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Non-adiabatic ramps in quantum many-particle systems MASUD HAQUE, Max Planck Insitute (PKS), Dresden — A change of system parameter can be neither truly instantaneous nor truly adiabatic in real life. For several quantum many-particle systems, I will consider non-equilibrium dynamics induced by finite-rate ramps. The ramp rate extrapolates between an instantaneous quench and an adiabatic sweep. I will characterize the deviation from adiabaticity through the excess energy or "heating" of the system. For cold-atom systems in a harmonic trapping potential, I will show that the non-adiabatic heating in finite-time ramps has universal features common to a wide range of systems.

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