

Consiglio Nazionale delle Ricerche

Istituto per i Processi Chimico-Fisici

Area della Ricerca di Pisa

seminari
BLISS



Giovedì 13 Aprile 2006

ore 11:30

Auletta Seminari IPCF

Il Prof. Francesco Pegoraro

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Terrà un seminario su

Does the Weibel instability generate coherent magnetic fields in a laser produced plasma ?

ABSTRACT - The Weibel instability is an electromagnetic instability that can generate a quasistatic magnetic field in the wake of an ultra-intense, ultra-short laser pulse propagating in an underdense plasma. Recently, attention has been paid to this instability also in the overdense plasma regime where current filaments are observed in large scale PIC numerical simulations. Analytical and numerical results will be presented on the evolution of the Weibel instability in the 3D fluid, relativistic, collisionless limit in the case of two initially counterstreaming electron beams. The aim is to understand the typical magnetic structures that can be expected to form as a consequence of the development of the Weibel instability and their role in the Fast Ignition Concept.

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