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Mode coupling induced dissipative and thermal effects at long times after a quantum quench[1] ADITI MITRA, New York University, THIERRY GIAMARCHI, University of Geneva — An interaction quench in a Luttinger liquid can drive it into an athermal steady state. We analyze the effects on such an out of equilibrium state of a mode coupling term due to a periodic potential. Employing a perturbative renormalization group approach we show that even when the periodic potential is an irrelevant perturbation in equilibrium, it has important consequences on the athermal steady state as it generates a temperature as well as a dissipation and hence a finite life-time for the bosonic modes.

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