

Joint DESY and University of Hamburg Accelerator Physics Seminar

Tuesday, 21.11.2017

(15:00 in Room 459/30b)

Wakefields and beam hosing instability in plasma wake acceleration (PWFA)

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SLAC

Abstract

In the blowout regime of plasma-wakefield acceleration (PWFA), plasma electrons are expelled from the region behind the electron driver creating a cavity filled with plasma ions. Study of the accelerated beam instabilities in this regime is complicated by the fact that we do not know how to calculate the wakefield of the witness beam other than simulating the whole problem in a 3D plasma code. In this talk, I will report about a recent development of the wakefield theory which allows to calculate the short-range wake inside a plasma bubble. This wakefield is then used for analysis of the hosing instability in PWFA.

NOTE THE UNUSUAL TIME

W.Hillert, (Univ. HH), I.Agapov (MPY) and M.Vogt (MFL).