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Nanofluidic flow with polymers SANTTU OLLILA, Helsinki University of Technology, COLIN DENNISTON, MIKKO KARTTUNEN, The University of Western Ontario, TAPIO ALA-NISSILA, Helsinki University of Technology — We study the behavior of a single polymer in fluid flow in a periodic array of nanopits, which has also been a subject of recent experiments. We employ an explicit solvent based on the lattice Boltzmann method that reproduces the fluctuating Navier-Stokes equation with a well-defined temperature. The fluid functions as a heat bath for the polymer, whose constituents are coupled realistically to the solvent through a frictional force.

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