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**Dynamics approaching the 2D colloidal glass transition** SKANDA VIVEK, ERIC WEEKS, Emory University — We make 2D colloidal glasses by allowing bidisperse silica particles of diameters 2.53 and 3.38 $\mu$m to settle down under gravity in a monolayer at a coverslip interface. Controlling the area fraction gives us a wide range of behaviour, from liquid-like to supercooled and glassy. We use this model glass forming system to study the dynamics on approaching the glass transition, in 2D. We measure the increasing alpha relaxation times as the area fraction is increased toward the glass transition. We measure the growth of dynamical heterogeneity on approaching the glass transition. We quantify dynamical heterogeneity through the non-Gaussian parameter and the four point susceptibility $\chi_4$. Further, we measure the probability of local cage rearrangements as a function of waiting time(time since quench), for different area fractions, and relate this to other dynamical quantities such as diffusion coefficients, dynamical heterogeneity, etc. For glassy samples, we observe the slowing down of mean square displacements with waiting time, a sign of aging.

Skanda Vivek
Emory University

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