



Contribution ID: 31

Type: talk

Self modulated dynamics of a relativistic charged particle beam in plasma wake field excitation

Wednesday, September 16, 2015 6:20 PM (20 minutes)

The self modulated dynamics of a relativistic charged particle beam is described within the theory of plasma wake field excitation, where the plasma is assumed to be magnetized, warm and collisional. A novel generalized Poisson-like equation for the wake potential is derived and coupled with the collisional Vlasov equation for the beam dynamics. The virial description and the stability analysis are then provided.

Primary author: Mrs AKHTER, Tahmina (Dipartimento di Fisica, Università di Napoli Federico II, Napoli, Italy and INFN Sezione di Napoli, Napoli, Italy)

Co-authors: Prof. JOVANOVIĆ, Dusan (Institute of Physics, University of Belgrade, Belgrade, Serbia); Dr TANJIA, Fatema (Dipartimento di Fisica, Università di Napoli Federico II, Napoli, Italy and INFN Sezione di Napoli, Napoli, Italy); Prof. FEDELE, Renato (Dipartimento di Fisica, Università di Napoli Federico II, Napoli, Italy and INFN Sezione di Napoli, Napoli, Italy); Dr DE NICOLA, Sergio (CNR-SPIN, Napoli, Italy and INFN Sezione di Napoli, Napoli, Italy)

Presenter: Mrs AKHTER, Tahmina (Dipartimento di Fisica, Università di Napoli Federico II, Napoli, Italy and INFN Sezione di Napoli, Napoli, Italy)

Session Classification: WG6 - Theory and simulations

Track Classification: WG6 - Theory and simulations