Title:	Unzipping DNA by a periodic force: Hysteresis loops, dynamical order parameter, correlations, and equilibrium curves
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Abstract:	The unzipping of a double stranded DNA whose ends are subjected to a time dependent periodic force with frequency ω and amplitude G is studied using Monte Carlo simulations. We obtain the dynamical order parameter, Q, defined as the time average extension between the end monomers of two strands of the DNA over a period, and its probability distributions P(Q) at various force amplitudes and frequencies. We also study the time autocorrelations of extension and the dynamical order parameter for various chain lengths. The equilibrium force-distance isotherms were also obtained at various frequencies by using nonequilibrium work measurements.
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