Abstract Submitted
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Resonant Anisotropic Emission in Checkerboard RABBITT Spectroscopy[1] BEJAN GHOMASHI, NICOLAS DOUGUET, Dept. Physics, Univ. Central Florida, FL, USA, LUCA ARGENTI, Dept. Physics and CREOL, Univ. Central Florida, FL, USA — A variant of RABBITT pump-probe spectroscopy [1] in which the attosecond pulse train comprises both even and odd harmonics of the fundamental IR probe frequency [2] is explored to measure time-resolved photoelectron emission in systems that exhibit autoionizing states. It is shown that the group delay of both one-photon and two-photon resonant transitions is directly encoded in the energy-resolved photoelectron anisotropy as a function of the pump-probe time-delay. This principle is illustrated for a 1D model with symmetric zero-range potentials that supports both bound states and shape resonances. The outcome of a RABBITT experiment for this system is computed analytically, using second-order perturbation theory [3], as well as numerically, by solving the time-dependent Schrödinger equation on a grid. [1] P. M. Paul et al., Science, 292, 1689 (2001). [2] G. Laurent et al., Phys. Rev. Lett. 109, 083001 (2012). [3] Á. Jiménez Galán et al., Phys. Rev. Lett. 113, 263001 (2014).

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