NEUTRONS FOR SOCIETY

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Submission of an EASY proposals to the ILL

Introduction

The Easy Access SYstem (EASY) grants beamtime to scientists from ILL member countries, who need a small amount of beamtime, to perform rapidly some measurements (not a full experiment). Access is open all year long, and it is not necessary to go through the ILL standard proposal round and consequent peer review system.

The EASY route has been used to grant limited beamtime on the diffractometer D2B, for short measurements at room temperature. In 2018, EASY access will be **extended to all instruments**, except those in the NPP group, with an increased range of sample environments.
EASY could, for example, be used for: testing samples, completing experiments and performing one-off measurements to contribute to publications.

The users will not be invited to the ILL, but will send their samples to a ILL scientist, who will be responsible for the measurements and sample radiological control. The ILL will ship back the sample once the measurement is finished.

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Some examples of possible EASY use:

- Powder diffraction – diffraction pattern at a particular temperature (one-off measurement & completing an experiment)
- Powder diffraction – measure two samples in a series to see if there is a significant change (testing samples & preparing experiments)
- Single crystal diffraction – test that a crystal diffracts well (Cyclops & OrientExpress - testing samples & preparing experiments)
- QENS – test that a QENS signal will be measurable: elastic scan on IN16b, rapid temperature scans on TOF to measure elastic intensity variation (testing samples & preparing experiments)
- QENS – spectrum at a particular temperature (one-off measurement & completing an experiment)
- SANS – establishing matching points for partially deuterated samples (testing samples & preparing experiments)
- TOF – density of states measurement (one-off measurement & completing an experiment)
- Lagrange – low temperature vibrational spectra (one-off measurement & completing an experiment)

Additional boundary conditions

The boundary conditions for EASY need to be clearly established. These concern, for example, the sample environment conditions (in particular temperature), the number of measurements (or hours of beam time) per cycle or year for a particular user, and the level of support required to perform the experiment.

EASY is intended for straightforward measurements that can be carried out by the Local Contact (LC), the Instrument Responsible (IR), and the instrument technician using standard instrument configurations and sample environments. Experiments requiring additional support from other ILL services or specialist personnel should normally not be considered eligible for EASY access. For example, experiments involving uranium or transuranium samples are generally outside the scope of EASY proposals.

The LC and IR should be as flexible as possible concerning the measurement conditions that are made available. When a cryostat or cryofurnace is already installed on an instrument, the corresponding conditions can be offered. It is clear, however, that dilution refrigerators, high-pressure equipment, and high magnetic fields cannot be used within the EASY framework.

EASY submission and internal approval process

EASY are available on all ILL instruments, including CRG's with ILL beam time, and some additional instruments, in particular Cyclops in the Diffraction group.
Users can apply for EASY beamtime on the User Club web-site.

When submitting an EASY proposal, the user will choose an instrument and LC. The role of the LC is to check the validity of the request e.g. is the measurement part of a proposal that has been rejected or accepted for another, competing group - this would typically be done with the appropriate college secretary. The LC determines whether an EASY can be accepted: he must validate the first step (Review Processes – EASY proposals authorisation).

The LC plays a central role in evaluating, approving, and performing the EASY measurement. However, even if the LC has a pivotal role in the acceptance and execution of the experiment, he/she must always inform the IR. The dates and duration of the measurement must be agreed jointly between the LC and the IR, to ensure proper coordination of instrument schedules.

The IR is informed when the LC validates the first step. He must then schedule the experiment and validate the second step. Once the proposal has been scheduled by the IR, it is electronically approved by Safety.

If the IR and the LC are the same person, both validation steps must still be completed.

For EASY proposals, users are not normally expected to come on site, as samples are sent to the facility and the experiment is carried out remotely. In cases where the presence of the Main Proposer is nevertheless required, they may only register for the EASY proposal once the necessary safety and radioprotection validations have been completed. If the Main Proposer needs to be invited to the ILL, this must be indicated by selecting the corresponding "Invite Main Proposer" option.

When this option is selected, proposers added by SCO, as well as experimenters subsequently added through the invitation interface, may respond to invitations associated with the proposal. However, official invitation letters for proposers can only be generated and sent through the SCO administrative forms.

Since March 2022, when submitting an EASY or TEST proposal in the User Club, the ILL scientist who initiated the beam request has the option to reference a previously approved proposal (including a link to its PDF). This allows the experiment to be scheduled and carried out without additional safety validation, provided that the samples and experimental environment are identical to those of the previously approved proposal.

EASY will be monitored annually and, if necessary, its availability and use will be adapted.