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Attosecond pulses from long wavelength sources: characterization and utilization JONATHAN WHEELER, RAZVAN CHIRLA, CHRISTOPH ROEDIG, STEPHEN SCHOUN, GILLES DOUMY, LOUIS DIMAURO, PIERRE AGOSTINI, The Ohio State University — We demonstrate the generation of attosecond pulse trains (APTs) from high harmonics of Ti:Sapphire (800 nm) and OPA-produced MidIR (1300 – 2200 nm) fundamental driving wavelengths in a new apparatus capable of performing typical pump/probe experiments between a laser pulse of the fundamental and its harmonic APT. Both beams are overlapped spatially and temporally in a magnetic bottle electron time-of-flight spectrometer allowing for measurements with high collection efficiency and energy resolution for the photoelectrons produced. We are further characterizing such features as spectral amplitude and phase of the attosecond harmonic bursts produced at longer fundamental wavelengths while also utilizing them in imaging and photo-ionization studies. Current progress and experimental results will be presented.

Jonathan Wheeler
The Ohio State University

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