

Measuring Pulse Duration and Time-Dependent Polarisation State of Ultrashort Laser Pulses with the D-Scan Technique

Ultrashort laser pulses with time-dependent polarisation states have applications such as the generation of isolated attosecond pulses and the study of the optical chirality of molecules. In this project, we develop a method to measure the time-dependent polarisation of 6 fs laser pulses with the dispersion scan technique (d-scan). First, the pulses are transmitted through a combination of two quarter-wave plates of different order to generate a time-dependent polarisation state, known as polarisation gate. We demonstrate, via simulations and measurements, that is sufficient to measure three different projections of the electric field with d-scan in order to achieve its complete reconstruction.

Authors: RAAB, Ann-Kathrin; GUO, Chen (Lund University); ARNOLD, Cord (Lund University); DÍAZ RIVAS, Daniel (Division of Atomic Physics, Lund University)

Presenter: DÍAZ RIVAS, Daniel (Division of Atomic Physics, Lund University)

Session Classification: Plenary session

Track Classification: Posters