

Disentangling Fundamental Processes of a Two-Level Wave Packet in Attosecond Transient Absorption Spectroscopy

Attosecond transient absorption spectroscopy is used to study electron dynamics with the aim of unravelling ultra-fast phenomena in atoms and molecules. The absorption of a two-level wave packet coupled to both bound and continuum states is studied theoretically by the construction of an analytical model. This allows for disentanglement of fundamental absorption and emission processes of resonant and non-resonant nature. The model is found to be in agreement with numerical simulations conducted by solving the time-dependent Schrödinger equation.

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