

Concept: The JCNS TEM Laboratory as user facility at the Heinz Maier-Leibnitz Zentrum (MLZ) in Garching

1. Objective

The objective of the JCNS Transmission Electron Microscopy (TEM) laboratory is to offer the preparation and investigation of specimen to users who wish to complement their neutron experiments at the MLZ by using TEM.

Two operation modes are offered:

1. In the collaborative access, in the frame of a neutron scattering experiment at MLZ, the user will take part to the TEM specimen(s) preparation and investigation together with the TEM laboratory scientist.
2. Alternatively, as remote access, the TEM laboratory scientist will investigate the specimen(s) sent by the user prior or left after the neutron scattering experiment.

Room temperature TEM and Cryo-TEM can be considered for both type of access. Cryo-ultramicrotomy, and ultramicrotomy with resin embedding preparation methods are considered only in case of remote access due to long time needed for the specimen preparation.

In addition, the JCNS TEM laboratory provides access to a Light Microscope (LM).

2. Proposal submission

a- The user has to submit a proposal for beam time at the MLZ neutron scattering instrument.

b- The user has to submit an additional proposal form with all relevant TEM specimen preparation information.

The TEM laboratory proposal undergoes a technical feasibility check.

c- The joint proposal will be assessed by the international MLZ review panel

d- The successful proposals have access to the MLZ neutron scattering instrument and the TEM laboratory.

Fig. 1 shows the submission procedure for MLZ proposals including the TEM laboratory option.

Before proposal submission it is mandatory for the user to contact the TEM laboratory scientist in order to discuss the feasibility of the research idea and the required time for TEM investigations.

Proposals submitted without this consultation will not be considered.

Before integration of the JCNS TEM laboratory in the MLZ proposal system in 2015 the concept of the TEM as user facility should be revised according to the experiences during the commissioning phase.

3. TEM technical feasibility check

The TEM laboratory preparation part of the proposal is thoroughly checked with respect to its technical feasibility. The check includes the capability of the TEM laboratory to satisfy the specimen preparation requirements, a time estimation for preparing the specimen, the extent of complementary specimen characterization prior to the measurement at the MLZ neutron scattering instrument, safety and further technical details. The technical feasibility check is performed by the TEM laboratory scientist. The result of the technical feasibility check is reported to the review panel.

