

## ***Guidelines for requesting beam time at FLASH during study periods "FEL and photon beamline developments, accelerator R&D"***

You can request beam time at FLASH during FEL and Accelerator study periods. FEL studies are focused on improvements of FLASH as an FEL user facility and on preparation of the next user run block. FEL studies are organized as 2-3 weeks blocks between user blocks. Accelerator studies are dedicated to general accelerator physics studies and developments, including new projects like FLASHForward. Typically one or two 3 weeks blocks per year are reserved for accelerator studies.

In order to obtain beam time at FLASH during the study weeks, you need to submit a beam time request. The request contains two parts: a form with fields to be filled out, and attachment(s) containing more detailed information of your experiment. More details of the form and attachments are given below.

After each beam time block, you need to provide information of achieved results and progress of your experiment. Therefore, you must fill out your beam request form again. In this case, the form has only one text-window. Please, write a short summary of your main achievements into it; this information is used for an overview summary of all experiments carried out during the study block. In addition, you need to attach a file containing more detailed description of your achievements.

After your experiment you will be asked to report on your studies in the FLASH seminar. You are also encouraged to publish your results in a refereed journal. Please, inform head of FLASH accelerator and photon science (S. Schreiber and M. Beye) of all FLASH related publications.

### **Beam Request Form**

The main purpose of the beam request form is to allow an efficient scheduling of the study blocks, and to follow up the studies and experiments carried out at FLASH.

In the header, you are asked to give the title of your experiment and the contact information of the person responsible for it. Please, include also all the other persons involved in the experiment – enter them as a list of e-mail addresses separated by a comma. This is important to ensure that they receive all relevant information, and to avoid possible conflicts when scheduling experiments and operator shifts.

You should also write down the main goals of your experiment for this study block; the form has a text window for this information.

Next step is to define the machine, electron beam and SASE parameters required for your experiment. Most of this information can be handled automatically, if the pre-defined values of the buttons and pull-down menus are used. Therefore, please use, whenever possible, the given options.

The information of the required parameters is used to schedule experiments such that the set-up time between them can be kept as short as possible. If you need special machine conditions, program coordinators (J. Rönsch-Schulenburg) may schedule additional time to setup the machine. Therefore, do not add any contingency for it by yourself. However, this does not mean that the operators or coordinators also prepare the machine for your experiment: this you have to take care by yourself, especially if you require special or unusual settings. In case you need assistance, please add this information to your beam time request and contact program coordinators well in advance.

You should not add to your request any contingency to overcome possible technical problems. Program coordinators follow the operation statistics, and in case that you lose a significant amount of your measurement time due to machine related problems, the lost time is compensated, if required.

You may request beam time for one single block only or extend your request over several blocks. In the latter case, you must provide both the total number of shifts required to complete your experiment and the number of shifts your request for this specific block. Please, give this information in units of 8 hours shifts: we need to know the total beam time, which you request. You can define the length of your shifts by using the second pull-down menu and / or writing it to the text-window reserved for beam time organization wishes. If no preference is given, we assume the standard shift length of 8 hours.

You can also give other wishes concerning the beam time organization, although, due to many boundary conditions, they cannot necessarily be taken into account. In order to avoid scheduling your beam time to time slots, when you or your colleagues are not at DESY, please add this information to the text-window reserved for it. Remember, however, that the more restrictions you give, the more likely it is that we cannot schedule you any beam time.

The form has mandatory fields, which must always be filled out. They are marked red in the form and ask information concerning

- Title of the experiment and the responsible person (for a new experiment)
- Beam mode (gun, undulator, bypass)
- Number of shifts needed for the complete experiment (for a new experiment)
- Number of shifts requested for this specific study period

## Attachments

Three attachments - Overview, Goals, and Achievements - need to be included to the beam time request. The Overview file is submitted only once in the very beginning of the experiment. The two other files must be re-submitted for each beam time block: the Goals-file before the block, and the Achievement-file after it.

The Overview and Goals files appear always on the beam request WEB page. In case of Achievements, you are asked, if you allow your file to be posted onto the WEB page. Also when the Achievements-file is not available on WEB, you need to submit it via the beam request form.

Attachments are not required for maintenance and commissioning tasks. In these cases, you should provide the required information of goals (beforehand) and achievements (afterwards) using text-windows on the form itself. This information is important for us to follow the machine improvements and possible hard/software changes.

Since the attachment files may be handled separately from the beam request forms, please - in order to ensure a correct identification of the files - add always in the beginning of each file the title of the experiment, the responsible person, and, in case of Goals and Achievements, the beam time block.

- **Overview file** is required only, if your experiment runs over several study blocks. It is submitted when you first time request beam time for this experiment. The overview file provides general information of the experiment, including also its ultimate goals and long term perspectives. For experiments requesting beam time only for one or maximal two study blocks, an overview file is not needed: in this case a short description of the experiment and background information should be included to the Goals file.
- **Goals File** should be compact, give detailed information on boundary conditions and required machine parameters, and must also include a shift-by-shift measurement plan for this specific study block. Therefore, it must also be re-submitted for each block. The provided information is used to find out, for example, which experiments can be combined, and which of them should not be scheduled directly after another due to very different machine set-ups or the same personnel required for both experiments.
- **Achievements File** provides information of the results achieved during the specific study block. This information is needed to follow the progress of the experiments, and to report on the performed studies and their results to machine coordinators and directorate, as well as to Beam Time Allocation, Machine Advisory and Photon Science Committees. It should also help you to prepare your next beam request / publication / dissertation: summarizing achievements and results facilitates the planning of the next steps.