

Abstract Submitted  
for the DPP08 Meeting of  
The American Physical Society

Sorting Category: 4.1.1 (C)

**Dependence of simulated laser reflectivity on gain in National Ignition Campaign targets**<sup>1</sup> D.E. HINKEL, A.B. LANGDON, C.H. STILL, D.J. STROZZI, E.A. WILLIAMS, Lawrence Livermore National Laboratory — Ignition targets<sup>2</sup> designed for the National Ignition Campaign range in radiation temperature from 270 to 300 eV. These high- $Z$  cylinders contain a DT capsule overcoated with either Be or CH, and are filled with H4He. The large laser spots in these designs reduce laser intensity, and hence levels of stimulated backscatter, where laser light resonantly scatters off ion acoustic or electron plasma waves. Gain exponents for backscatter<sup>3</sup> have been calculated for these ignition targets. Both pF3D<sup>3</sup> and DEplete<sup>4</sup> have simulated laser light propagation for these targets. The correlation of reflectivity to gain exponent will be presented and discussed.

<sup>1</sup>Performed by LLNL under Contract DE-AC52-07NA27344.

<sup>2</sup>D. A. Callahan, invited talk, APS-DPP, 2008.

<sup>3</sup>D. E. Hinkel, D. A. Callahan, A. B. Langdon, S. H. Langer, C. H. Still, and E. A. Williams, *Phys. Plasmas* **15**, 056314 (2008).

<sup>4</sup>D. J. Strozzi, E. A. Williams, D. E. Hinkel, D. H. Froula, R. A. London, and D. A. Callahan, “Ray-based calculations of laser backscatter in ICF targets”, submitted, *Phys. Plasmas*.

Prefer Oral Session  
 Prefer Poster Session

Denise Hinkel  
hinkel1@llnl.gov  
Lawrence Livermore National Laboratory

Date submitted: 18 Jul 2008

Electronic form version 1.4