CREATING AND PROBING COHERENT ATOMIC STATES[1]

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Presented is a brief review of recent experimental and theoretical time-resolved studies of the evolution of atomic wavepackets, in particular, wavepackets comprising a superposition of very high-lying Rydberg states that are created either using a short half-cycle pulse (HCP) or by rapid application of a DC field. The properties of the wavepackets are probed using a second HCP that is applied following a variable time delay and which ionizes a fraction of the atoms, much like a passing-by ion in atomic collisions.

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