

Abstract Submitted
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A Proposal for Spherical Hohlräum Experiments on OMEGA Using Seven Laser Entrance Holes¹ WILLIAM WANG, STEPHEN CRAXTON, University of Rochester — A new configuration, first suggested by Farmer *et al.*,² is proposed for spherical hohlraums on OMEGA in which seven laser entrance holes (LEH's) are used, five around the equator and one at each pole. This is known as the PEPR (pentagonal prism) hohlraum. A new view-factor code *LORE*, based on the work of Schnittman *et al.*,³ is used to model the PEPR hohlraum and compare its performance with the tetrahedral hohlraums shot on OMEGA by Bennett *et al.*⁴ For most albedos the PEPR hohlraum produces a factor-of-2 lower on-capsule nonuniformity. For high albedos this can be improved by another factor of 2 (to about 0.4%) by a small increase in the polar LEH radii. The PEPR hohlraum is well matched to the OMEGA symmetry and could be a useful platform for studying the physics of spherical hohlraums.

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²W. A. Farmer *et al.*, *Phys. Plasmas* **26**, 032701 (2019).

³J. D. Schnittman and R. S. Craxton, *Phys. Plasmas* **3**, 3786 (1996).

⁴G. R. Bennett *et al.*, *Phys. Plasmas* **7**, 2594 (2000).

Stephen Craxton
University of Rochester

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