

Laser-plasma accelerators

Victor Malka, A. Lifschitz, J. Faure, Y. Glinec
LOA, ENSTA, X, CNRS, UMR 7639, 91761 Palaiseau, France.

The concepts of laser-plasma based accelerator and injector are discussed here. A two stage laser plasma accelerator design study for the production of a high-quality 3 GeV electron beam with low energy spread (1%) is proposed. New results demonstrating colliding laser pulses scheme will be also presented. These laser-produced particle beams have a number of interesting properties and could lend themselves to applications in many fields, including medicine (radiotherapy), chemistry (radiolysis), accelerator physics, and as a source for the production of γ rays beams for non-destructive material inspection by radiography, or for future compact XFEL machines.

* Corresponding Author: Malka Victor, E-mail: victor.malka@ensta.fr



HU1100105