

Abstract Submitted
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Selection rules in few photon double ionization¹ HONGCHENG NI, SHAOHAO CHEN, JILA and Department of Physics, University of Colorado, 440 UCB, Boulder, CO 80309-0440, CAMILO RUIZ, Departamento de Fisica Aplicada, Universidad de Salamanca, E-37008 Salamanca, Spain, ANDREAS BECKER, JILA and Department of Physics, University of Colorado, 440 UCB, Boulder, CO 80309-0440 — We performed numerical simulations using a 3D model for He atom interacting with an intense ultrashort laser pulse. The results of our numerical simulations reveal a selection rule in few photon double ionization, namely in N -photon processes (with N odd) the two ionized electrons cannot be emitted back-to-back, while this is allowed when N is even. Furthermore, the difference between momentum space wavefunction projected onto plane waves and projected onto Coulomb wavefunction for the correlation between the two electrons is investigated.

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