Chaos Criterion in Bose-Hubbard Model AMY CASSIDY, University of Southern California, VANJA DUNJKO, MAXIM OLSHANII, University of Massachusetts Boston — The goal of this work is to determine the criterion for chaos in the one-dimensional mean-field Bose-Hubbard model. We investigate the time evolution of a system with a few low-energy momentum modes excited initially. A threshold for chaos is identified from calculations of the largest Lyapunov exponent, which is compared with the predictions of the Chrikov criterion of overlapping resonances. Additionally, the results are compared with a closely related fully integrable model.

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