Abstract Submitted
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Improvement of the LARED-H post-processing cod XIN LI, Institute of Applied Physics and Computational Mathematics, Beijing, China — The two-dimensional radiation hydrodynamic code LARED-H is developed to simulate hohlraums in ICF. The radiation transport is modelled through radiative heat conduction method. Experimentally measured radiation fluxes are calculated with a post-processing code solving multi-group transfer equations along appointed lines with absorption and emission coefficients coming from LARED-H simulations. Compared with hohlraum experiments, peak temperatures through the laser entrance hole and the 2-4 keV Au M-band fractions gave by the post-processing code are underestimated. The radiation transport model difference between LARED-H and its post-processing code is found to be the reason. Because the level populations coming from LARED-H simulations are not solved coupling with the multi-group equations in post-processing runnings, the post-processing code will give more radiation absorption and depress the net x-ray emission in laser spots finally. To solve this problem, the net x-ray emission of LARED-H simulations is included in the multi-group transfer equations. We find improved agreement between experiments and simulations using this new model

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