

Abstract Submitted
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Nondipole effects in the vicinity of core-excited dipole and nondipole resonances at low photon energy: experiment and theory B. KRAESSIG, E. P. KANTER, S. H. SOUTHWORTH, Argonne National Lab., R. WEHLITZ, U. Wisconsin-Madison, V. K. DOLMATOV, U. North Alabama, S. T. MANSON, Georgia State U. — Nearly two decades ago, calculation predicted that the first-order nondipole photoelectron angular distribution parameters for the Ne 2p cross section show significant variation in the vicinity of both the nondipole $2s \rightarrow 3d$ resonance, as well as near the dipole $2s \rightarrow 4p$ resonances [1]. In order to test the accuracy of these theoretical predictions, measurements of the first-order nondipole parameters have been performed. The comparison shows quite good agreement between theory and experiment and theory convoluted with the experimental width for the structure of the of the nondipole parameters in the neighborhoods of the resonances. However, there is some experimental difficulty ascertaining the background, nonresonant values of the nondipole parameters. This problem is still being investigated. The physics of why the parameters vary at both nondipole and dipole resonances will be discussed. [1] V. K. Dolmatov and S. T. Manson, Phys. Rev. Lett. **83**, 939 (1999).

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