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

Reports supporting requests for additional beam time

Reports can be submitted independently of new proposals – it is necessary simply to indicate the number of the report(s) supporting a new proposal on the proposal form.

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.

Deadlines for submission of Experimental Reports

- 1st March for experiments carried out up until June of the previous year;
- 1st September for experiments carried out up until January of the same year.

Instructions for preparing your Report

- fill in a separate form for each project or series of measurements.
- type your report, in English.
- include the reference number of the proposal 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: Nucleation (and growth?) of isotactic polypropylene mesophase | Experiment number: SC 3860 |
|--|--|----------------------------------|
| Beamline: | Date of experiment: | Date of report: |
| BM26 | from: 09/04/14 to: 12/04/14 | 25-08-2015 |
| Shifts: | Local contact(s): | Received at ESRF: |
| 9 | Giuseppe Portale | |
| Names and affiliations of applicants (* indicates experimentalists): Oreste Tarallo ^{1*} , Dario Cavallo ^{2*} 1)University of Naples (Italy) 2)University of Genoa (Italy) | | |

Report:

The expected results, i.e., time resolved SAXS/WAXD during i-PP mesophase crystallization, could not be obtained.

The reason is a series of technical problems with the used device (NOT provided by ESRF). In essence, the device executes a "temperature-jump": the sample is rapidly moved from a hot to a cold zone, to achieve rapid cooling. However, the thermal contact between the sample and the temperature controlled stages was not optimal.

This prevented us to achieve the required cooling rate to obtain formation of the mesophase (i.e., around 150 $^{\circ}C/s$).

Moreover, other technical problems occurred in the data acquistion. Because of a software problems, the acquired SAXS patterns were not readable.