EUROPEAN SYNCHROTRON RADIATION FACILITY

INSTALLATION EUROPEENNE DE RAYONNEMENT SYNCHROTRON

Experiment Report Form

The double page inside this form is to be filled in by all users or groups of users who have had access to beam time for measurements at the ESRF.

Once completed, the report should be submitted electronically to the User Office via the User Portal: *https://wwws.esrf.fr/misapps/SMISWebClient/protected/welcome.do*

Deadlines for submission of Experimental Reports

Experimental reports must be submitted within the period of 3 months after the end of the experiment.

Experiment Report supporting a new proposal ("relevant report")

If you are submitting a proposal for a new project, or to continue a project for which you have previously been allocated beam time, you must submit a report on each of your previous measurement(s):

- even on those carried out close to the proposal submission deadline (it can be a *"preliminary report"),*
- even for experiments whose scientific area is different form the scientific area of the new proposal,
- carried out on CRG beamlines.

You must then register the report(s) as "relevant report(s)" in the new application form for beam time.

Deadlines for submitting a report supporting a new proposal

- 1st March Proposal Round - **5th March**
- 10th September Proposal Round - **13th September**

The Review Committees reserve the right to reject new proposals from groups who have not reported on the use of beam time allocated previously.

Reports on experiments relating to long term projects

Proposers awarded beam time for a long term project are required to submit an interim report at the end of each year, irrespective of the number of shifts of beam time they have used.

Published papers

All users must give proper credit to ESRF staff members and proper mention to ESRF facilities which were essential for the results described in any ensuing publication. Further, they are obliged to send to the Joint ESRF/ ILL library the complete reference and the abstract of all papers appearing in print, and resulting from the use of the ESRF.

Should you wish to make more general comments on the experiment, please note them on the User Evaluation Form, and send both the Report and the Evaluation Form to the User Office.

Instructions for preparing your Report

- fill in a separate form for each project or series of measurements.
- type your report in English.
- include the experiment number to which the report refers.
- make sure that the text, tables and figures fit into the space available.
- if your work is published or is in press, you may prefer to paste in the abstract, and add full reference details. If the abstract is in a language other than English, please include an English translation.

ESRF	**Experiment title:**	**Experiment number**: MX2367
Beamline: CM01	**Date of experiment**: from: 26/09/2022 to: 28/09/2022	**Date of report**: 04/09/2023
Shifts: 6	**Local contact(s)**: Michael Hons	*Received at ESRF:*

Names and affiliations of applicants (* indicates experimentalists):

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Report:

We had 2 days on the Titan KRIOS to collect data on a functional RNA polymerase transcription termination complex trapped at an intrinsic transcription terminator. We were scheduled in September 2022 and in fact got this session as extra time (26/09 – 28/09). Our local contact was Michael Hons.
We brought UltrAuFoil gold grids, which were pre-screened on our Glacios microscope. The grids were shipped a week ahead of the scheduled experiment and stored at the ESRF by our local contact. Thanks to the outstanding support by our local contact we were able to select enough squares and holes and collect data that gave us close to 20.000 images over the course of the two days. We had collected on similar RNA polymerase complexes before but needed additional data to trap a different functional state. We brought four grids and our local contact helped us screen those grids and select a suitable one for data collection. He selected all the holes for data acquisition and everything went extremely smooth. We would not have been able to get the quality and size of the dataset without his support.

The data has been refined to high resolution (~3Å) and we could identify several important functional states. The data set will be part of a publication we are currently preparing.

If there is one thing to complain about, we found the new procedure to ship dewars very complicated despite the instructions.