

Abstract Submitted
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Time Reversing High Harmonic Generation: Towards table top XUV spectroscopy CARLOS TRALLERO-HERRERO, Joint Attosecond Science Laboratory, Ottawa, Canada, BRUNO SCHMIDT, INRS-EMT, Varennes, Canada, ANDREW SHINER, Joint Attosecond Science Laboratory, Ottawa, Canada, JEAN-CLAUDE KIEFFER, INRS-EMT, Varennes, Canada, PAUL CORKUM, Joint Attosecond Science Laboratory, Ottawa, Canada, FRANCOIS LEGARE, INRS-EMT, Varennes, Canada, DAVID VILLENEUVE, NRC, Ottawa, ON — We produce high harmonics in atoms and molecules with a few cycle 1800nm source. Due to the long wavelength of the driving field we are able to extend the maximum energy of the emitted XUV photons in low ionization potential atoms to reveal new features in the harmonic structure. In molecules, due to the small energy spacing between harmonics and the few cycle nature of our laser source, we are able to distinguish very sharp features in the harmonic spectrum. Such features can be traced back to the recombination dipole moment which is a time reversal of the photo-ionization dipole. This assumption is confirmed by direct comparison with the photo-ionization cross section.

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