

Abstract Submitted  
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**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 relatively well understood [1], catalyzed by recent experiments [2], mechanisms for and the characteristics of HHG in solids are currently debated [3-6]. We will discuss our analysis of intra- and inter-band HHG for crystalline model solids based on a single-active-electron numerical model. For ZnO and MgO crystals these simulations show that initial states over an extended crystal-momentum interval around the  $\Gamma$  point contribute noticeably to the HH yield. The extent of this interval depends on the driving-field intensity and can be determined analytically. The comparison of even and odd HHG as a function of the crystal momentum and driving-field intensity allows us to characterize calculated HHG spectra with the help of simplified analytical expressions [6]. [1] Plaja and L. Roso-Franco, Phys. Rev. B 45, 8334 (1992). [3] Le, et al., Phys. Rev. A 80, 013401 (2009). [2] 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). [6] In preparation of publication.

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