CFEL SCIENCE

SEMINAR

1st July, 2015 - 14:00

CFEL-bldg. 99, seminar room I (EG0.076)

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Prospects on the generation of microjoule energy level few-cycle deep and vacuum ultraviolet femtosecond pulses using the guided wave phase-matched four-wave mixing technique

Ultrafast science has experienced great advances in the last decade with the advent of few-cycle visible, near-IR and mid-IR pulses and has also experienced major breakthroughs by means of the generation of attosecond pulses in the XUV and soft X-ray region. Despite these impressive advances in these spectral regions, the generation of high energy, few cycle, and spectral phase manageable deep-UV and vacuum-UV pulses remains a major technological challenge.

Ultrafast dynamics studies at the few-fs and attosecond time scale of atomic, solid state or molecular systems and surface systems can take great benefit from this foreseeable ultrafast source. In this talk I will present the concepts underlying the generation of deep and vacuum UV pulses using the guided wave four wave-mixing technique and discuss the possibility of generation of high-energy, few cycle pulses in this spectral region and how to indirectly control their spectral phase.

Host: Franz Kärtner, CUI seminar