

Abstract Submitted
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Density wave packets of ultracold atoms in an optical lattice with the adaptive t-DMRG CORINNA KOLLATH, ULRICH SCHOLLWÖCK, RWTH Aachen, JAN VON DELFT, University of Munich, WILHELM ZWERGER, Technical University Munich — We investigate the propagation of wave packets in systems of ultracold atoms in an optical lattice with the help of the adaptive time-dependent density-matrix renormalization-group method (adaptive t-DMRG). We discuss the dependence of the velocity, in particular of the sound velocity, on the interaction strength and the height of the perturbation in a quasiexact calculation.

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