Abstract Submitted
for the DPP07 Meeting of
The American Physical Society

Numerically Simulating Collisions of Plastic and Foam Laser-Driven Foils[1] S.T. ZALESAK, A.L. VELIKOVICH, A.J. SCHMITT, Plasma Physics Division, Naval Research Laboratory, Washington, DC, Y. AGLITSKIY, N. METZLER, Science Applications International Corporation — Interest in experiments on colliding planar foils has recently been stimulated by (a) the Impact Fast Ignition approach to laser fusion [1], and (b) the approach to a high-repetition rate ignition facility based on direct drive with the KrF laser [2]. Simulating the evolution of perturbations to such foils can be a numerical challenge, especially if the initial perturbation amplitudes are small. We discuss the numerical issues involved in such simulations, describe their benchmarking against recently-developed analytic results, and present simulations of such experiments on NRL's Nike laser.
[1] M. Murakami *et al.*, Nucl. Fusion **46**, 99 (2006)
[2] S. P. Obenschain *et al.*, Phys. Plasmas **13**, 056320 (2006).

[1]This work was supported by the U.S. Department of Energy.

Steven Zalesak
Plasma Physics Division, Naval Research Laboratory, Wshington, DC

Date submitted: 23 Jul 2007 Electronic form version 1.4