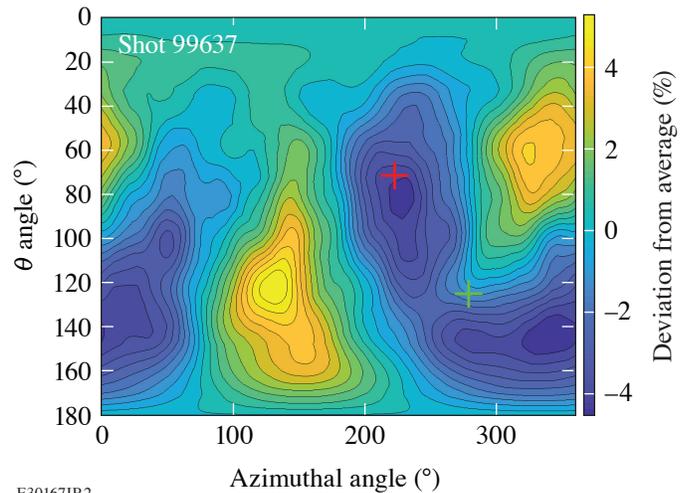


About the Cover:

The cover picture shows an x-ray image recorded on a charge-injection-device electronic sensor by one of the ten x-ray pinhole cameras located in TIM-5 in during a pointing shot. Beam-pointing accuracy is verified on the OMEGA Laser System by irradiating a 4-mm-diam Au-coated spherical target with ~ 23 kJ of laser energy. The large target diameter is used to separate the individual ~ 850 - μm -diam laser spots that are typically overlapped on the ~ 1 -mm-diam implosion targets. The spatial intensity distribution of the individual laser beams is carefully shaped and smoothed using distributed phase plates (DPP's), polarization wedges, and smoothing by spectral dispersion. A well-defined edge of the target can also be observed from the shadow of the beams behind the horizon of the sphere (yellow circle), which can be used to evaluate the location of the center of the sphere (white cross). The position of up to 21 beams can be evaluated from this image (red crosses) and compared to the desired locations (green crosses).



To assess the impact of the pointing errors on the illumination uniformity, the on-target intensity distribution is calculated by overlapping all 60 beams onto a sphere of the typical diameter of an implosion target of ~ 870 μm . The pointing of the beams is set according to the evaluation of the data from the pointing shots. Identical beam profiles are assumed for all 60 beams, with a super-Gaussian intensity profile as set by the DPP. The resulting intensity map is shown in the figure on the right. Additionally, a modal decomposition into ℓ modes is performed, with the inferred direction of the $\ell = 1$ mode (red cross) and $\ell = 2$ mode (green cross) indicated in the above image.

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