

# Quantum Electron Dynamics in Ultrafast Laser Fields

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With advances in ultrafast spectroscopy come the need to create methodologies to describe phenomena that occur in the relevant attosecond time scale. Quantum effects play a significant role in this regime, and full dynamic modelling of spin trapping can be important. Time-dependent configuration interaction provides a suitable approach to address quantum effects, with a natural multireference framework and proper representation of spin. Our recent advances in the implementation and use of spin-orbit time-dependent configuration interaction (TD-SOCI) are highlighted.