

## OBSERVATION OF HYDRODYNAMIC PROCESSES OF RADIATION-ABLATED PLASMA IN A SMALL HOLE

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In the hohlraum used in laser indirect-drive inertial confinement fusion experiments, hydrodynamic processes of radiation-ablated high-Z plasma have a great effect on laser injection efficiency, radiation uniformity and diagnosis of hohlraum radiation field from diagnostic windows (DW). To study plasma filling in the DWs, a laser-irradiated Ti disk was used to generate 2-5 keV narrow energy band X-ray as intense backlighter source, and laser-produced X-ray in a hohlraum with low-Z foam tamper was used to heat a small hole surrounded by gold wall with 150  $\mu\text{m}$  in diameter and 100  $\mu\text{m}$  deep. The gold plasma hydrodynamic movement in the small hole was measured by an X-ray framing camera and the results are discussed. Quantitative measurement of the plasma areal density distribution and evolution in the small hole can be used to assess the effect of plasma filling on the diagnosis from the DW.

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