

Abstract Submitted
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Numerical study of the irradiation uniformity of a directly driven inertial confinement fusion target M. TEMPORAL, Univ. Politecnica Madrid, Spain, B. CANAUD, S. LAFFITE, CEA, DAM, DIF, F-91297 ArpaJon, France, B.J. LE GARREC, CEA-CESTA, 33114 Le Barp, France, M. MURAKAMI, ILE, Osaka Univ., Osaka 565-0871, Japan — In the Inertial Confinement Fusion the uniformity of the irradiation still represents a crucial issue. In this context a spherical capsule directly driven by laser beams have been assessed numerically [1]. Two schemes characterized by 32 and 48 directions of irradiation [2] with associated a single laser beam or a bundle of laser beams [3] characterized by a super-Gaussian intensity profile are considered. Beam imperfections as power imbalance and pointing errors have been taken into account. It is found that the focal spot that minimizes the rms deviation depends on the beam imperfections [4]. The numerical calculations show that the uniformity of the irradiation evolves in time. The results calculated considering the illumination of a spherical target will be compared with those obtained when the irradiation is taken into account. [1] M. Temporal, B. Canaud. *Eur. Phys. J. D* 55 139 (2009). [2] M. Murakami, N. Sarukura, H. Azechi, M. Temporal, A.J. Schmitt, in press to *Phys. Plasmas* (July issue, 2010). [3] M. Temporal, B. Canaud, B. J. Le Garrec, *Phys. Plasmas* 17 022701 (2010). [4] M. Temporal, B. Canaud, S. Laffite, B.J. Le Garrec, M. Murakami. *Phys. Plasmas* 17 064504 (2010).

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