Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Influence of the Amplitude in Lattice Modulation Spectroscopy ANDREAS DIRKS, KARLIS MIKELSONS, JIM FREERICKS, Georgetown University, H.R. KRISHNAMURTHY, Indian Institute of Science — Within the Mott-insulating phase of the Hubbard model, linear-response calculations for a periodically modulated optical lattice depth clearly predict a resonance when modulated at a frequency equal to the Hubbard repulsion U. In this work we examine the effect of the amplitude of the lattice depth modulation on the threshold for excitation. Based on a recently developed strong-coupling approach to the non-equilibrium Hubbard model, we report results on the nonlinear regime and discuss effects of the amplitude as compared to the frequency for driving excitations into the upper Hubbard band.

Andreas Dirks
Georgetown University

Date submitted: 08 Nov 2012 Electronic form version 1.4