A Glass Close to a Rough Surface

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Glasses are investigated in the presence of a few layers of 'frozen' particles, which are permanently attached to the container wall. In the presence of this topological constraint, the structure and dynamics of the colloids are investigated using confocal microscopy. The dynamic correlation functions not only depend on the particle density, but also the distance from the frozen particles. The dynamics significantly slow down close to the frozen particles and thus reveal a spatial correlation length, in addition to the spatially heterogenous dynamics discussed previously.