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Signatures of Intermediate-Mode Asymmetries in OMEGA Implosions D. PATEL, R. BETTI, K.M. WOO, D.T. MICHEL, V. GOPALASWAMY, D. CAO, J.P. KNAUER, C. STOECKL, S.P. REGAN, Laboratory for Laser Energetics, U. of Rochester — On the OMEGA laser, the 60-beam port geometry creates intermediate-mode asymmetries in the illumination pattern[1] that can potentially degrade implosion performance. Recently, some x-ray images of Ge- and Cu-doped shell implosions have exhibited structures that could be related to these mid-mode nonuniformities. These images are processed to emphasize those structures using a feature in the detection algorithm that subtracts the uniform background from the image and removes the high-frequency noise. The hydrodynamic code *DEC3D* is being used to determine whether some of those features are produced during the deceleration or disassembly phase of the implosion. The goal of the work is to develop a method to identify and measure the magnitude of the mid-mode asymmetry resulting from the laser-port geometry and to assess its impact on the implosion performance. This material is based upon work supported by the Department of Energy National Nuclear Security Administration under Award Number DE-NA0001944.

[1]S. Skupsky and K. Lee, J. Appl. Phys. **54**, 3662 (1983).

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