

ON THE POSSIBILITY TO USE TRANSITION  
RADIATION OF ELECTRON BUNCH  
WITH TRIANGULAR DENSITY  
PROFILE FOR DIAGNOSTICS  
OF INHOMOGENEOUS PLASMA

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S u m m a r y

The possibility of the diagnostics of plasma inhomogeneities via the transition radiation of an electron bunch with an initially triangular profile of the current density is considered. The computer simulation is executed to study the dynamics of a triangular bunch in the homogeneous plasma. Analytic calculations of the transition radiation are performed in the given current approximation, because the deformation of such a bunch by excited wake waves is shown to be negligible. The possibility of applications of this method of inhomogeneous plasma diagnostics is confirmed, and the range of its applicability is specified.