

Abstract Submitted
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Experimental study of the plasma conditions in gas-filled hohlraum YONGKUN DING, ZHICHAO LI, Research Center of Laser Fusion, China Academy of Engineering Physics, XIN LI, Institute of Applied Physics and Computational Mathematics, HANG ZHAO, Research Center of Laser Fusion, China Academy of Engineering Physics, CHANGSHU WU, Institute of Applied Physics and Computational Mathematics, TAO GONG, DONG YANG, XIAOHUA JIANG, Research Center of Laser Fusion, China Academy of Engineering Physics, WUDI ZHENG, SHIYANG ZOU, Institute of Applied Physics and Computational Mathematics, SHENYE LIU, SHAOEN JIANG, Research Center of Laser Fusion, China Academy of Engineering Physics, JIAN ZHENG, University of Science and Technology of China — Hohlraum plasma and its kinetic behavior are vital to study the laser heated hohlraum, affecting the temporal, spatial and spectral features of the x-ray source. Accurate measurements of the plasma conditions in gas-filled hohlraum have been achieved using the recently set-up 4ω Thomson scattering diagnostic at Shenguang-III prototype laser facility. The plasma evolution and kinetic behavior for different locations inside the hohlraum are explored through comparing the theoretical Thomson-scattering spectra based on radiation hydrodynamic code to the experiment result.

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