

Thermodynamic uncertainty relations (TURs) interrelate dynamical quantities, like the rate of current and its fluctuations, and the entropy production. They are well established for several thermodynamically consistent time-homogeneous Markov processes such as the overdamped Brownian motion in a tilted periodic potential (TP). However, for processes subjected to time-dependent external driving, the general framework for such relations is unknown. Here we focus on a class of periodically driven systems, whose dynamics can be mapped onto the ones of time-homogeneous Markov processes. We leverage this mapping to derive the entropy production for the overdamped Brownian motion in a travelling-wave potential (TW), which yields an inverse TUR, i.e., the upper bound on the entropy production. This bound is given by the rate of current and the dispersion coefficient, which are experimentally observable quantities. The inverse TUR delivers bounds on kinetic efficiency of a transport of particles by TW potential, such as the recently demonstrated experiments with an optical conveyor belt (OCB). The measured values of the resulting speed of submicrometer-sized colloidal particle, when subjected to transport by OCB moving at certain speeds, match our results. Additionally, using the inverse TUR, we analyse the bounds on thermodynamic cost and precision in stochastic processes. We broaden the results in the case of Brownian clocks by discussing the continuous setting and providing also the upper bound on the product of cost and precision. The precise and dissipationless regime of these clocks is explored. The derived theoretical predictions are tested by Brownian dynamics simulations.