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Characterizing shear-flow-driven erosion of granular beds JULIA SALEVAN, Yale University, MARK SHATTUCK, City College of New York, COREY O'HERN, NICHOLAS OUELLETTE, Yale University — The complex interactions between granular media and flowing fluid play a principal role in shaping landscapes via erosion. Despite a large body of work in granular materials and large scale topographical changes in granular beds due to fluid flow, the detailed physical mechanisms that underlie particle entrainment into a fluid flow from an erodible bed and the coupling between hydrodynamic shear and internal rearrangement remain poorly understood. To address these questions, we perform experimental studies of pulsed shear flow across granular beds. We characterize the fluid flow using particle tracking techniques and monitor changes in the structural properties of the granular packing and contour of the granular bed.

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