

Abstract Submitted
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Attosecond light pulse induced photo-association JAN M. ROST, PAULA RIVIERE, Max Planck Institute for the Physics of Complex Systems, CAMILO RUIZ, Imperial College — We explore stimulated photo-association in the context of attosecond pump-probe schemes of atomic matter. An attosecond pulse – the probe – is used to induce photo-association of an electronic wave packet which had been created before, typically with an attosecond pump pulse at an atomic center different from the one of photo-association. We will show that the electron absorption is maximal for a certain delay between the pulses. Two ways of enhancing and controlling stimulated photo-association are proposed, namely using an additional infrared pulse to steer the electronic wave packet and using a train of attosecond pulses instead of a single pair. A direct application of ultrafast stimulated photo-association is the measurement of atomic distances.

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