Abstract Submitted
for the DAMOP15 Meeting of
The American Physical Society

Excitation spectrum of Bose-Einstein Condensates with modified dispersion[1] MAREN MOSSMAN, M.A. KHAMEHCHI, PETER ENGELS, Washington State University — Bose-Einstein Condensates provide a flexible platform to model a wide variety of condensed matter phenomena. To this goal, Raman dressing schemes and dynamical lattices have emerged as a premier tool, allowing for a modification of the dispersion relation leading to spin-orbit coupling and artificial gauge fields. Using Bragg spectroscopy, we investigate the collective excitation spectrum of BECs with engineered dispersion relations and study consequences of a roton-like minimum that can be softened by changing Raman dressing parameters. We report on the current status and future directions of our experiments.

[1]This work is supported by NSF.

Maren Mossman
Washington State University

Date submitted: 30 Jan 2015 Electronic form version 1.4