



## 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://www.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 from 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

- 1<sup>st</sup> March Proposal Round - **5<sup>th</sup> March**
- 10<sup>th</sup> September Proposal Round - **13<sup>th</sup> 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

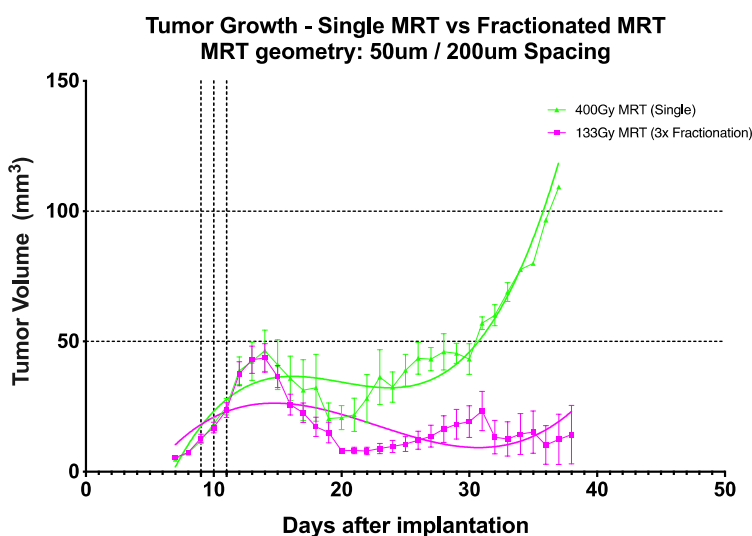
- fill in a separate form for each project or series of measurements.
- type your report in English.
- include the experiment number to which the report refers.
- make sure that the text, tables and figures fit into the space available.
- if your work is published or is in press, you may prefer to paste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



	<p><b>Experiment title:</b> MRT and Gold nanoparticles: Mechanism of action of this promising combined treatment in murine melanoma.</p>	<p><b>Experiment number:</b> MD1081</p>
<p><b>Beamline:</b> ID17</p>	<p><b>Date of experiment:</b> from: _____ to: _____</p>	<p><b>Date of report:</b></p>
<p><b>Shifts:</b> 9</p>	<p><b>Local contact(s):</b> Elke Brauer-Krisch</p>	<p><i>Received at ESRF:</i></p>
<p><b>Names and affiliations of applicants</b> (* indicates experimentalists):</p> <p>DJONOV, Valentin #            FERNANDEZ PALOMO, Cristian #            POTEZ, Marine #</p> <p># Institute of Anatomy, University of Bern, Switzerland</p>		

**Short Report:**

The synchrotron microbeam treatment was temporally-fractionated into 3 consecutive days. Although both procedures show the characteristic MRT-induced tumor shrinkage 5 days after irradiation, the triple fractionation (where each dose was 133 Gy of MRT per fraction) was far more effective than a single treatment of 400Gy of MRT. Currently, we are working on finding the equation that can model the different responses to MRT. Not shown in the figure is that the fractionated group still has 4 surviving mice, while all mice died in the MRT group. This experiment did not involve the use of Gold Nanoparticles.



**Figure 2. Tumor growth comparison between Single and Fractionated MRT performed at the European Synchrotron.** All the melanomas were implanted on day 0. Tumor measurements started on day 7. The single MRT (400Gy) dose and the first fractionated (133Gy) dose was delivered on day 9. The dose fractions were delivered in 3 consecutive days starting on day 9 and ending on day 11; indicated by the 3 vertical lines. The total accumulated dose of the 3 fractions was 499Gy MRT. Each group had 13 mice. Error bars indicate SEM. The solid curved-line corresponds to the best fit of a Third Order Polynomial equation.