

Advanced motion control for multidimensional trajectory movements for photon science instrumentation

While preparing for the bright future with the fourth generation lightsource PETRA IV on the DESY campus we already test and evaluate strategical ingredients for next generation experiment control hard- and software. The here proposed project focusses on motion control and the potential development of a motion control test bench with real hardware involving stepper motors and piezo drives. Depending on the candidate's preferences there are two options. This could become a python focused project to transfer an existing (ESRF developed) software stack to the test bench setup and study how to parametrize complex trajectories and to assure position-based triggering of detectors in continuous scans. A second option would be to work "closer to hardware", by studying different device integration strategies into larger setups e.g. relying on TANGO, EtherCAT and CANopen. In any case this is an interesting and challenging instrumentation project just at the between hard- and software in the field of experiment controls and automation.

Group

FS-EC

Project Category

A4. Development of experimental techniques

Special Qualifications

DESY Site

Hamburg

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