

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

New micro-cone target design can efficiently produce higher energy and lower divergence particle beams¹ NATHALIE LE GALLOUDEC, University of Nevada Reno, EMMANUEL D'HUMIERES, CELIA, Universite de Bordeaux — Conical targets have been used in high intensity laser target interactions for less than 10 years, mostly in the context of fast ignition. Throughout the community excellent work has brought to light key parameters such as alignment, absorption, preplasma effect, maximum energy of electron and protons...all this points to cones being an efficient High Energy Density target under certain requirements. They can create well-defined areas of high energy density and particles beams that are *no longer as much driven by the characteristics of the laser beam*. This has not been fully investigated, especially on bigger scale facilities and holds an important potential for fast ignition where, for example, reducing the divergence of the beam lowers the energy requirement and enhances the energy deposition into the compressed fuel, but also for other HED applications such as shocks, opacities, EOS...

¹This work was supported by the National Nuclear Security Administration under cooperative agreements DE-FC52-03NA00156.

Nathalie Le Galloudec
University of Nevada Reno

Date submitted: 12 Jul 2010

Electronic form version 1.4