

Abstract Submitted  
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**Jamming for a system of granular crosses**<sup>1</sup> ZEGAN SHANG, Duke University, HU ZHENG, Hohai University, DONG WANG, JONATHAN BARES, ROBERT BEHRINGER, Duke University — A disordered stress-free granular packing can be turned into a rigid structure, which is called jammed state, by increasing the density of particles per unit volume or by applying shear deformation. The jamming behavior of systems made of of 2D circular discs have been investigated in detail, but very little is known about the special geometry particles, particularly non-convex particles like crosses. Here, we perform an experimental study on the jamming of a system of quasi-2D granular crosses. In the present experiments, we measure the pressure, and coordinate number evolution of a 2D packing of photo-elastic cross discs. This talk will present results from a simple shear experiment for stresses and for the order parameter associated with the cross orientation and its correlation.

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