Institute of Applied Physics
Friedrich-Schiller-Universität Jena

Master/bachelor thesis

in the subject area of

Generate very short femtosecond pulses directly from a fiber CPA system

Current high-power fiber CPA systems emit laser pulses with durations in the range of 200-300fs. For many applications, shorter pulse durations are desired and, additionally, the shorter pulses also exhibit higher peak powers while keeping the required pulse energies constant. In order to achieve shorter pulses, the laser amplifier configuration has to be optimized regarding effects like self-phase modulation and gain-narrowing. The stretcher and compressor implementations also have to be setup to support the required spectral bandwidths. Additionally, active amplitude and phase shaping will be employed to generate the shortest possible output pulses.

Please, send your application preferably by email to

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