

Abstract Submitted
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Time-dependent local density approximation study of attosecond time delays in the photoionization of xenon.¹ MAIA MAGRAKVELIDZE², Northwest Missouri State University, Maryville, USA, MOHAMED MADJET, QEERI, Hamad Bin Khalifa University, Doha, Qatar, HIMADRI CHAKRABORTY, Northwest Missouri State University, Maryville, USA — We investigate Wigner-Smith (WS) time delays of the photoionization from various subshells of xenon using the time-dependent local density approximation (TDLDA) [1] with the Leeuwen and Baerends exchange-correlation functional. At the 4d giant dipole resonance region as well as near all the Cooper minimum anti-resonances in 5p, 5s and 4d photoemissions, effects of electron correlations uniquely determine the shapes of the emission quantum phase. The Wigner-Smith time delay derived from this phase indicates significant variations as a function of energy. The results qualitatively support our TDLDA predictions at the fullerene plasmon region [2] and at 3p Cooper minimum in argon [3], and should encourage attosecond measurements of Xe photoemission via two-photon interferometric techniques, such as RABITT. [1] M. E. Madjet et al., PRA 81, 013202 (2010); [2] T. Barillot et al., PRA 91, 033413 (2015); [3] M. Magrakvelidze et al., PRA 91, 063415 (2015).

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