New micro-cone target design can efficiently produce higher energy and lower divergence particle beams\(^1\) 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...

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