

Abstract Submitted  
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**Superfluid–  
Insulator Transition in Commensurate One-Dimensional Bosonic System  
with Off-Diagonal Disorder** KARÉN BALABANYAN, Department of Physics,  
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Physics, University of Massachusetts, MA 01003; Russian Research Center “Kur-  
chatov Institute”, 123182 Moscow, Russia — We analyze the superfluid–insulator  
transition in a system of one-dimensional (1D) lattice bosons with off-diagonal dis-  
order in the limit of large commensurate filling. We argue—in contrast to the recent  
prediction (E. Altman, Y. Kafri, A. Polkovnikov, and G. Refael, cond-mat/0402177)  
of strong- randomness fixed point for this system—that at any strength of disorder  
the universality class of the transition on the superfluid side coincides with that of  
the superfluid–Mott- insulator transition in a pure system. We present results of  
Monte Carlo simulations for two strongly disordered models that are in excellent  
agreement with the advocated scenario.

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