

Abstract Submitted
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Plasmonic-field reconstruction with atomic spatiotemporal resolution.¹ ERFAN SAYDANZAD, JIANXIONG LI, UWE THUMM, Kansas State University — We propose schemes for reconstructing induced plasmonic fields at the surface of isolated nanoparticles from infrared-streaked extreme-ultraviolet photoemission spectra with sub-femtosecond temporal and sub-nanometer spatial resolution. We image the plasmonic fields using both quantum-mechanical [1] and a classical [2] models that are valid for different ranges of laser and XUV-pulse parameters. The applicability of each method will be discussed for different pulse characteristics. Our numerical applications to Au nanospheres demonstrate highly accurate plasmonic field retrievals. [1] J. Li, E. Saydanzad, and U. Thumm, Phys. Rev. Lett. 120, 223903 (2018). [2] E. Saydanzad, J. Li, and U. Thumm, Phys. Rev. A 98, 063422 (2018).

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Uwe Thumm
Kansas State University

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