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Double Ionization

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broad applications, such as quantum coherent control.

Physics > Atomic Physics

(Submitted on 8 Jul 2011)

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Multiphoton Rabi Oscillations of Correlated

With quantum calculations, we have investigated the multiphoton nonsequential double ionization of helium atoms in intense laser fields at ultraviolet wavelengths. Very surprisingly, we find a so-far

unobserved double-circle structure in the correlated electron momentum spectra. The double-circle

supported by the oscillating population of a certain doubly excited state and by the oscillating double

electronic correlations and complicated multiphoton phenomena and is expected to be a new tool for

ionization signals. This two-electron multiphoton Rabi effect provides profound understandings of

structure essentially reveals multiphoton Rabi oscillations of two electrons, which are strongly

Electrons in Strong Field Nonsequential

Submission history

From: Peixiang Lu [view email] [v1] Fri, 8 Jul 2011 16:10:05 GMT (940kb)

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