

Abstract Submitted  
for the DAMOP19 Meeting of  
The American Physical Society

**Floquet Band Engineering of Ultracold Lithium in Driven Optical Lattices**<sup>1</sup> ETHAN SIMMONS, CORA FUJIWARA, KEVIN SINGH, ROSHAN SAJJAD, DAVID WELD, University of California, Santa Barbara, THE WELD GROUP TEAM — Ultracold neutral atoms in driven optical lattices provide a rich experimental platform for probing non-equilibrium quantum dynamics. We report on the use of position-space Bloch oscillations to experimentally map out the Floquet-Bloch quasienergy band structure of a driven optical lattice. We present results of Floquet-engineered control of long-range transport, and discuss the use of multi-frequency driving to create novel states of matter.

<sup>1</sup>The authors acknowledge support from ARO (PECASE W911NF1410154 and MURI W911NF171032) and NSF (CAREER 1555313).

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Date submitted: 01 Feb 2019

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