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Scale Invariant Quantum Dynamics in Ultracold[1] JEFF MAKI, FEI ZHOU, Univ of British Columbia — We examine the effects of scale invariance on the far from equilibrium dynamics of cold atom systems. Such far from equilibrium scale invariant dynamics can be realized in non interacting and unitary Fermi gas in three spatial dimensions. We examine and categorize not only the features of scale invariant far from equilibrium dynamics but the deviations that can arise when one breaks the scale invariance. We show that the long time deviations is related to the beta function of the system, which describes the changes in the correlation length near these two scale invariant points.

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