

SHORT-SCALED DRIFT STRUCTURES
NEAR THE BOUNDARY OF LINEAR
INSTABILITY IN TOKAMAK PLASMA

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S u m m a r y

An explosive instability saturation of the ion temperature-gradient driven mode near the boundary of linear instability due to the formation of short-scaled coherent structures with characteristic scales of the order of the Larmor radius is investigated. A spatial form of drift structures is obtained by means of numerical simulations. These structures move in a direction of ion diamagnetic drift and are periodic in the same direction. At the same time, they are localized in the direction of the gradients of ion temperature and density. Being subcritical turbulence elements, nonlinear drift structures are responsible for transport processes in tokamaks near the marginal stability boundary.