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Photoionization of C_{60} Well Above Threshold[1] STEVEN MANSON, Georgia State University, AURORA PONZI, Institut Ruder Boskovic, PIERO DECLEVA, Universita di Trieste — Calculations of the photoionization cross section and asymmetry parameter, β, are performed at the density functional (DFT) and time dependent density functional (TDDFT) levels for all 32 valence levels of C_{60} well above threshold for the isolated molecule in icosahedral symmetry with the aim of delineating how these cross sections fall off with energy. An accurate description of the molecular structure is required because the dipole matrix element must be generated close to a carbon nucleus at the higher energies to satisfy the conservation of momentum; model jellium potentials, which are useful at the photon energies near threshold, are not accurate at the higher energies. Included in the rich phenomenology exhibited by the results is the observation that confinement resonances extend out at least to 1 keV for virtually all of the valence levels.

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