Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Adiabatic loading of a one dimensional system of interacting bosons into an optical lattice CLAUDIA DE GRANDI, ANATOLI POLKOVNIKOV, Boston University — We study excitations from the ground state of a system of bosons confined to one dimension (1D) and interacting via contact repulsion, while loading them adiabatically into an optical lattice. In particular, we analyze the dependence of the density of created excitations on the ramp rate δ. We find that for strongly interacting commensurate bosons this density scales as $\sqrt{\delta}$, while for weakly interacting bosons it scales as δ^2.

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Date submitted: 04 Dec 2007 Electronic form version 1.4