Abstract Submitted
for the DAMOP08 Meeting of
The American Physical Society

Photoionization of Variable-Size Rare Gas Clusters[1] H. ZHANG, Phys. Dept. WMU, MI, D. ROLLES, Z.D. PESIC, ALS, LBNL, CA, J.D. BOZEK, N. BERRAH, Phys. Dept. WMU, MI — The electronic structure of variable-size rare gas clusters was studied using angle resolved photoelectron spectroscopy. Photoelectron spectra subsequent to the photoionization of valence and core levels of different-size (60-5000 atoms) clusters have been measured. The photoelectron angular distribution parameters as a function of photon energy and cluster size have been determined. Particularly, the angular distribution parameters of the two-spin orbit components for Xe 5p, 4d, Kr 4p, 3d, Ar 2p have been obtained. The results demonstrate that the photoelectron angular distributions of the clusters are more isotropic than those of the corresponding free atoms, for the photon energy right above the corresponding thresholds. For the valence electrons, differences between the two spin-orbit components in Ar, Kr clusters were found. For Ar clusters, the photoelectron angular distributions of the 3p and 3s valence levels were also obtained.

[1]Work supported by DOE, BES.

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Date submitted: 31 Jan 2008 Electronic form version 1.4