

Abstract Submitted
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Density of states in two-dimensional colloidal system KE CHEN, ZEXIN ZHANG, PETER YUNKER, ARJUN YODH, Department of Physics and Astronomy, University of Pennsylvania — The vibrational density of states (VDOS) of particles in a two-dimensional binary colloidal system was investigated using video microscopy. Our ultimate goal is to explore how the VDOS varies near the jamming transition [1]. Various distributions of NIPA particles, whose diameters can be tuned by small temperature variations, were loaded into parallel-plate microscope cells, and their motions tracked with video microscopy. This approach permits in-situ observation over a wide range of particle packing fractions, from colloidal fluids to colloidal glasses. A search for excess VDOS at low frequencies in colloidal glass is ongoing. 1. N. Xu, M. Wyart, A. J. Liu, and S. R. Nagel, *Phys. Rev. Lett.* **98**, 175502 (2007) This work is supported by NSF DMR-080488, MRSEC DMR-0520020

Ke Chen
Department of Physics and Astronomy, University of Pennsylvania

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