

Abstract Submitted  
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**Multi-channel contributions to High Harmonic Generation (HHG) in solids.**<sup>1</sup> FRANCISCO NAVARRETE, Kansas State University, MARCELO CIAPPINA, ELI-Beamlines, Academy of Sciences of the Czech Republic, UWE THUMM, Kansas State University — While HHG from gaseous atoms is well understood [1], HHG from solids is discussed theoretically for decades [2] and still debated [3-5], but scrutinized experimentally only recently [3]. We investigated intra- and inter-band contributions to HHG in ZnO and MgO model solids within a single-active-electron approximation and an adiabatic basis-set approach. We compare HHG spectra after integration over initial states from entire BZ with contributions from the band center ( $\Gamma$  point) alone over a range of IR-driver-pulse field strengths. In addition, we use our numerical spectra and intensity-dependent cut-off frequencies for ZnO and MgO crystals to benchmark analytical approximations. [1] Le *et al.*, *Phys. Rev. A* **80**, 013401 (2009). [2] Plaja and L. Roso-Franco, *Phys. Rev. B* **45**, 8334 (1992). [3] Ghimire *et al.*, *Nat. Phys.*, **7**, 138 (2011). [4] Wu *et al.*, *Phys. Rev. A* **91**, 043839 (2015). [5] Vampa *et al.*, *Phys. Rev. Lett.*, **113**, 073901 (2014).

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