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**Granular shear flow with imposed vibrations** BRIAN UTTER, James Madison University, ERIC HOPPMANN, James Madison University — We present results on a 2D photoelastic shearing experiment in which we impose force fluctuations by vibrating the shearing surface. The experiment consists of a dense assembly of 2D photoelastic grains between two belts moving in opposite directions, such that the central region approximates planar shear. The granular medium lies horizontally between the belts such that gravity does not compact the grains. One of the shearing surfaces is vibrated at a known frequency and amplitude during shear. We measure properties of the particle flow and characterize the force network by placing the photoelastic grains between crossed polarizers. We find that as vibration amplitude is increased, the number and magnitude of these force chains decreases drastically. The vibration also leads to increased slip at the shearing surface and decreased particle flow at both shearing surfaces.

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