

Abstract Submitted  
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**Richtmyer-Meshkov growth of a granular layer** STUART DALZIEL,  
DAMTP, University of Cambridge — This paper explores the mechanism responsible for the growth of Richtmyer-Meshkov instability in the novel context of the impulsive acceleration of a granular layer. With the classical instability, when a density interface is impulsively accelerating towards the medium with a lower density, the phase of interfacial perturbations is reversed and the deposited kinetic energy leads to growth of the perturbations. The higher density medium forms “spikes” as it penetrates into the lower density medium, while the lower density medium forms “bubbles” as it penetrates into the denser medium. Simple laboratory experiments are used to demonstrate that this Richtmyer-Meshkov growth mechanism can act on the surface of a granular layer, forming structures reminiscent of the classical case. This happens despite the fundamental differences in the way stresses are communicated.

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