

Abstract Submitted
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Jammed 2D circle packing reconsidered as a jigsaw puzzle ERIC CORWIN, Department of Physics, University of Oregon, KENNETH DESMOND, ERIC WEEKS, Department of Physics, Emory University — Athermal random packings are inherently non-equilibrium structures. For a bidisperse jammed packing of N disks the global packing structure can be thought of as composed of N jigsaw pieces, each representing the local structure around a disk. We show that we can assign a unique identifier, termed a jigsaw number, to each local packing structure. We find that as the number of disks grows to infinity the number of different jigsaw numbers present in a packing remains finite. We report on the distribution of jigsaw numbers and find that certain local packing structures are more common than others, demonstrating that the non-equilibrium packing structure is incompatible with a flat measure over all configurations. We further report on the correlations present between jigsaw pieces.

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