Contribution ID: **46** Type: **On-site project**

Ultrafast Mode-locked Fiber Laser and Amplifier

The Project is aimed at the construction and characterization of a fiber laser mode-locked with the optical Kerr-effect for the generation of femtosecond pulse trains. The construction of the laser cavity includes the alignment of free-space components such as grating-pairs and collimators as well as the fabrication of a fiber-optic segment with fusion-splicing technology. All the required tools and skills will be taught throughout the course. Once mode-locked, the output of the laser will be characterized with different measurement tools that are widely used in the field of ultrafast optics such as autocorrelator, signal-source-analyzer, RF-spectrum analyzer, optical spectrometer and oscilloscope. Different lengths of the Ytterbium-doped active gain fiber will be implemented to investigate their influence on the laser parameters and the self-starting ability of the system with the goal to find the optimal configuration.

Field

A5: Lasers and optics (methodology oriented)

DESY Place

Hamburg

DESY Division

FS

DESY Group

FS-CFEL-2

Special Qualifications:

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