

Abstract Submitted
for the DPP16 Meeting of
The American Physical Society

Use of hohlraum liners to improve hohlraum performance SUHAS BHANDARKAR, KEVIN BAKER, CLIFF THOMAS, ALASTAIR MOORE, DON BENNETT, TED BAUMANN, DICK BERGER, MONIKA BIENER, DEBBIE CALLAHAN, DANIEL CASEY, PETER CELLIERS, Lawrence Livermore Natl Lab, FRED ELSNER, General Atomics, SEAN FELKER, DENISE HINKEL, WARREN HSING, Lawrence Livermore Natl Lab, HAIBO HUANG, General Atomics, OGGIE JONES, NINO LANDEN, JOSE MILOVICH, ABBAS NIKROO, Lawrence Livermore Natl Lab, RICK OLSON, Los Alamos Natl Lab, BRIAN SPEARS, MICHAEL STADERMANN, DAVID STROZZI, JOHN MOODY, Lawrence Livermore Natl Lab — Hohlraum liners can be used to improve many aspects in hohlraum physics. They can be used to modify the x-ray spectrum, thereby reducing the symmetry swings induced by m-band driven primarily from the outer beam spots. Simulations indicate that reducing the level of x rays between 1.8 to 4 keV can allow the reduction or elimination of dopant in ICF capsules, thereby reducing the ablation front growth factors and leading to a more stable implosion. Liners can be used to introduce low Z species into the wall to alter the gain of LPI. At the lowest densities they can be used to greatly reduce wall motion. Diminished wall motion would reduce symmetry swings and allow some ICF platforms to operate at lower gas fill densities, thereby reducing LPI and CBET. All of these are beneficial to the performance of the hohlraum. In this presentation experimental results from liner experiments conducted on the NIF will be presented. Prepared by LLNL under Contract DE-AC52-07NA27344

Kevin Baker
Lawrence Livermore Natl Lab

Date submitted: 15 Jul 2016

Electronic form version 1.4