

Abstract Submitted  
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**Photoionization of onion-type endohedrals** MIRON AMUSIA, Hebrew University, Jerusalem, Israel and Ioffe Physico-Technical Institute, St. Petersburg, Russia, LARISSA CHERNYSHEVA, Ioffe Physico-Technical Institute, St. Petersburg, Russia, EVGENIY LIVERTS, Hebrew University, Jerusalem, Israel — We developed a program that permits to treat endohedral atoms with two fullerenes shells and performed corresponding calculations for Ar atom stuffed inside two spherically symmetric shells that consists of sixty and two hundred forty carbon atoms. To describe the action of the C60 shell upon the photoionization of an atom located inside the fullerene, the zero-thickness (“orange skin”) potential model was extensively used. This simple model permits to present the results of C60 action as an oscillating factor that permits to present all characteristics of the endohedral photoionization as corresponding atomic characteristic multiplied by the above-mentioned factor. This model potential is valid only for slow photoelectrons, the wavelength of which is much bigger than the thickness of the C60 shell. It is necessary also that the radius of C60 exceeds considerably the thickness of C60. We derived analytic expressions for the factor that takes into account both shells of an onion-type fullerene. Concrete calculations are performed for Xe atom stuffed into the onion-type structure –Ar@C60C240. The induced oscillations of the photoionization cross-section became much more complex and stronger than in Ar@C60.

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