Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Evolution of Triangle Decomposition During Jamming[1] MARK KANNER, Levich Institute and Physics Department at City College and CUNY Graduate Center, NING XU, University of Science and Technology of China, COREY O'HERN, Yale University Departments of Mechanical Engineering & Materials Science and Physics, MARK SHATTUCK, Levich Institute and Physics Department at City College and CUNY Graduate Center — We use simulations of soft 2D bidisperse disks to determine the properties of jammed packings and investigate the statistical mechanics of these systems. We have created a novel method for the classification of structural subunits of a packing and use the subunits to calculate relevant physical quantities. The classification scheme is based on a 20 type decomposition of the Delaunay triangles extracted from the centers of the particles. The distribution of triangle types evolve as systems are jammed by compression or as they are sheared. We analyze the statistics of the triangle types and identify specific transition events during compression, jamming, and shear.

[1]NSF-CBET-0968013

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Date submitted: 19 Nov 2012 Electronic form version 1.4