



Mechanism of delayed double ionization in a strong laser field

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When intense laser pulses release correlated electrons, the time delay between the ionizations may last more than one laser cycle. We show that this "Recollision-Excitation with Subsequent Ionization" pathway originates from the inner electron being promoted to a sticky region by a recollision where it is trapped for a long time before ionizing. We identify the mechanism which regulates this region, and predict oscillations in the double ionization yield with laser intensity.

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