Abstract Submitted
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Addition and Validation of a 2-D Nonlocal Electron Flux Module in DRACO[1] ALEX PROCHASKA, GREG MOSES, University of Wisconsin-Madison — A nonlocal thermal heat flux module is being implemented in 2-D in the DRACO radiation hydrodynamics code to provide a more accurate representation of the effects of hot electron transport on Inertial Confinement Fusion target implosions. The basic theory, developed in 1-D by Manheimer, Colombant, and Goncharov,[2] has been extended for use in $x - y$ and $r - z$ geometries. A Krook model is used for the collision operator, and a perturbative approach is followed to compute the anisotropic component of the distribution function for each electron energy. Taking the v^3 moment of the distribution function allows the electron thermal heat flux to be computed. The code is being validated through comparison with results obtained using traditional Spitzer-Harm heat conduction.

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[2]W. Manheimer, D. Colombant, and V. Goncharov, *Phys. Plasmas* **15**, 083103 (2008).

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