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Effects of dual lasers on hot electron source in fast ignition RYAN ROYLE, YASUHIKO SENTOKU, University of Nevada, Reno — Sufficient energy coupling between ignition laser and implosion core is critical for the feasibility of the fast ignition fusion scheme. The laser energy is deposited at the critical density, producing hot electrons which must traverse the gap to the core which can be more than 100 μm away. In this study, 2D particle-in-cell simulations are used to examine the effects of dual, superposed ignition lasers on hot electron generation and divergence by varying their relative frequencies and incident angles. Initial results show that dual, converging lasers at oblique incident angles and identical frequencies can substantially improve hot electron generation and energy coupling over a single laser of equal total input energy for intensities above 10^{19} W/cm^2, and lasers with differing frequencies and normal incidence can do likewise for intensities below 10^{19} W/cm^2.

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