

Abstract Submitted
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Angle-dependent ionization time delay in the neon $2s \rightarrow np$ resonance series S. BANERJEE, Georgia State University, P. C. DESHMUKH, IIT-Tirupati, V. K. DOLMATOV, U. North Alabama, A. S. KHEIFETS, Australian National U., S. T. MANSON, Georgia State U. — Time delay in photoionization has acquired much attention of the research community and this field has developed very rapidly in the past decade [1, 2]. The interference between more than one ionization channels from the same initial state gives rise to the angular dependence of photoemission time delay [3]. The time-delay of the Ne $2s \rightarrow np$ resonances using the relativistic-random-phase approximation (RRPA) [4] and the relativistic multichannel quantum defect theory (RMQDT) [5] formalisms have been studied recently [6] and dramatic variations were found across each resonance profile with both positive and negative time delay exhibited across each resonance. Using the same methodology, the present study explores the angular dependence of time delay in the region of the resonances. [1] M Schultze *et al*, *Science* **328**, 1658 (2010). [2] K Klünder *et al*, *PRL* **106**, 143002 (2011). [3] A Kheifets *et al*, *Phys. Rev. A* **94**, 013423 (2016) [4] W. R. Johnson, C. D. Lin, *Phys. Rev. A* **20**, 964 (1979) [5] C. M. Lee, W. R. Johnson, *Phys. Rev. A* **22**, 979. [6] P. C. Deshmukh, A. Kumar, H. R. Varma, S. Banerjee, S. T. Manson, V. K. Dolmatov, A. S. Kheifets (submitted).

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