Abstract Submitted
for the DAMOP12 Meeting of
The American Physical Society

Probing mean-field screening in a tilted incommensurate lattice JEREMY REEVES, MATTHIAS VOGT[1], BRYCE GADWAY, DANIEL PERTOT[2], DOMINIK SCHNEBLE, Department of Physics and Astronomy, Stony Brook University — There has been recent interest in the competing roles of disorder and interactions on the dynamics of ultracold gases in optical lattices. Here, we investigate a weakly interacting Bose-Einstein condensate in a tilted incommensurate lattice potential. It is well known that both collisional interactions and disorder individually cause damping of Bloch oscillations. We explore the interplay between the two damping effects and observe a reduction in the disorder-induced damping rate due to the presence of interactions, consistent with screening of disorder.

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Date submitted: 30 Jan 2012 Electronic form version 1.4