

THE EXPERIMENTAL INVESTIGATION OF
ONE POSSIBILITY OF TRANSILLUMINATION
OF AN INHOMOGENEOUS PLASMA.

1. DETECTION OF THE EFFECT

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S u m m a r y

An experimental investigation pointed towards detecting the theoretically predicted effect of transillumination of a wave barrier in an inhomogeneous plasma due to phase focusing of plasma electrons moving in the electric field of a potential well existing in the plasma formation is carried out. A symmetric plasma outflow along the magnetic field from a non-self-sustaining Penning discharge in argon into areas of lower gas pressure was used to create a plasma object similar to that in theoretical model. A probe technique was used for the excitation the waves and determination of their characteristics in the system. The effect was detected for electron plasma waves belonging to the upper-hybrid dispersion branch of weakly magnetized plasma oscillations.