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**Tailoring attosecond pulses for coherent control of electron dynamics.**[1] GUILLAUME LAURENT, BRADY UNZICKER, SPENSER BURROWS, MORGAN TATUM, JOHN VAUGHAN, TREVOR HART, DAVIS ARTHUR, PATRICK STRINGER, Auburn University — The recent advent of attosecond pulses of light offers new opportunities for controlling quantum dynamics in matter down to the natural timescale of electron motion. So far, attosecond control of electron dynamics has been mostly achieved with pump/probe schemes where an attosecond pump pulse triggers a given electronic process and a phase-locked femtosecond probe field is used to steer its dynamics. The dynamical system under scrutiny is thus controlled by varying the time delay between the two pulses. In this work, we show that electron dynamics can also be controlled by shaping the temporal profile of the attosecond pulse. We present details on our experimental procedure to control the photoelectron emission from atoms along the polarization direction of the ionizing field.

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