Abstract Submitted
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Atomic strong-field physics using TDCIS[1] PHAY HO, Argonne National Laboratory — We present an implementation of the time-dependent configuration interaction singles (TDCIS) method for treating atomic strong-field processes. In order to remove the photoelectron wave packet at the end of the spatial grid, we add to the nonrelativistic many-electron Hamiltonian a radial complex absorbing potential (CAP). We determine orbitals by diagonalizing the sum of the Fock operator and the CAP using a radial pseudo-spectral grid combined with spherical harmonics. Using the TDCIS wave packet, we examine electronic channel-coupling effects in strong-field ionization and high-order harmonic generation. We present three alternate forms high-order harmonic spectra, based on dipole moment, dipole velocity and dipole acceleration, for noble gas atoms.

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Phay Ho
Argonne National Laboratory

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