Abstract Submitted
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PIC Modeling of High Intensity Specular Reflectivity Measurements at 28 and 75 degrees L. NIKOLIC, Y.Y. TSUI, R. FEDOSEJEVS, University of Alberta, Edmonton, Alberta, A. LINK, R.R. FREEMAN, D.W. SCHUMACHER, L.D. VAN WOERKOM, Ohio State University, Columbus, OH, H. CHEN, D.S. HEY, S. LE PAPE, A.J. MACKINNON, A.G. MACPHEE, P.K. PATEL, Y. PING, M.H. KEY, Lawrence Livermore National Laboratory, Livermore, CA, T. BARTAL, T. MA, M.S. WEI, F.N. BEG, University of California San Diego, San Diego, CA, C.D. CHEN, Massachusetts Institute of Technology, Cambridge, MA, K.U. AKLI, R.B. STEPHENS, General Atomics — The reflectivity and degree of collimation of the reflected light are key parameters in assessing the effectiveness of concentration and redirection of light in cone guiding targets for fast ignition. Experimental measurements have been made of these parameters for planar metallic targets at two angles of incidence of 28 and 75 degrees at the Titan laser facility with 150J, 700fs pulses for intensities of 10^{19} to 10^{20} W/cm^2. In the current presentation 2D PIC modeling is carried out for these measurements. The results show that the reflectivity increases as the angle of incidence increases from 28 degrees to 75 degrees. Also the reflected light shows increased divergence relative to the input beam due to scattering from a rippled surface. Detailed results from the simulations will be presented.

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