

Abstract Submitted  
for the DAMOP18 Meeting of  
The American Physical Society

**Strong-field ionization control via adiabatic passage** ULF SAALMANN, JAN-MICHAEL ROST, Max Planck Institute for the Physics of Complex Systems — It is shown that rapid adiabatic passage, an almost perfect coherent population transfer by means of chirped pulses, can be extended to transitions into the continuum. In contrast to the traditional scheme, hereby, the chirp serves as a control parameter that allows to switch between excitation and ionization with very high contrast. The underlying mechanism of this new control scheme for strong laser pulses is discussed in detail. Extensive calculations for atoms show that this scheme is efficient and robust. Due to locking to either of the two adiabatic states and the essentially different coupling to the continuum, contrasts as large as 80 % can be reached by simply reversing the chirp.

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Date submitted: 07 Feb 2018

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