

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 using the **Electronic Report Submission Application**:

<http://193.49.43.2:8080/smis/servlet/UserUtils?start>

Reports supporting requests for additional beam time

Reports can now 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.



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| | Experiment title: Alignment of a semiconducting polymer by surface rubbing and annealing | Experiment number: 28-01-619 |
| Beamline: BM28 | Date of experiment: from: 16 July 2003 to: 22 July 2003 | Date of report: 30/9/2004 |
| Shifts: 18 | Local contact(s): David PAUL | <i>Received at ESRF:</i> |

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Structural features in Aligned Poly(3-alkylthiophene) films revealed by Grazing Incidence X-Ray Diffraction

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Abstract:

The structural ordering in as-spun, rubbed and annealed thin films of poly[(3-hexylmethoxy)thiophene] has been investigated by means of Grazing Incidence X-Ray Diffraction (GIXRD) technique and the results have been compared with the structural data as obtained from XRD on powder samples. The as-spun films have a smectic structure in which the thiophene rings in the backbone lie parallel to the plane of the interface with a well-defined separation between the chains of 19 Å. Rubbing the films creates a unique direction in which the domain size is increased whereas ordering normal to the rubbing direction is greatly diminished, leading to birefringent behaviour. Annealing the films at 95°C does not have a significant effect on the ordering thereafter.