

Abstract Submitted  
for the DAMOP18 Meeting of  
The American Physical Society

**Modelling high-harmonic generation in solids beyond the single active electron** HELENA DRÜEKE, DIETER BAUER, Institut für Physik, Universität Rostock, Germany — Laser-driven electrons in linear chains of ions constitute the simplest models for the study of high-harmonic generation (HHG) in solids. The importance of band structure, finite-size or surface effects, and electron-electron interaction can be systematically investigated using such models. On the poster, we illustrate our implementation of a time-dependent Kohn-Sham solver for the study of solid slabs in intense laser fields. In particular, we present HHG spectra, discuss their cut-offs, and analyze the role of electron-electron interaction and topological surface effects [1,2].

[1] Kenneth K. Hansen, Tobias Deffge, Dieter Bauer, "High-order harmonic generation in solid slabs beyond the single-active-electron approximation", Phys. Rev. A 96, 053418 (2017).

[2] Dieter Bauer, Kenneth K. Hansen, "High-harmonic generation in solids with and without topological edge states", (submitted) arXiv:1711.05783.

Dieter Bauer  
Institut für Physik, Universität Rostock, Germany

Date submitted: 26 Jan 2018

Electronic form version 1.4