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Examination of kinetic effects on electron transport in a hohlraum* MICHAEL MARINAK, Lawrence Livermore National Laboraotry, ROBERT KINGHAM, Imperial College London, UK, CHRIS RIDGERS, University of York, UK, MARK SHERLOCK, MEHUL PATEL, Lawrence Livermore National Laboraotry — Integrated simulations of indirect drive targets performed with HYDRA can employ an extended version of the SNB[1] model to treat electron preheat and thermal flux inhibition. Even with these effects included some adjustments are still required to match hohlraum drive. This motivates an assessment of the extent to which approximations in the non-local model change the electron transport compared to fully kinetic models. We have enabled HYDRA to operate in conjunction with electron Vlasov-Fokker-Planck (VFP) codes to compare this model with results obtained using electron transport. The K2 electron VFP code solves the time-dependent VFP equations by expanding the distribution function in spherical harmonics and retaining only the first two expansion coefficients (f_0 and f_1). The IMPACT[2] code employs a similar approach to solve time-dependent VFP equations. We present results from calculations of a 1D gold hohlraum that show significant effects on the radiation drive spectrum compared to the reference model. *This work was performed under the auspices of the Lawrence Livermore National Security, LLC, (LLNS) under Contract No. DE-AC52-07NA27344 [1] G.P. Schurtz, P.D. Nicolai, and M. Busquet, Phys. Plasmas **7**, 4238 (2000) [2] R. J. Kingham and A. R. Bell, J. Comput. Phys. **194**, 1 (2004)

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