



4th July 2014 - 14:00
CFEL-bldg. 99, seminar rooms I, II, III

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Nonlinear optics with ultra-broadband oscillators

High repetition rate parametric oscillators and amplifiers (OPOs, OPAs) for very short optical pulses profit from the advancement in high power solid-state pump laser technology. In this talk, topical OPA and OPO systems with multi-Watt average powers and sub-10 fs pulses are presented.

Employing (2+1)D nonlinear propagation simulation it is possible to reconstruct the complex spatio-temporal and spectral evolution of the interacting light fields and their mixing products in the gain crystals. Regarding the shortest pulses, challenges in pulse characterization and pulse shaping are addressed as well as some fundamental questions regarding the femtosecond response time of nonlinear phenomena.

