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Cross-Beam Energy Transfer Driven by Incoherent Laser Beams with Colors A.V. MAXIMOV, J.F. MYATT, R.W. SHORT, I.V. IGUMENSHCHEV, W. SEKA, Laboratory for Laser Energetics, U. of Rochester — Recently, the effect of cross-beam energy transfer (CBET) has become one of the most important challenges for the effective coupling of laser energy to the target in inertial confinement fusion (ICF) (see, e.g., Ref. 1). CBET is based on the process of stimulated Brillouin scattering (SBS) driven by multiple crossing laser beams in the regime of moderate SBS amplification gains, and is consequently sensitive to the frequency characteristics of the laser beams driving the ICF targets: smoothing by spectral dispersion or frequency shifts between the beams (colors). Different from reduced ray-type models used in large-scale hydrodynamic simulations with CBET,[1] we have developed a laser–plasma interaction (LPI)-type model of CBET that is capable of capturing the effects of laser speckles and the non-paraxial propagation of multiple laser beams.[2] The LPI-type CBET model has been applied to the interaction between incoherent laser beams with different colors and the differences from the ray-type CBET model have been shown. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

[1]I. V. Igumenshchev *et al.*, Phys. Plasmas **19**, 056314 (2012).
[2]A. V. Maximov *et al.*, Phys. Plasmas **11** 2994 (2004).

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