Abstract Submitted
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Numerical Modeling of LLNL's Au-Sphere experiments on the OMEGA Laser[1] K.H. MA, University of Michigan, E. RAICHER, Y. FRANK, M. FRAENKEL, Soreq Research Center, E. JOHNSEN, R.P. DRAKE, University of Michigan, D. SHVARTS, Soreq Research Center — Experiments performed by LLNL on OMEGA studying X-ray conversion efficiencies for high-Z materials, aimed to confirm hohlraum modeling, resulted in a"liberal" flux limiter value of 0.15 to match simulations with these measurements[1]. This conclusion was re-examined and another model accounting for the effect of Ion Acoustic Turbulence on the thermal electron flux limitation was proposed[2]. Our work continues to explore relevant physical parameters in modeling these experiments using the HYADES and FLORENCE codes[3]. The sensitivity of laser absorption, X-ray emission and corona electron temperature to the electron flux limiter, inverse bremsstrahlung coefficient, resonant absorption in the critical layer, LTE and NLTE atomic physics and a numerical convergence study due to steep density and electron temperature profiles at the critical layer will be discussed. Additionally, alternative experimental designs, such as an "onion" configuration of plastic and gold as well as different laser illumination patterns, were studied. [1] Dewald, E.L., et al., *Phys. of Plasmas 15*, 072706 (2008). [2] Rosen M.D. et al., presented at the 2015 APS/DPP conference. [3] Y. Frank et al., Phys. Rev. E 92, 053111 (2015)

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