

Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Finite Temperature Phase Diagram of the Disordered Extended Bose-Hubbard Model¹ FEI LIN, VITO SCAROLA, Physics Department, Virginia Tech — The disordered extended Bose-Hubbard model exhibits a very rich phase diagram at low temperatures because of the competition between disorder and interactions. Depending on the parameter regime, it can show superfluid, supersolid, Bose glass, solid and disordered solid phases. We will discuss quantum Monte Carlo calculations used to estimate various physical quantities, such as, superfluid density, charge structure factor, compressibility, etc, which we use to classify these phases at finite temperatures.

¹We acknowledge support from ARO (W911NF-12-1-0335), AFOSR (FA9550-11-1-0313) , and DARPA-YFA (N66001-11-1-4122).

Fei Lin
Physics Department, Virginia Tech

Date submitted: 13 Nov 2013

Electronic form version 1.4