

Abstract Submitted
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Cross-Beam Energy Transfer in Offset Implosions on OMEGA

KENNETH ANDERSON, JOHN MAROZAS, DUC CAO, CHAD FORREST, OWEN MANNION, RAHUL SHAH, RADHA BAHUKUTUMBI, FRED MARSHALL, TIM COLLINS, JAMES KNAUER, VALERI GONCHAROV, Laboratory for Laser Energetics, MARIA GATU JOHNSON, PSFC, MIT — It has been shown¹ that cross-beam energy transfer (CBET) mitigates the detrimental effect of initial target offset on implosion symmetry and fusion yield in room-temperature inertial confinement fusion implosions. This work was motivated by previous discrepancies in fusion yield between simulations and experiments with large target offsets. It was shown that simulations agreed better with experimental observables when CBET physics was modeled. This talk will expand the previous work to include cryogenic implosions and room-temperature implosions with higher laser intensity ($>10^{15}$ W/cm²). Simulated and experimental observables will be compared. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0003856.

¹K. S. Anderson *et al.*, “Effect of Cross-Beam Energy Transfer on Target Offset Asymmetry in Directly-Driven Inertial Confinement Fusion Implosions,” submitted to Physical Review Letters.

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