



Organization Instrument Workshop - New instrument for ultrafast spectroscopy of small quantum objects at FLASH1 and FLASH2

Thursday, 26 January 2017

CFEL Bldg. 99, Seminar Room 1

The new URSA-PQ instrument at FLASH has received funding and is planned to enter commissioning phase in 2019. The instrument is designed for pump-probe spectroscopy of diluted samples in the gas phase. Pump and/or probe pulses are optical laser and x-ray laser pulses from FLASH. The instrument is held compact and modular and can be flanged onto different beamlines at FLASH 1 and FLASH 2. We will have a magnetic bottle time of flight spectrometer available capable for taking electron as well as ion spectra. A sample delivery system for powder molecular samples as well as a gas phase effusive beam is included in the project. We want to address a maximal number of users with that instrument and thus keep it as flexible as possible under the baseline funding. We invite the user community to express their scientific ideas and specify instrument extensions, if needed.

Every participant is invited to present a 5min overview of his/her ideas for the instrument.

Organisers: Markus Gühr (Uni Potsdam), Stefan Düsterer (DESY)

Contacts: mguehr@uni-potsdam.de
stefan.duesterer@desy.de

PROGRAMME

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| Session 1: New opportunities at FLASH | | | |
| 13:00 | Welcome | M. Gühr / S. Düsterer | <i>Chair: Stefan Düsterer</i> DESY/Uni Postdam |
| 13:10 | Optical Laser Infrastructure at FLASH 1 and 2 | I. Hartl | DESY |
| 13:30 | Free electron characteristics of FLASH 1 and 2 | S. Schreiber | DESY |
| 13:50 | Beamline characteristics of FLASH 1 and 2 | S. Düsterer | DESY |
| 14:10 | Presentation of instrument capabilities | M. Gühr | Univ. Postdam |
| 14:30 | Discussion | | |
| 15:10 Coffee break | | | |
| Session 2: Scientific opportunities opened by the URSA-PQ Instrument | | | |
| 15:50 | Mapping chemical interaction dynamics with photoelectron spectroscopy at FLASH | Ph. Wernet | <i>Chair: Markus Gühr</i> Helmholz Zentrum Berlin |
| 16:15 | Structure and dynamics of atoms and molecules in different charge states probed by FLASH | R. Feifel | Gothenburg University |
| 16:40 | Two-color investigation of core hole relaxation dynamics in atoms and clusters at FLASH | T. Mazza | European XFEL |
| 17:05 | Opportunities for 5 min presentations and discussions from the user community | | |
| 17:50 | Summary | M. Gühr/ S. Düsterer | Univ. Potsdam/DESY |