

Abstract Submitted
for the DPP19 Meeting of
The American Physical Society

Exploring the universe through Discovery Science on NIF BRUCE

A. REMINGTON, Lawrence Livermore National Laboratory — An overview of recent research on hydrodynamic instabilities and mixing done on the 2 MJ, 192 beam NIF laser facility at LLNL through the NIF Discovery Science program, and on the Omega and EP laser facilities at LLE will be presented. A selection of examples will be drawn from laboratory experiments and simulations of hydrodynamic instabilities and mixing at laser or x-ray driven ablation fronts, [1, 2, 3] classical embedded interfaces, [4] strength stabilized scenarios, [5, 6] radiative shock stabilized flows, [7, 8] and collisionless, low density high velocity, interpenetrating plasma flows. [9, 10] Examples of experiments in nonlinear hydrodynamic instabilities and interface mixing will be given.

1. D.T. Casey PRE 90, 011102(R) (2014).
2. V.A. Smalyuk PRL 112, 025002 (2014).
3. A. Casner, PoP 22, 056302 (2015).
4. S.R. Nagel, PoP 24, 072704 (2017).
5. H.-S. Park PRL 104, 135504 (2010).
6. A. Krygier, PRL, submitted (2019).
7. C.C. Kuranz, Nature Commun. 9, 1564 (2018).
8. C.M. Huntington PoP 25, 052118 (2018).
9. J. S. Ross et al., PRL 118, 185003 (2017).
10. C.M. Huntington Nat. Phys. 11, 173 (2015).

Ruth Teferi
APS

Date submitted: 08 Jul 2019

Electronic form version 1.4