

Abstract Submitted
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Heating and losses in 2D optical lattices AARON REINHARD, JEAN-FELIX RIOU, LAURA ADAMS, DAVID WEISS, The Pennsylvania State University — We report results on the impact of heating and losses on a Bose gas trapped in 1D tubes formed by a 2D optical lattice. We present our calculations for the heating rates, loss rates, and excited transverse band populations and show that they agree well with our measurements of these quantities over a wide range of experimental parameters. Finally, we discuss the effect of these processes on the evolution of the momentum distribution of an out-of-equilibrium 1D Bose gas, with which we are studying the onset of thermalization in nearly integrable many-body quantum systems.

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