Abstract Submitted
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Proton Radiography experiments and 3D simulations of laser-driven hohlraums PAUL-EDOUARD MASSON-LABORDE, S. LAFFITE, CEA DAM DIF, C.K LI, MIT, S.C. WILKS, LLNL, R. RIQUIER, CEA DAM DIF — Proton radiography experiments of laser-irradiated hohlraums (with 3 MeV DD and 14.7 MeV D3He protons) performed at the Omega laser facility provide critical information on hohlraum environment: self-generated spontaneous electric and magnetic fields, plasma blow-off of the wall and hydrodynamic instabilities. Motion of the laser-driven plasma bubbles in gold and CH hohlraums under several different irradiation patterns have be analyzed by proton radiography. Comparisons with 3D hydrodynamic simulations in these different configurations coupled to a proton trajectography package will be presented. The 3D effect in plasma expansion, as well as the role and importance of electric field in the proton deflexion will be discussed by comparisons to experimental results. All these comparisons provide insight into important issues in inertial confinement fusion and hohlraum physics.

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