

Coherent control by polarization-shaped laser pulses is combined with direct three-dimensional detection via tomographic reconstruction. In our experiments polarization-shaped laser pulses are used to manipulate the energy distribution and the angular momenta of an electron wave packet. An experimental technique for accurate three-dimensional reconstruction of those shaped free electron wave packets based on Photoelectron Angular Distributions (PADs) is presented. In addition, we show, that optimized polarization-shaped laser pulses to generate predefined target PADs can be found. The shapes of the "electron sculptures" resulting from this complex light-matter interaction are both varied and complex highlighting the enormous potential of polarization-shaping as a tool for three-dimensional coherent control.