

Abstract Submitted  
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**Two-photon above-threshold ionization of atoms**<sup>1</sup> N.L. MANAKOV, S.I. MARMO, S.A. SVIRIDOV, Voronezh State University, Russia — Two-photon ionization of alkali atoms by laser photons with above-threshold energies ( $\hbar\omega > |E_0|$ ) is investigated. We use the Fues model potential (FMP) for an optical electron and Sturmian expansion for the FMP Green function. The convergence of Sturmian series for radial matrix elements of two-photon bound-free transitions is achieved by using the  $\epsilon$ -algorithm (a numerical version of Pade-approximation). Such an approach allows one to calculate above-threshold ionization cross-sections over a wide range of photon energies above the threshold. The accuracy of numerical calculations is controlled by an independent calculation for the amplitude of stepwise transitions to the continuum (which are determined by the imaginary part of the FMP Green function) and by an analytical study of the “low-frequency” (near-threshold) limit. Similar calculations are performed also for rare gas atoms.

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