CFEL SCIENCE

SEMINAR

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Building 49, Seminar Room (108)

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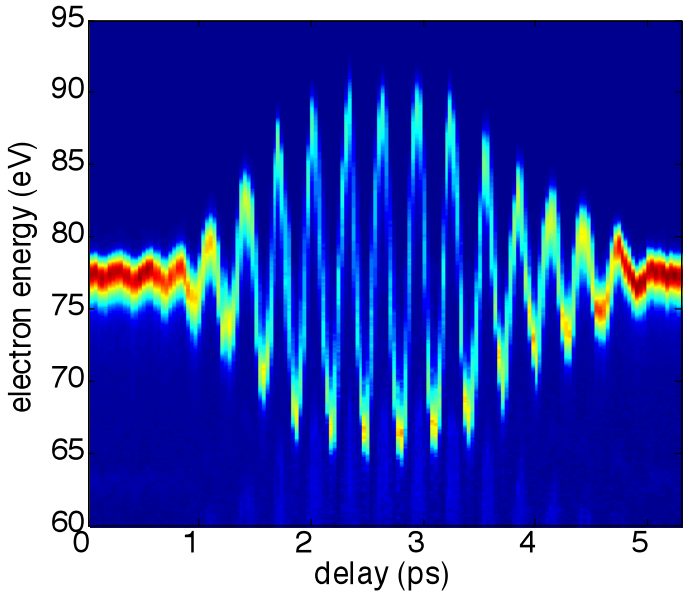
THz streaking for measurement of fs electron dynamics

In light-field streaking experiments the oscillating electric field of a light pulse is used to accelerate photoelectrons whereby the resulting change of the electron momenta depends on the phase of the field at the time of ionization. Thus the ionization time is mapped onto electron energies. This technique is extensively used in attosecond physics where near infrared light pulses are employed to study attosecond processes. By using longer wavelengths in the THz-range we have adapted this technique to the fs range. In a first experiment this technique was used for a single shot characterization of the temporal profile of FLASH XUV pulses. Recently, we have measured a pronounced time dependent energy change (chirp) of Auger electrons. This unexpected finding is a consequence of the correlated motion of photo- and Auger electrons in the Coulomb field of the remaining ion.



Host: Melanie Schnell - CFEL Molecular Physics seminar