Non-Perturbative Dynamical Effects in Nearly Scale Invariant Systems: The Action of Breaking Scale Invariance[1] JEFF MAKI, Univ of British Columbia, LI-MING ZHAO, Univ of British Columbia and Captial Normal University, FEI ZHOU, Univ of British Columbia — In this talk we put forward a general formalism that categorizes the action of breaking scale invariance in the non-equilibrium dynamics of non-relativistic quantum systems. This approach can be applied to a wide range of systems, regardless of the number of particles or their statistics. We show that in three dimensions, any small deviation from the strongly interacting fixed point leads to non-perturbative effects in the long-time limit. The scale invariant dynamics are altered by a non-pertubative log-periodic beat, the presence of which is universal and depends only on the deviation from the resonant fixed point.

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