

STUDY OF COLLISIONLESS DAMPING  
OF DIOCOTRON OSCILLATIONS  
IN ELECTRON PLASMA

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S u m m a r y

Damping of diocotron waves in plasma has been studied. The waves are assumed to be excited in the course of the passage of a cylindrical beam of electrons, which are characterized by a certain dispersion of their velocities, through a drift chamber. The damping concerned is observed in the decaying electron plasma after the injection has been terminated. The results of experiments, which evidence the collisionless and reversible nature of this damping, have been reported. The damping process has also been demonstrated to run in either a linear or a nonlinear mode, depending on the initial amplitude of diocotron oscillations. In addition, a few graphic dependences for several damping parameters have been presented.