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Critical Points in the Strong Field Ionization of Small Molecules[1]

GEORGE GIBSON, HUI CHEN, DALE SMITH, University of Connecticut — We have measured the strong field ionization of diatomic iodine molecules as a function of wavelength and internuclear separation. The latter was done by launching a wavepacket on the B-state of iodine and probing the ionization as a function of time delay. In both wavelength and time delay, we find critical points where the ionization increases significantly. All of the results are consistent with ionization from deep sigma orbitals and resonant interactions. We present a unified view of the strong field ionization of diatomic molecules.

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George Gibson
University of Connecticut

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