

Abstract Submitted  
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**Irreversibility and Chaos: Role of Long Range Hydrodynamic Interactions in Sheared Suspensions**<sup>1</sup> BLOEN METZGER, IUSTI-CNRS UMR 6595, JASON E. BUTLER, The University of Florida — Non-Brownian particles suspended in an oscillatory shear flow are studied numerically. In these systems it is often assumed that chaos (due to the long-range nature of the hydrodynamic interaction between particles) plus noise (contact or roughness) lead to irreversible behavior. However, we demonstrate that the long-range hydrodynamic interactions are not a source, nor even a magnifier, of irreversibility when coupled with non-hydrodynamic interactions.

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