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Application of variably-doped ablators to a single-sided drive ICF hohlraum[1] ROGER VESEY, STEPHEN SLUTZ, Sandia National Laboratories — Symmetry control has been computationally demonstrated for a z-pinch driven double-ended hohlraum requiring 18 MJ of pulse-shaped x-ray energy and yielding 500 MJ in two-dimensional integrated hohlraum and capsule simulations [1]. A single-sided drive hohlraum for this capsule may allow efficiency gains by reducing the hohlraum wall area, avoids pinch power imbalance and mistiming issues associated with two-pinch systems, and allows a simpler and more efficient pulsed-power accelerator design. A major obstacle is the large inherent odd Legendre mode (P_1, P_3, etc.) asymmetry present with single-sided drive. Hohlraum shaping and mode-selective shields may be used to lower inherent asymmetries; here we investigate the use of in-depth variable doping of the capsule ablator [2] to compensate for the residual drive asymmetries. 2D LASNEX design simulations will be presented to evaluate the required doping levels and resulting source energy requirements. [1] R. A. Vesey *et al.*, Phys. Plasmas **14**, 056302 (2007). [2] S. A. Slutz *et al.*, Phys. Rev. Lett. **99**, 175001 (2007).

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