

Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Demonstration of high harmonic plateau supercontinuum driven by a 6.5 fs/800 nm laser field YINGHUI ZHENG, ZHINAN ZENG, HUI XIONG, RUXIN LI, ZHIZHAN XU, State Key Laboratory of High Field Laser Physics, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, YAN PENG, XUAN YANG, HEPING ZENG, State Key Laboratory of Precision Spectroscopy, East China Normal University — Isolated attosecond pulses in the plateau region have been demonstrated by using nearly single-cycle laser pulses. However, so far the single-cycle laser pulses is not available for most of the laboratories. Recently, several methods have been put forward for generating isolated attosecond pulses using longer laser pulses. In our work, we demonstrate experimentally the high harmonic plateau supercontinuum driven by a 6.5 fs, 800 nm phase-stabilized laser pulse due to the successful selection of single quantum path of the returning electrons. The high harmonic generation is controlled on the basis of the big difference of ionization between the adjacent half optical cycle of ultrashort driving laser pulses. Moreover, we predict the possibility to generate isolated 100 as pulses using a driving laser pulse longer than 2 cycles.

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Date submitted: 01 Dec 2009

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