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Z Effects on Laser Energy Absorption and Fast Electron Transport in Fast Ignition ICF[1] S. CHAWLA, M.S. WEI, L. JARROTT, H. SAWADA, B. WESTOVER, F.N. BEG, UCSD, R.B. STEPHENS, K. AKLI, GA, C.D. CHEN, D. HEY, H. CHEN, H.S. MCLEAN, P.K. PATEL, LLNL, Y. SENTOKU, UNR, A. LINK, V. OVCHINNIKOV, L. VAN WOERKEM, OSU, H. FRIESEN, R. FEDOSEJEVS, Univ. Alberta, J. PASELY, Univ. York, A. MORACE, D. BATANI, Univ. Milano, P. KOESTER, L. GIZZI, IFCF-CNR — We report on a systematic study of the Z-effects on laser energy absorption and energy coupling using multilayer solid targets consisting of interaction and transport layers made of different Z materials and fluorescent layers in planar and cone geometries. The experiment was carried out on the Titan laser (0.7 ps, 150 J, 10^{20} W/cm^2 peak intensity). Results show several clear trends: i)electron flux transport systematically decreased with increasing Z, ii)increase in the laser intensity reduced the laser energy conversion to fast electrons in the planar geometry for high Z material and iii)in cone geometry, coupling was reduced 1.5x compared to flat targets when a 2x lower intensity was used. Detailed results will be presented.

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