

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Quench dynamics of 1D spin-imbalanced Fermi-Hubbard model¹

XIAO YIN, LEO RADZIHOVSKY, University of Colorado at Boulder — We study a non-equilibrium dynamics of a 1D spin-imbalanced Fermi-Hubbard model following a quantum quench of on-site interaction, using bosonization and exact analysis. By focusing on the evolution of singlet-, triplet-, density and magnetization correlation functions, we find that the evolution and the final state display a strong dependence on the initial state. Thus, we demonstrate that such quantum quench may be used as a new approach to identify and probe the 1D gapless analogue of the elusive FFLO state.

¹supported by NSF through DMR-1001240 and by Simons Investigator award from Simons

Xiao Yin
University of Colorado at Boulder

Date submitted: 02 Nov 2015

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