Abstract Submitted
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Coulomb Explosion Imaging with Shaped Pulses[1] Z. WANG, G.Y. CHEN, G. MINKER, S. IACANGELO[2], W.T. HILL, III, University of Maryland — Pulse shaping has wide application from coherent control of chemical reactions to quantum computing. We have built a system capable of creating and characterizing optimized pulse shapes with large bandwidths – $>$ 25 nm. Phase and amplitude shaping are controlled with a liquid crystal spatial light modulator (SLM) while a combination of spectral interferometry techniques – FROG, SPIDER, and SEA TADPOLE – are exploited to reconstruct the temporal and spectral phase along with the amplitude of the electric field. Optimized shapes are generated via closed-loop feedback, enabled by a Genetic Algorithm (GA). This poster outlines the application of the GA in combination with Coulomb explosion imaging of small molecular systems.

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