplitude-frequency spectra of free oscillations in a beam-plasma system with plasma density increasing along the electron beam trajectory and the role of both plasma inhomogeneity and nonlinear collective processes of the beam-plasma interaction in their formation are analyzed.