

Abstract Submitted
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Double P1 approximation to electron distribution function for purposes of computing non-local electron transport JEFFREY CHENHALL, DUC CAO, GREG MOSES, Fusion Technology Institute, University of Wisconsin Madison, Madison WI, 53706 — In Spitzer Harm theory of thermal conductivity, a zero net electron current condition is imposed. For direct drive implosions, this represents a balance of the high-energy inflow current of laser driven electrons by the outflow of low energy electrons acting to reestablish charge neutrality. Previous formalisms^{1,2} have made use of a P1 expansion of the Fokker-Planck equation to create a diffusion model for electron thermal conduction. This work aims to formulate a double P1 expansion of the Fokker-Planck equation in order to take advantage of the strong correlation between electron energy and direction. Preliminary results of this model will be presented. This work was supported by the University of Rochester Laboratory for Laser Energetics.

¹Schurtz et. al. Phys. Plasmas **7**, 4238 (2000).

²Manheimer et. al. Phys. Plasmas **15**, 083103 (2008).

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