**Powder Diffraction and Total Scattering Beamline P02.1**

***Guideline for Experiments***

**(Version: 11/2021)**

**General Guidelines for your Experiment at P02.1:**

1. Please ensure that you have declared and registered all your samples as well as external equipment in DOOR at least 4 weeks before your arrival at DESY. This involves, for instance, the following topics:
   1. Registration of participants
   2. Online safety training (for all participants, see also below)
   3. Declaration of substances
   4. Safety concept for your experiment (if required, see also below)
   5. Booking of the chemistry laboratory (if required, see also below)
   6. Booking of your accommodation (e.g., in the DESY hostel)
2. Please note that all participants have to do the online safety training in DOOR. At the very least, you have to complete the modules “Basic instructions” and “PETRA III”. Depending on your experiment, further training modules might be necessary. After this training, you have to print and sign your certificate and send it to the User Office. Otherwise, you will not get access to experimental areas and laboratories.
3. For experiments with external equipment that might be harmful to operators or beamline equipment (e.g. chemicals of all sorts, gases, hot and cold temperatures, high voltages, magnetic fields, etc.), you have to provide a safety concept. This safety concept has to be approved by the beamline staff and the DESY safety group. Safety-related details should be discussed with your local contact as soon as possible. The concept has to be uploaded in DOOR as well as sent to your local contact at least 6 weeks prior to your beamtime.
4. For the preparation of samples, no matter if they are harmful or not, you can use our P02.1 chemistry laboratory. Further information about the P02.1 preparation/chemistry can be found in the supplementary document “Information about the P02.1 chemistry laboratory”. Please note that this also applies to the cleaning of equipment with any kind of solvents. Please note the usage of the chemistry laboratory requires another declaration of substances as well as an extra safety concept.
5. If you bring your own equipment, e.g., your custom-made sample environment, you should provide as much information as possible and as soon as possible. This must It should contain the exact dimension of your environment (preferable with a sketch and/or images) and how you want to mount your environment to the P02.1 diffractometer or sample stages (e.g. on the large sample table, on one of the small sample stages, Huber stage on the diffractometer circle, etc.). We highly recommend that you bring your own adapter plate that fits our positioning systems' holes patterns (please contact your local contact far in advance to discuss the required properties of such an adapter plate). Please also note that each custom-made sample environment requires a safety concept.
6. If you require gases of all kinds, you have to inform your local contact about the type of gas and the amount of gas needed 14 weeks before your experiment, as the gas ordering at DESY takes some time.
7. If the results of your experiment, conducted at P02.1, are published, you have to follow the publication and acknowledgment rules of DESY Photon Science. Please check the guidelines on our F.A.Q. page <https://confluence.desy.de/pages/viewpage.action?pageId=120357102> or on the DESY Photon Science webpage: <https://photon-science.desy.de/users_area/user_guide/publications__acknowledgements/index_eng.html>
8. If you have further questions, you should also visit the beamline webpage <https://photon-science.desy.de/facilities/petra_iii/beamlines/p021_powder_diffraction_and_total_scattering_beamline/index_eng.html> and/or the F.A.Q. of beamline P02.1: <https://confluence.desy.de/display/p021public/P02.1+-+Public+Home>

Further information about the beamline P02.1 can also be found in the publication of Dippel et al. (2015): <https://dx.doi.org/10.1107/S1600577515002222>