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Abstract:	We present results of molecular dynamics simulations for two-dimensional repulsively interacting colloids driven by a one-dimensional asymmetric and commensurate ratchet potential, switching on and off stochastically. This drives a time-averaged directed current of colloids, exhibiting resonance with change in ratcheting frequency, where the resonance frequency itself depends nonmonotonically on density. Using scaling arguments, we obtain analytic results that show good agreement with numerical simulations. With increasing ratcheting frequency, we find nonequilibrium reentrant transitions between solid and modulated liquid phases
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