

Stabilizing Effects In a Self-Modulated Long Relativistic Charged-Particle Beam Travelling In a Plasma

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Within both the classical and the quantum kinetic domain, an investigation of the self-modulation of a long relativistic charged-particle beam in a plasma, while experiencing the plasma wake field self-interaction, is carried out. A stability analysis of the “beam-plasma” system, finalized to formulate suitable stability criteria, is also performed.