

Abstract Submitted
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Effect of Carrier Envelope Phase On Attosecond Two-Slit Interference MAHENDRA M SHAKYA, S. GILBERTSON, C. LI, E. MOON, C.M. NAKAMURA, J. TACKETT, H. MASHIKO, Z. CHANG — High order harmonics generated by polarization gating have been experimentally demonstrated to be sensitive to the carrier envelope phase. Supercontinuum extreme ultra violet spectra generated by the polarization gating method were mapped for several minutes while changing the thickness of a fused silica plate on the beam path while the CE phase the amplifier and the oscillator were locked. A shift in the XUV spectra associated with appearance of suppercontinuum at pi radian spacing was observed when the gate width was made narrower than one optical cycle. The supercontinuum can be interpreted as a result of emission of a single electron and ion re-collision. When the polarization gate width was wider, only the XUV shift showed up with respect to the change in the CE phase in absence of continuum spectra as in this case, only the emission of many electron-ion re-collisions persist. In either case the XUV spectra observed to be shifted toward increasing photon energy when relative CE phases increases. Observed changes in the orientation of the CE phase affected XUV spectra when the gas cell was moved along the confocal distance can be accounted for the effect of the Guoy phase shift.

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