

Abstract Submitted
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Echoes of the glass transition in athermal soft spheres PETER MORSE, ERIC CORWIN, University of Oregon — The glass transition and the athermal jamming transition are both transitions from one disordered state to another marked by a sudden increase in rigidity. Before the onset of rigidity, thermal hard spheres and athermal soft spheres both share the same configuration space. Is there a signature of the glass transition in the topology of the allowed configuration space, and is this same signature present for athermal spheres? I will answer these questions by introducing the concept of local rigidity, and in doing so, I will demonstrate the existence of a pre-jamming phase transition precisely at the glass transition density.

Peter Morse
University of Oregon

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