



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.

**Experiment title:**

*EXAFS STUDY OF Er ENVIRONMENT IN GaSb:Er, GaSb:ErO AND GaSb:ErF
SINGLE AND POLYCRYSTALS*

Experiment**number:**

HS-3607

Beamline:	Date of experiment: from: 22/06/08 to: 26/06/08	Date of report: 29-08-08
Shifts:	Local contact(s): Iván da Silva	<i>Received at ESRF:</i>

Names and affiliations of applicants (* indicates experimentalists):

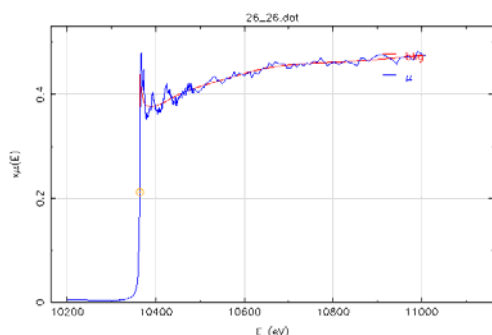
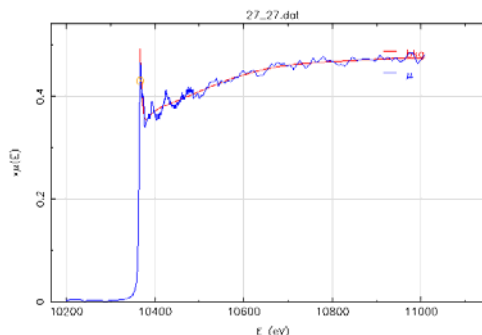
J. L.Plaza and J. Olvera

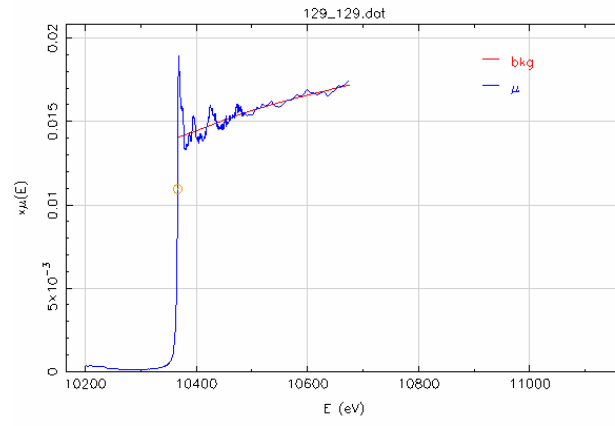
**Laboratorio de Crecimiento de Cristales, Departamento de Física de Materiales,
Facultad de Ciencias, Universidad Autónoma de Madrid, Cantoblanco, 28049 Madrid
Spain**

Main Proposer: J. L.Plaza : joseluis.plaza@uam.es

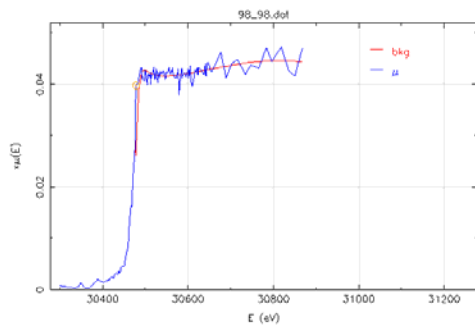
Report:

During the course of this work we have analysed several GaSb crystals doped with Te and Rare Earth Ions. This work has been developed in the BM-25A line of the ESRF. Both XANES and EXAFS have been obtained of different samples. These spectra will be extremely important in order to determine both the position of the impurity ions on the lattice and to determine differences in the absorption edge of the crystals when doped with different concentrations of RE ions. Some of the spectra are given below:

