

Abstract Submitted  
for the MAR17 Meeting of  
The American Physical Society

**Many-body dynamics and Floquet gap opening in interacting periodically driven systems.** ERVAND KANDELAKI, MARK RUDNER, Niels Bohr Institute, Copenhagen — Periodically driven quantum systems have recently attracted a lot of interest due to peculiar phases they can host. In particular, driving by circularly polarized light was predicted to open a gap with non-trivial topological properties in graphene-like systems. We study the dynamics in such a system at transient times after the switch-on of the driving, taking into account electron-electron interactions self-consistently up to second order. We analyze the emergence and time-dependent renormalization of the Floquet gap. We investigate the time scales for the emergence of the Floquet-Bloch bands in the non-equilibrium correlation functions, accessible in ARPES experiments.

Ervand Kandelaki  
Niels Bohr Institute, Copenhagen

Date submitted: 11 Nov 2016

Electronic form version 1.4