

# Optimization of Compact Hohlräum Design to ICF Studies

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Proposed optimization of a compact hohlraum design with parallel-driven Z-pinch x-ray sources is discussed. This design was jointly proposed earlier by SNL and UNR [1] and was experimentally demonstrated in full configuration at the 1.7 MA UNR Zebra generator [2]. A parallel driven multiple Z-pinch sources scheme was a significant advance in terms of driver requirements compared to a traditional double-ended cylindrical pinch scheme. Considering only geometric arguments from [1], it became evident that the new scheme could be more efficient by a factor of  $\sim 4.5$  in terms of energy requirements. The prospective results of compact hohlraum scheme optimization are described: improvement of geometry of a compact hohlraum with parallel driven multiple Z-pinch sources; application of Au wires ( $Z_a = 79$ ) instead of traditionally used W ( $Z_a = 74$ ) wires; and employment of double planar foils liner (DPFL) instead of DPWA in hohlraum's x-ray sources.

This work was supported by NNSA under DOE grant DE-NA0003047.

## References

- [1] B. Jones *et al.*, Physical Review Letters **104**, 125001 (2010)
- [2] V.L. Kantsyrev *et al.*, Physical Review E **90**, 063101 (2014)