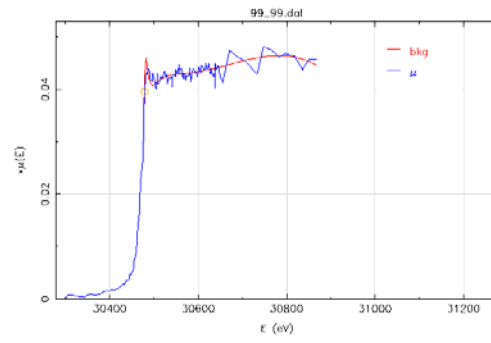
**Ga****Ga**



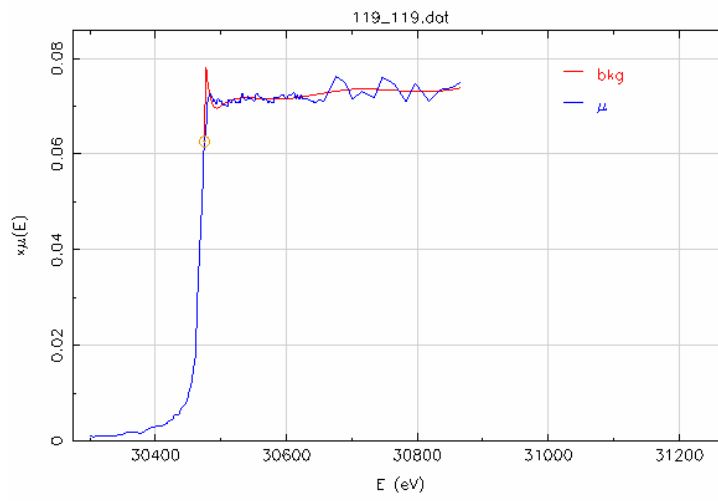
Ga



Sb

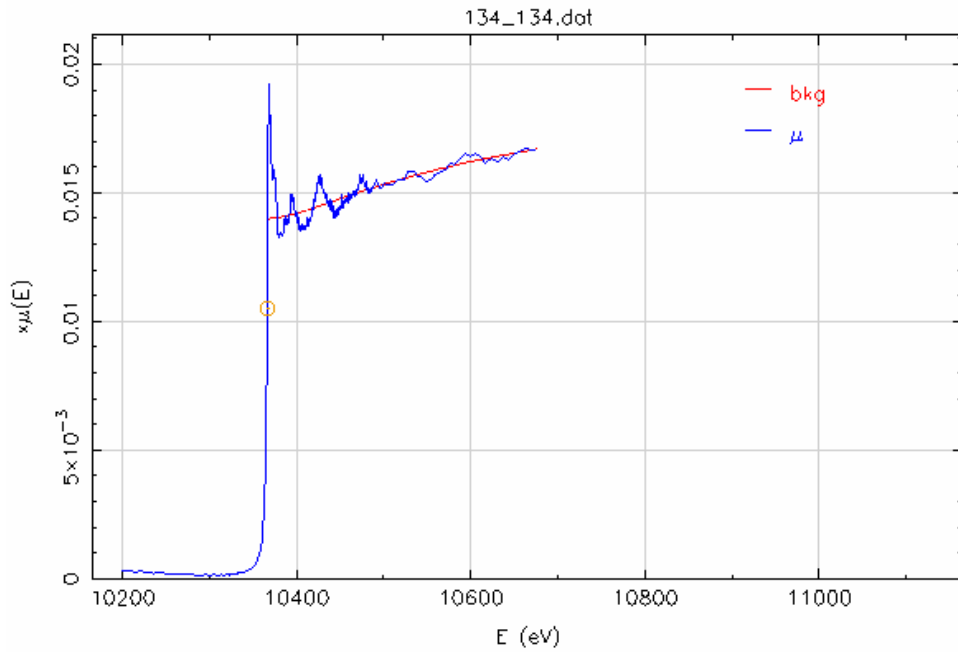


Sb

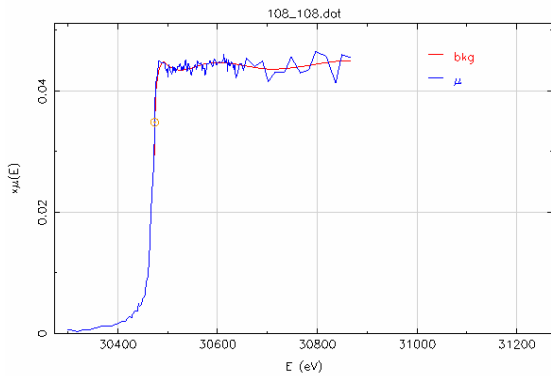


Sb

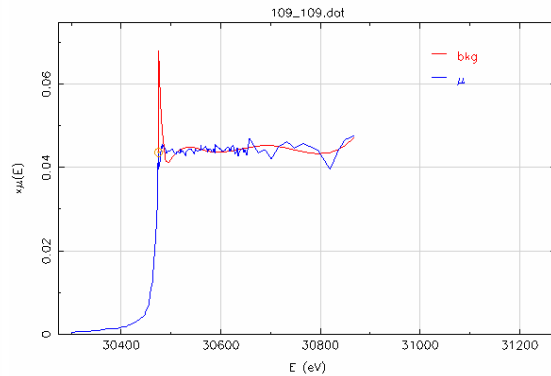
Fig. Spectra taken from Pure GaSb crystal (LEC-GS-080306).



Ga



Sb



Sb

Fig. Spectra taken from GaSb:Te (LEC-GS-130206).

Similar spectra have been obtained from different samples doped with Ce along the crystals in order to detect differences in the absorption edge due to changes in the impurity and defect concentration induced during the growth process

However, due to beam cuts and the unielement character of the detector used we did not complete the series of samples we were interested in. This is we will apply for more beam time in the next year. However the preliminar results are very promising and a paper with this measurements is now under preparation