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Colloidal Glass Transition Observed in Confinement KAZEM EDMOND, Emory University, CARRIE NUGENT, HETAL N. PATEL, ERIC R. WEEKS, Emory University — We study a colloidal suspension confined between two parallel walls as a model system for glass transitions in confined geometries. The suspension is a mixture of two particle sizes to prevent wall-induced crystallization. We use confocal microscopy to directly observe the motion of colloidal particles. This motion is slower in confinement, thus producing glassy behavior in a sample which is a liquid in an unconfined geometry. We present results from a range of volume fractions. Our results demonstrate that the maximum thickness at which confinement effects still occur defines a length scale for a given particle volume fraction. This length scale increases as the volume fraction increases toward the glass transition.

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