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Cross-Beam Energy Transfer (CBET) Effect with Additional Ion Heating Integrated into the 2-D Hydrodynamics Code *DRACO* J.A. MAROZAS, T.J.B. COLLINS, Laboratory for Laser Energetics, U. of Rochester — The cross-beam energy transfer (CBET) effect causes pump and probe beams to exchange energy via stimulated Brillouin scattering.[1] The total energy gained does not, in general, equate to the total energy lost; the ion-acoustic wave comprises the residual energy balance, which can decay, resulting in ion heating.[2] The additional ion heating can retune the conditions for CBET affecting the overall energy transfer as a function of time. CBET and the additional ion heating are incorporated into the 2-D hydrodynamics code *DRACO*[3] as an integral part of the 3-D ray trace where CBET is treated self-consistently within on the hydrodynamic evolution. *DRACO* simulation results employing CBET will be discussed. This work was supported by the U.S. Department of Energy Office of Inertial Confinement Fusion under Cooperative Agreement No. DE-FC52-08NA28302.

[1]W. L. Kruer, *The Physics of Laser–Plasma Interactions*, Frontiers in Physics, Vol. 73, edited by D. Pines (Addison-Wesley, Redwood City, CA, 1988), p. 45.
[2]E. A. Williams *et al.*, Phys. Plasmas **11**, 231 (2004).
[3]P. B. Radha *et al.*, Phys. Plasmas **12**, 056307 (2005).

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