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**Topological effects in high-harmonic spectra of graphene**

CHRISTOPH JUERSS, HELENA DRUEEKE, DIETER BAUER, University of Rostock, Germany — Among the many interesting properties of graphene are its topological edge states. We investigate differences in the high harmonic spectra due to the influence of these edge states for finite graphene systems coupled to an electric field by using time dependent density functional theory (TDDFT) as well as a tight-binding approach. The influence of the polarization of the field on the spectra is presented as well. Ribbon-like systems are of particular interest, because their gapped bandstructures cause a suppressed harmonic yield for energies below the band gap compared to a plateau at higher energies. A similar feature has recently been observed in spectra of certain topological states of one-dimensional chains [1, 2, 3]. [1] Dieter Bauer and Kenneth K. Hansen, *High-harmonic generation in solids with and without topological edge states*, Phys. Rev. Lett. 120, 177401 (2018) [2] Helena Drüeke and Dieter Bauer, *Robustness of topologically sensitive harmonic generation in laser-driven linear chains*, arXiv:1901.01437 [3] Christoph Jürß and Dieter Bauer, *manuscript in preparation*

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