

Abstract Submitted
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Fluctuation-dissipation relations in driven dissipative systems

GUY BUNIN, Technion, YAIR SHOKEF, University of Pennsylvania, DOV LEVINE, Technion — Exact theoretical results for the violation of time dependent fluctuation-dissipation relations in driven dissipative systems are presented. The ratio of correlation to delayed response in the stochastic model introduced in [Phys. Rev. Lett. 93, 240601 (2004)] is shown to depend on measurement time. The fluctuation temperature defined by this ratio differs both from the temperature of the environment performing the driving, and from other effective temperatures of the system, such as the average energy (or “granular temperature”). General explanations are given for the time independence of fluctuation temperature for simple measurements or long measurement times.

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