

Abstract Submitted  
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**A comparison of non-local electron transport models relevant to inertial confinement fusion**<sup>1</sup> MARK SHERLOCK, Lawrence Livermore National Laboratory, JONATHAN BRODRICK, CHRISTOPHER RIDGERS, University of York — We compare the reduced non-local electron transport model developed by Schurtz et al. (Phys. Plasmas 7, 4238 (2000)) to Vlasov-Fokker-Planck simulations. Two new test cases are considered: the propagation of a heat wave through a high density region into a lower density gas, and a 1-dimensional hohlraum ablation problem. We find the reduced model reproduces the peak heat flux well in the ablation region but significantly over-predicts the coronal preheat. The suitability of the reduced model for computing non-local transport effects other than thermal conductivity is considered by comparing the computed distribution function to the Vlasov-Fokker-Planck distribution function. It is shown that even when the reduced model reproduces the correct heat flux, the distribution function is significantly different to the Vlasov-Fokker-Planck prediction. Two simple modifications are considered which improve agreement between models in the coronal region.

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