

Abstract Submitted  
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**The onset of yielding in a granular system** TREY SUNTRUP, The University of Texas at Austin, MATTHIAS SCHRÖTER, Max Planck Institute for Dynamics and Self-Organization, CHARLES RADIN, HARRY L. SWINNEY, The University of Texas at Austin — We investigate the mechanical stability of a granular system subjected to shear stress. We use flow pulses of water in a fluidized bed to prepare a granular sample with a specific volume fraction ( $0.57 < \phi < 0.63$ ) and then shear the grains using a small, embedded plate, observing the force required to unjam the system. An understanding of how the system responds to shear is crucial to constructing a phase diagram for granular materials.

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