DAMOP19-2019-000306

Abstract for an Invited Paper
for the DAMOP19 Meeting of
the American Physical Society

Lattice-trapped lithium as tunable Floquet matter[1]

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Degenerate lithium in modulated optical lattices makes a near-ideal testbed for the experimental study of quantum matter driven far from equilibrium. We will present a sequence of recent experimental results: flexible Floquet engineering of band structure and transport properties, direct imaging of Floquet-Bloch bands using position-space Bloch oscillations, detailed experimental mapping of the properties of prethermal Floquet matter, and an observation of anomalously slow heating in a rapidly driven interacting gas.

[1]We acknowledge support from the Army Research Office (PECASE W911NF1410154 and MURI W911NF1710323) and the National Science Foundation (CAREER 1555313).