

Abstract Submitted  
for the DPP20 Meeting of  
The American Physical Society

**A Mix Platform with Thermonuclear Reactions Using Colliding Turbulent Plasma Plumes** HUI LI, KIRK FLIPPO, SHENGTAI LI, ANDY LIAO, BRIAN HAINES, Los Alamos Natl Lab — We describe a platform with an open geometry in which the laser-produced plasma plumes will collide to produce high density, hot, often turbulent regions such that turbulent mix and thermonuclear reactions can occur. To examine the dynamic process of the turbulent mix as well as the feasibility of achieving measurable thermonuclear reactions, we have studied several configurations using 2D and 3D simulations, including V-shaped wedges and cones. Furthermore, different spatial arrangements of low  $Z$  and high  $Z$  material can be arranged. This platform is quite versatile in including various amounts of the mix, initiating different flow instabilities, and studying the transition from laminar to turbulent flows. We will present our analysis of several simulated platforms, demonstrate the feasibility of various measurements, and discuss their relevance in constraining the mix models.

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Date submitted: 29 Jun 2020

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