

Abstract Submitted
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Resonant enhancement of single attosecond pulses by time-delayed control field¹ WEI-CHUN CHU, CHII-DONG LIN, Kansas State University — An attosecond coherent control scheme is theoretically investigated. An XUV single attosecond pulse propagates through a dense helium gas medium dressed by a time-delayed laser pulse. The laser pulse in the intensity range 10^{12} - 10^{13} W/cm² couples the $2s2p(^1P)$ and $2s^2(^1S)$ resonances while the weak XUV pulse excites the former from the ground state. By tuning the dressing field specifically, we demonstrate an enhancement of the XUV pulse at the resonance energy up to 50% of the input intensity, which exemplifies the reshaping of a broadband attosecond pulse controlled by an ultrashort laser for the first time.

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Wei-Chun Chu
Kansas State University

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