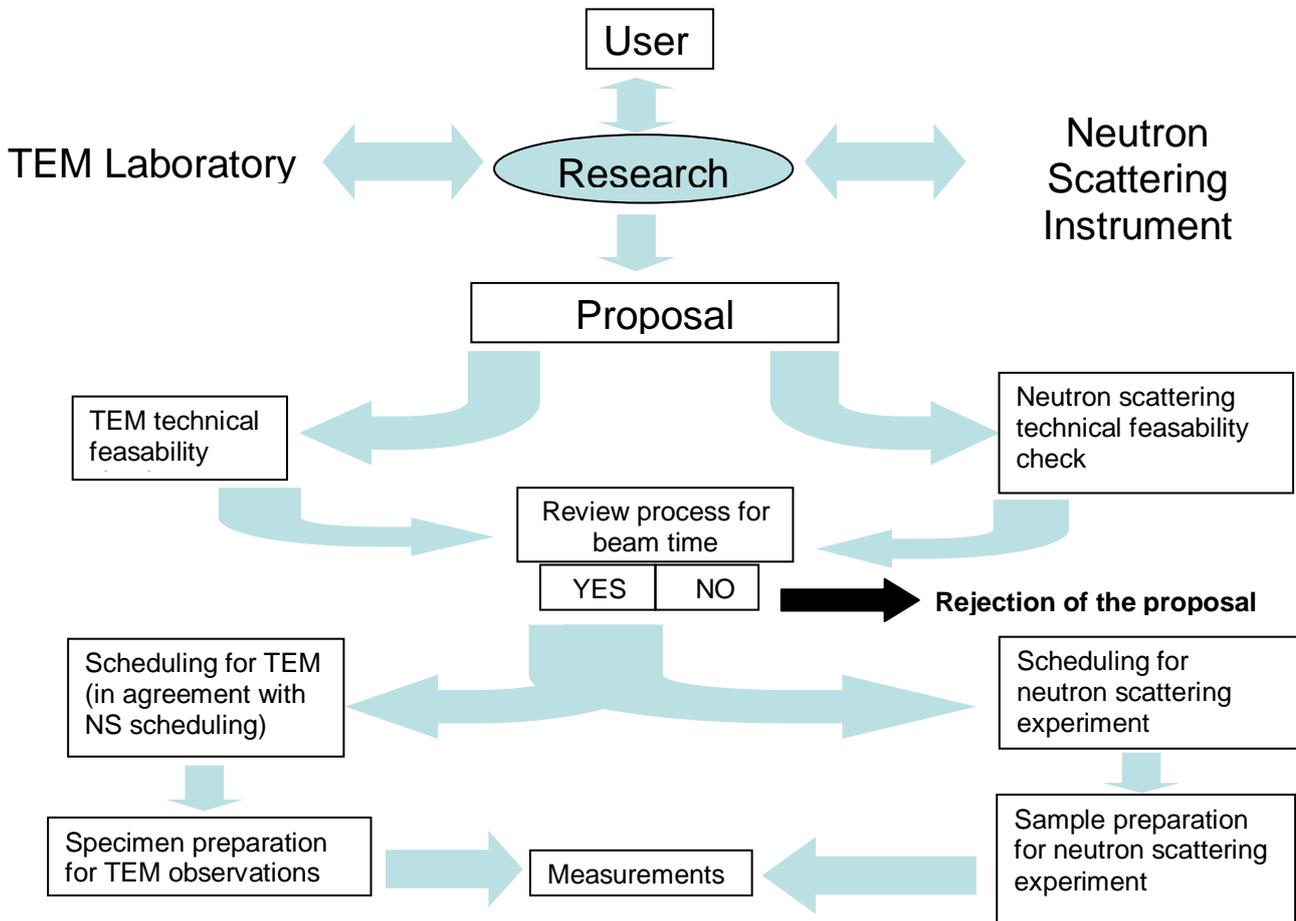


Fig. 1 Submission procedure for MLZ instrument proposals including TEM laboratory option

4. Liability

The JCNS TEM laboratory disclaims any liability.

5. Non-proprietary research

The users of the JCNS TEM laboratory are expected to be academic or industrial scientists and engineers. Their research is expected to be in the public domain and thus the research performed at the TEM laboratory is expected to be disseminated by publication in the open literature. In the case of the use of TEM images for an industrial patent application, specific agreement has to be considered with the JCNS.

There is no charge to the user to access the TEM laboratory capabilities to perform non-proprietary research.

6. Commissioning phase of the JCNS TEM laboratory

During the commissioning phase only room temperature and Cryo-Direct Imaging methods are accepted.

7. Financial support

During the commissioning phase financial support for travel, accommodation and subsistence is not provided.

8. Safety, orientation and training

In case of collaborative access the TEM laboratory users have to accomplish the safety and the operation regulations and alarms of the FRM II. In addition the user will be instructed about the TEM laboratory safety rules.

9. Sample properties sheet/user report

For each prepared and investigated TEM specimen information document is created and compiled by the TEM laboratory scientist.

In case of collaborative access a user report has to be written by the user. This report may be included in the requested neutron scattering experimental report.

10. Terms of reference

The Terms of Reference: Publication and acknowledgement rules of the MLZ apply also to the TEM laboratory. That means:

The MLZ expects that the local contact in charge of the proposal is involved as co-author in publications mainly dealing with the results of the experiment.

Furthermore users are obliged **to notify** their local contacts about any publication of the results achieved at the MLZ. Please keep in mind that without his/her help during the measurement and providing the instrument the experiments would not be possible.

The following acknowledgement statement is required at the end of the publication:

"This work is based upon specimen prepared and investigated at the TEM laboratory operated by the JCNS at the Heinz Maier-Leibnitz Zentrum (MLZ), Garching, Germany."