

Abstract Submitted
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Electron angular distributions and circular dichroism effects for double photoionization of polarized atoms¹ N.L. MANAKOV, A.V. MEREMIANIN, Voronezh State University, Russia, ANDREI Y. ISTOMIN, ANTHONY F. STARACE, University of Nebraska-Lincoln — We consider double photoionization (DPI) of a polarized He atom that is in the $n^{1,3}P$ -state. For the axially-symmetric polarized $n^{1,3}P$ -states and an arbitrary polarization of the photon beam, we have derived *ab initio* parametrizations for the transition amplitude and triply differential cross section (TDCS) in terms of scalar products of vectors that enter this problem. As follows from these parametrizations, a non-zero circular dichroism (CD) effect in DPI of a polarized atom exists even at equal energy sharing, in contrast to DPI from unpolarized atoms. Lowest-order perturbative account of electron correlations in the final state, combined with variational account of electron screening in the $2^{1,3}P$ -states, is used to analyze the TDCS and CD quantitatively.

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Andrei Istomin
University of Nebraska-Lincoln

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