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**Dynamics of multiple glass states** NORA GRANETO, ANDRZEJ LATKA, PIOTR HABDAS, Dept. of Physics, Saint Joseph's University — We study concentrated colloidal suspensions, a model system which exhibits a glass transition. Using microscopy techniques we directly observe the microscopic behavior of the colloidal particles as the glass transition is approached. Moreover, by adding polymer to the colloidal suspension we induce "sticking" between the colloidal particles. When such attractive force is introduced to a hard-sphere colloidal glass, the system enters a liquid phase. Increasing the polymer concentration even further causes the system to enter another glass state – an attractive glass. We investigate the particle dynamics as system enters multiple glass states. Particularly, we focus on single particle jumps and effect of caging on the particles' dynamics.

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