

Abstract Submitted  
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**HYDRA DCA Atomic Kinetics and Applications to Modeling NIF Hohlräume**<sup>1</sup> MEHUL V. PATEL, HOWARD A. SCOTT, MICHAEL M. MARINAK, Lawrence Livermore National Laboratory — Modeling of NLTE atomic kinetics is playing an increasingly important role in simulations of NIF targets. NLTE kinetics is required for modeling emissions from high-Z hohlraum wall materials, and may also be necessary for accurate modeling of capsule ablaters. The 2D/3D ICF radiation hydrodynamics code HYDRA offers two in-line atomic kinetics packages: average-atom based XSN, and Detailed Configuration Accounting (DCA). Recent updates to the HYDRA DCA package have integrated higher accuracy atomic physics into simulations of NIF hohlraums while increasing the computational efficiency of the package. We will review how our NLTE modeling of hohlraums has evolved and assess the sensitivity of integrated simulation results (such as the bang time and hohlraum radiation temperature) to modeling parameters.

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