

Development of Laser Beam Profiler Software

The group FS-LA, Laser Science and Technology, is responsible for the research, development, and operations of laser systems for the large-scale facilities at DESY in Hamburg. The current spectrum of lasers in the group range from low power, high stable mode-locked oscillators up to multi kW ultra-short pulsed laser systems for pump-and-probe experiments at FELs.

Many of those lasers include diagnostics systems to monitor the performance. One key component are cameras to record the position and beam size of the laser beams at different locations. For this purpose industrial cameras integrated into the facility control systems are used.

For the initial setup of those cameras a stand-alone software, including beam profile analysis, is required. As commercial solutions do not interface with our industrial cameras we are looking for a summer student, who is interested in:

- Programming a user-friendly interface to show, process, and analyze images taken with our industrial cameras
 - Work together with our software and electronics team to improve our existing camera server interface to the machine control system to enable beam profile analysis throughout the control system interfaces
 - Set up an experimental test station for qualification of the software to follow ISO 11146 standard
- Working in our multi-cultural team at the FS-LA group will give you a very good inside into the daily business of a large optics and laser research and development group.

Field

A5: Lasers and optics (methodology oriented)

DESY Place

Hamburg

DESY Division

FS

DESY Group

FS-LA

Special Qualifications:

Basic level in programming in Python

Some experience in work with optical systems (lasers and geometrical optics) are a plus

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