IQSE AMO QO Seminar Series

Tuesday, December 8th, 11:30 am ZOOM & IQSE seminar room (MPHY 578)

Pizza will be served for IQSE members at 11:00 am. The talk will start around 11:30 am

Eugene Frumker

Ben-Gurion University of the Negev, Beer-Sheva, Israel

Space-time coupling in femtosecond and attosecond science

EVENT DETAILS: Space-time reconstruction of the femtosecond and attosecond pulses is critical to both science and technology. Hitherto most research work in the field implicitly or explicitly assumed that the ultrafast pulse waveforms are space invariant.

I will present SWORD (Spectral Wavefront Optical Reconstruction by Diffraction)- a powerful technique for complete space-time reconstruction of the attosecond pulses. Using SWORD, we have discovered that attosecond pulse duration significantly varies across the beam. Measurement of spectrally resolved wavefronts along with temporal characterization at one single point in the beam enables complete space-time reconstruction of attosecond pulses.

I will also present a new approach for space-time calculation of the carrier-envelope phase (CEP) within a focal volume. Using this approach, we find a significant variation of CEP in the focal volume of refracting focusing elements and accurately calculate its value. I will discuss the implications of these enabling capabilities to ultrafast science and technology.

ZOOM information:

https://tamu.zoom.us/j/98156251523?pwd=QVdSdGxtL1UyY0g1L083SU5QR0QrUT09

Meeting ID: 981 5625 1523
Passcode: 297578

One tap mobile
+13462487799,,98156251523# US (Houston)
+16694449171,,98156251523# US