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Fast Ignition Relevant Hot Electron coupling at 1ω and 2ω D.P. HIGGINSON, UCSD/LLNL, C.D. CHEN, T. MA, P.K. PATEL, H. MCLEAN, M. KEY, S. WILKS, LLNL, T. BARTAL, H. SAWADA, C. JARROT, T. YABUUCHI, F.N. BEG, UCSD, R.B. STEPHENS, E. GIRALDEZ, GA, K. FLIPPO, S. GAILLARD, LANL, P.A. NORREYS, CLF (UK), S. BATON, F. PEREZ, H.-P. SCHLENVOIGT, LULI (France), G.E. KEMP, A. KRYGIER, R.R. FREEMAN, L.D. VAN WOERKOM, OSU — 2ω lasers ($\lambda = 0.5\mu$m) are expected to create favorable hot electron temperatures for fast ignition and to reduce the electron transit distance to the core due to high intensity-contrast ratios of better than 10^{-10}. These two effects were isolated by comparing a high contrast 2ω laser (pico2000) against 1ω lasers at both low (Titan) and high contrast (Trident). Identical cone-wire targets (Au cones with Cu wires) were used to evaluate laser coupling of fast ignition relevant hot electrons into the wire. Calibrated diagnostics imaged and measured absolute K shell fluorescence from the wire. Coupling is found to increase by a factor of 2 in the high contrast case and electron temperature increased with $I\lambda^2$. Analysis was performed with hybrid PIC transport code ZUMA to infer absolute electron coupling. This work performed under the auspices of the U.S. Department of Energy by Lawrence Livermore National Laboratory under Contract DE-AC52-07NA27344 and DE-AC52 07NA27344(ACE).

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