BESSY II
Helmholtz-Zentrum Berlin

CALL FOR PROPOSAL 2022/I

The semester 2022/I will start on January 10, 2022 with a Multi Bunch (MB) week and will end on May 1, 2022 (week 2 - 17). It comprises 11 weeks of Multi Bunch, 1 week of Single Bunch, and 1 week of low-alpha. Please find the Operation Schedule online.

During the long shut down (May 9 – July 31 2022), BESSY II will be refurbished with a new 'Niederspannungshauptversorgung' – a new main low voltage supply. User operation will restart after four weeks of overall BESSY II commissioning on August 29, 2022.

In case of any question, suggestions or problems, please do not hesitate to contact us or our beamline or station scientists. Please find the contact data here.

PLEASE NOTE: The travel support in the framework of the European Project CALIPSOplus is ending with October 31, 2021. To our deepest regret there will be no follow up program for the funding of European users.

Follow Up proposal instead of resubmission

A side effect of the pandemic situation was the omission of the call for proposals 2021/1. Consequently, resubmissions have not been possible in the last round (2021/2).
HZB has now decided to drop the unrevised resubmission of unchanged proposals completely.

Starting with this proposal round (2022/1), HZB is offering the new feature **Follow Up** instead. A Follow Up proposal gives the opportunity to continue a previous project for which at least one experiment at BESSY II has already been completed. In order to make use of the Follow Up feature for your upcoming beamtime application in GATE, it is mandatory to supply the proposal number of the former proposal that the new application is referring to during the proposal submission.
The following information must be provided as well:

- A short justification for the Follow Up, highlighting the differences to the former proposal
- The experimental report for the former proposal

New beamlines and experimental stations in user operation

EMIL@BESSY
The soft and hard X-ray branch of the Energy Materials In-situ Laboratory Berlin (EMIL) are available to the general user community for performing experiments at **CAT** and **SISSY**. The hard X-ray branch is restricted to standard (AP-)HAXPES measurements at fixed photon energies up to 10 keV and short energy range XAS in channel cut mode (no EXAFS); thus, experiments exploiting both energy regimes will be preferred in beamtime allocation. Please contact Reagan Wilks (regan.wilks@helmholtz-berlin.de) for SISSY@EMIL and Axel Knop-Gericke (knop@fhi-berlin.mpg.de) for CAT@EMIL for more details.

The **PINK** endstation is open to general users, offering non-resonant XES measurements of solid samples at room temperature (incident photon energies of 3.0 to 9.5 keV; spectrometer energies of 2.1 to 9.0 keV). Please contact Sergey Peredkov (sergey.peredkov@cec.mpg.de) to discuss experimental details prior proposal submission.

MYSTIIC (**M**icroscope for x-ra**Y** **S**canning **T**ransmission **I**n-situ **I**maging of **C**atalysts), the new soft X-ray STXM at EMIL, will be open for general user operation for the first time. It allows spectromicroscopic imaging in the energy range from 250 eV to 1500 eV with a spatial resolution of 25 nm. Note: Performance at Carbon K-edge is subject to upcoming mirror cleaning and cannot be guaranteed. Please contact Markus Weigand (markus.weigand@helmholtz-berlin.de) to discuss experimental details prior to proposal submission.

The **OAESE** (**O**perando **A**bsorption and **E**mission **S**pectroscopy at **E**MIL) endstation will also be open to general users for the first time. XAS measurements of solid/liquid/gaseous samples at room temperature using incident photon energies between 90 eV and 10 keV will be possible. Please contact Raul Garcia Diez (raul.garcia_diez@helmholtz-berlin.de) to discuss experimental details prior proposal submission.

In addition, it is possible to use off-line and preparation tools within the EMIL laboratory. More information can be found on the EMIL webpage.

PEAXIS
A new detector will be mounted at the RIXS spectrometer in 2021/II and will be operational after a decent commissioning time in 2022/I. Please find more details on PEAXIS and contact the station scientists Deniz Wong (deniz.wong@helmholtz-berlin.de) or Maciej Bartkowiak (maciej.bartkowiak@helmholtz-berlin.de) if you are interested in using PEAXIS.

UE112_PGM-1
The refurbishment of the UE112 PGM-1 hosting the meV-RIXS (20 eV to 500 eV) and an open port is completed and the instruments are in user operation. Please contact Karl Bauer (karl.bauer@helmholtz-berlin.de) if you are interested in using the meV-RIXS station or the open port at UE112_PGM-1.

Beamlines and stations with limited availability

BElChem
The BElChem-PGM beamline will only be available for cooperation projects in the up-coming semester.

KMC-1
50% of beamtime at KMC-1 will be used by the SpAnTeX-endstation, offering NEXAFS, EXAFS and XPS at room temperature using incident photon energies from 2 to 12 keV. Please contact David Starr (david.starr@helmholtz-berlin.de) for more details. The time available for users (at, e.g. HiKE endstation) will be significantly limited.

U49/2 PGM-1
At the U49/2 PGM-1 the beam availability will be reduced to 12h/d in order to allow for commissioning of the adjacent U49/2 PGM-2, which is being set up until next summer.

Remote access

The worldwide pandemic of the new corona virus has accelerated the remote access activities at BESSY II. There are different options of remote activities: “reduced experimental team” (the rest of the team may be available via videoconferences), “staff assisted” measurements performed by the BESSY II staff (with sample mail-in) or “fully remote access” where you control the experiment from abroad (also with sample mail-in). Please discuss the possibility of mail-in service and remote access with the respective beamline scientist and/or station manager. The decision if a remote access measurement is possible lies with the beamline scientist and/or station manager. For general questions concerning remote access please refer the webpage or contact Florian Staier (florian.staier@helmholtz-berlin.de).

Radiation Safety Requirements

Since May 2020, most of the experiment hall of BESSY II (i.e. the area outside the outer shielding walls) is not a controlled area but a monitored area. Therefore, you only need to submit your SSR number (PDF certificate from BfS) and wear a personal albedo dosimeter provided by our radiation safety office. **IRIS and THz beamline** remain a radiologically controlled area where more stringent radiation safety requirements apply. For more detailed information please go to Radiation Safety

HZB CoreLab Instruments available in Adlershof and Wannsee

HZB offers a broad variety of off-line tools in the field of X-ray diffraction and microscopy as well as instruments and methods for the synthesis and the investigation of new energy materials. Our X-ray CoreLab is equipped with several advanced diffractometers, suitable for the analysis of powder materials and thin films, also in-situ at high temperatures. Latest-generation electron, scanning electron and ion microscopes are available at the CoreLab CCMS. The CoreLab for Quantum Materials offers various instruments for sample preparation, phase analysis and single crystal growth as well as equipment to measure a wide range of physical properties. For more information visit: HZB CoreLabs

Please note the option to transfer standardized proposals for beamtime submitted via the wayforlight portal into the GATE system: http://wayforlight.eu/en/users/spf/