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Quantitative Analysis of Hohlraum Energetics Modeling[1] MEHUL V. PATEL, CHRISTOPHER W. MAUCHE, ODGEN S. JONES, HOWARD A. SCOTT, Lawrence Livermore National Laboratory — New 1D/2D hohlraum models have been developed to enable quantitative studies of ICF hohlraum energetics. The models employ sufficient numerical resolution (spatial, temporal discetization, radiation energy groups, laser rays, IMC photons) to satisfy *a priori* convergence criteria on the observables to be compared. For example, we aim for numerical errors of less than 5% in the predicted X-ray flux. Post shot simulations using the new models provide quantitative assessments of the accuracy of energetics modeling across a range of ICF platforms. The models have also been used to reexamine physics sensitivities in the modeling of the NLTE wall plasma. This work is guiding improvements in the underlying DCA atomic physics models and the radiation hydrodynamics code (HYDRA).

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