

Abstract Submitted  
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**Vlasov vs LSP Simulations of Laser-Plasma Interactions: Blue-Green and Green-Orange Interactions**<sup>1</sup> VLAD SAVCHENKO, BEDROS AFEYAN, KIRK WON, Polymath Research Inc., DALE WELCH, ATK Mission Research, MIKE CUNEO, Sandia National Laboratories — We use Vlasov-Maxwell simulations to model the interaction of crossing laser beams driving electron plasma waves and KEEN waves(1) in inhomogeneous plasmas. We have compared these results with LSP PIC code simulations as well to see the relative merits of these simulation tools. Our aim is to characterize the hot electron generation properties of these mechanisms and the subsequent X ray generation for radiographic applications. Short pulse high intensity regimes are compared to lower intensity and long interaction pulse cases highlighting the kinetic physics that occurs in each case.

(1) B. Afeyan et al., Proc. IFSA (Inertial Fusion Sciences and Applications 2003, Monterey, CA), 213, B. Hammel, D. Meyerhofer, J. Meyer-ter-Vehn and H. Azechi, editors, American Nuclear Society, 2004.

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