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Design options for improved performance with high-density carbon ablators and low-gas fill hohlraum targets¹ L. BERZAK HOPKINS, L. DIVOL, S. LEPAPE, N. B. MEEZAN, E. DEWALD, D. HO, S. KHAN, A. PAK, J. RALPH, J. S. ROSS, LLNL — Recent simulation-based and experimental work using high-density carbon ablators in unlined uranium hohlraums with 0.3 mg/cc helium fill have demonstrated round implosions with minimal evolution of Legendre moment P2 during burn. To extend this promising work, design studies have been performed to explore potential performance improvements with larger capsules, while maintaining similar case-to-capsule target ratios. We present here the results of these design studies, which will motivate a series of upcoming experiments at the National Ignition Facility.

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