

Abstract Submitted
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Jamming transition in a temperature-sensitive 2D colloidal suspension¹ ZEXIN ZHANG, DANIEL T. N. CHEN, ARJUN G. YODH, University of Pennsylvania, KEVIN B. APTOWICZ, West Chester University, PIOTR HABDAS, Saint Josephs University — We experimentally investigate the jamming transition of a 2D colloidal system. The system consists of a bidisperse mixture of thermoresponsive microgel particles confined between two glass slides, with a thickness of roughly the diameter of the larger particle. The packing density of the system is tuned by changing the temperature. A range of packing densities, both below and above the jamming transition is studied. We use video microscopy and particle tracking techniques to characterize the motion of the particles. On approaching the jamming transition the motion becomes slower and more heterogeneous. We characterize the jamming transition in terms of both structure (pair correlation function) and dynamics (mean square displacement, non-Gaussian parameter, four-point susceptibility). To our knowledge this study provides the first experimental evidence for the jamming transition in a 2D colloidal system.

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