Abstract Submitted
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**Electronic localization effects in time-resolved photoelectron spectroscopy from Cu(111) surfaces**[1] MARCELO AMBROSIO, UWE THUMM, Kansas State University — Attosecond photoelectron spectroscopy allows the observation of electronic processes with attosecond time resolution (1 as = $10^{-18}$ s). Recent applications to solid surfaces and isolated nanoparticles [1-5] are starting to allow the scrutiny of electronic dynamics in matter with added spatial resolution, probing the electronic band structure and dielectric response in nanoplasmonically enhanced light-induced [6]. Based on a quantum-mechanical model for photoelectron emission by an attosecond pulse train from the *d*-band of a Cu(111) surface into a delayed assisting laser pulse [5], we calculate two-pathway two-photon interferograms as functions of the photoelectron energy and pulse delay [7]. Our results characterize the dependence of photoelectron interferograms on the surface electronic structure and photoelectron transport and agree with the experimental spectra in Ref. [4]. [1] U. Thumm *et al.*, Fundamental of Photonics and Physics, Vol. 1, (Wiley, New York, 2015). [2] R. Locher *et al.*, Optica **2**, 405 (2015). [3] Z. Tao *et al.*, Science **353**, 62 (2016). [4] M. Lucchini *et al.*, Phys. Rev. Lett. **115**, 137401 (2015). [5] M. J. Ambrosio and U. Thumm, Phys. Rev. A **94**, 063424 (2016). [6] J. Li *et al.*, Phys. Rev. A **95**, 043423 (2017). [7] M. J. Ambrosio and U. Thumm, Phys. Rev. A **96**, 051403 (2017).

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