

THE EFFECT OF THE ELECTRON BEAM INITIAL MODULATION DEGREE ON THE EVOLUTION WITHIN THE BARRIER OF THE SPACE CHARGE WAVE PERFORMING ITS TRANSILLUMINATION

N. O. Boyko, D. B. Palets, L. I. Romanyuk

The effect of the initial modulation level of electron beam on evolution within the barrier of the space charge wave created in the beam by this modulation is studied experimentally. The character of this evolution is found to change provided a certain level of initial beam modulation is exceeded. This is ascribed to nonlinear processes of the artificially created and intrinsic space charge waves interaction with plasma electrons and their concurrence.