

Abstract Submitted
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Nonlinear Instabilities due to Drifting Species in High Energy Density Plasmas¹ BRADLEY SHADWICK, ALEXANDER STAMM, University of Nebraska - Lincoln, BEDROS AFEYAN, Polymath Research Inc. — Relative drifts between particles species are fundamental driving forces behind many plasma instabilities. For example, the Buneman instability arises due to an electron-ions drift. We study the nonlinear evolution of these processes in the presence of externally imposed transverse magnetic fields. Our results are primarily drawn from simulations using both Vlasov–Maxwell and macro-particle methods. We compare electrostatically driven modes to full electromagnetic treatments. Ion to electron mass ratios of 1, 10 and 100 will be included.

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Bradley Shadwick
University of Nebraska - Lincoln

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