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Control over the Dissociation of Highly Excited Oxygen in Attosecond XUV Pump- IR Probe experiments[1] HENRY TIMMERS, NIRANJAN SHIVARAM, ARVINDER SANDHU, University of Arizona — We present results on the phase and amplitude control over the photodissociation yield of O_2^+ in a pump-probe experiment. Using an attosecond pulse train, we create excited state wavepackets along both the B and c state pathways of O_2^+. We use a two-IR pulse probe to steer the wavepacket. By tuning the excitation spectrum and phase between the two IR pulses, we find we can modulate the dissociated O^+ yield with the frequency of IR intensity modulation and control the phase difference between the two dissociation pathways.

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