

Abstract Submitted
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High suppression in strong-field ionization of laser-irradiated molecule C₆₀ VLADIMIR USACHENKO, Institute of Applied Physics, National University of Uzbekistan, Tashkent, 100174, Uzbekistan, VYACHESLAV KIM, Institute of Ion-Plasma and Laser Technologies, Tashkent 700125, Uzbekistan, PAVEL PYAK, Physics Department, National University of Uzbekistan, Tashkent, 100174, Uzbekistan — We report about the results of our theoretical study of strong-field (multiphoton) above-threshold ionization (ATI) in laser-irradiated carbon fullerene molecule C₆₀ under condition of relevant experiment [1]. The problem is addressed within the *velocity-gauge* (VG) formulation of molecular *strong-field approximation* (SFA) [2] essentially exploiting the *density-functional-theory* (DFT) method for numerical composition of initial (laser-free) molecular state using the routines of GAUSSIAN-03 code [3]. The results of our present VG-SFA calculation demonstrate that ionization of C₆₀ is to be highly suppressed and reaches saturation at laser peak intensity $I \approx 2 \times 10^{14} W/cm^2$, in a perfect consistence with relevant experiment [1].

[1] M. Tchapyguine *et al.* J. Chem. Phys. **112**, 2781 (2000)

[2] V. I. Usachenko *et al.* Phys. Rev. A **79**, 023415 (2009)

[3] M. J. Frisch and J. A. Pople. **Gaussian-03, Revision A.1** (Gaussian, Inc., 2003 Pittsburgh, PA)

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