

Abstract Submitted  
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**Shearing Low-frictional 3D Granular Materials**<sup>1</sup> DAVID CHEN, HU ZHENG, ROBERT BEHRINGER, Duke University — Shear jamming occurs in frictional particles over a range of packing fractions, from random loose to random dense. Simulations show shear jamming for frictionless spheres, but over a vanishing range as the system size grows. We use packings of submerged and diffractive index-matched hydrogel particles to determine the shear-induced microscopic response of 3D, low-frictional granular systems near jamming, bridging the gap between frictionless and low friction packings. We visualize the particles by a laser scanning technique, and we track particle motion along with their interparticle contact forces from its 3D-reconstructions.

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