

Abstract Submitted
for the DPP15 Meeting of
The American Physical Society

Plasma kinetic effects on interfacial mix in settings relevant to inertial confinement fusion and laboratory experiments¹ L. YIN, B.J. ALBRIGHT, B. BERGEN, Los Alamos National Laboratory, K.J. BOWERS, Los Alamos National Laboratory Guest Scientist, E.L. VOLD, K. MOLVIG, J.C. FERNÁNDEZ, W. BANG, P.A. BRADLEY, D.C. GAUTIER, C.E. HAMILTON, S. PALANIYAPPAN, M.A. SANTIAGO CORDOBA, Los Alamos National Laboratory, B.M. HEGELICH, G. DYER, R. ROYCROFT, University of Texas, Austin — Mixing of high-Z/low-Z interfaces in dense plasma media is a problem of importance for understanding mix in inertial confinement fusion experiments and recent experiments at the LANL Trident facility. In this presentation, we apply the VPIC particle-in-cell code [1] with a binary collision model [2] to explore kinetic effects of the atomic mixing. Comparisons are made to published analytic theory and hybrid modeling results [3] and conditions are identified under which plasma kinetic behavior may lead to anomalously rapid atomic mixing.

[1] Bowers et al., *Phys. Plasmas* **15**, 055703 (2008).

[2] Takizuka and Abe, *J. Computat. Phys.* **25**, 205 (1977).

[3] Molvig et al., *Phys. Rev. Lett.* **113**, 145001 (2014).

¹Work performed under the auspices of the U.S. DOE by the LANS, LLC, Los Alamos National Laboratory under Contract No. DE-AC52-06NA25396. Funding provided by the Los Alamos National Laboratory Directed Research and Development Program.

Lin Yin
Los Alamos National Laboratory

Date submitted: 23 Jul 2015

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