ANION PHOTOELECTRON ANGULAR DISTRIBUTIONS: ELECTRON SCATTERING RESONANCES IN PHOTODETACHMENT

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To a large degree the photoelectron angular distributions (PAD) of anionic species represent signatures of the bound parent orbital. However, these angular distributions are also influenced by interaction of the outgoing electron with the neutral (atomic, molecular or cluster) residue. The electron kinetic energy evolution (eKE) of the PAD is presented for a number of different species (from molecular to cluster anion), showing the often striking effect of excitation of temporary excited anionic states. These cases highlight the influence of different types of electron-molecule scattering resonances in photodetachment dynamics. Additionally, the possibility of using the eKE evolution of the PAD for structural elucidation is discussed.