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Repeated and not-periodic quenches in a gas of independent particles LUCA D'ALESSIO, ANATOLI POLKOVNIKOV, Boston University, YARIV KAFRI, Technion, Haifa — We have studied the evolution of the energy distribution of a gas of independent classical particles inside a cavity whose length is changed repeatedly in time. The protocol we have considered is not periodic and this leads to heating of the system. We have found that the evolution can be described by a generalized diffusion process along the energy axis. The scaling form of the asymptotic distribution has been found in 1D and 2D both analytically and numerically. In 1D the asymptotic distribution is Gibbs while in 2D a different universal distribution appears. This work is a relevant example of a repeated and not-periodic quenches which are attracting much attention lately.

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