Agenda

- Introduction
- LLB user access
  - Proposals submission
  - Zoom on Proposal form
  - Data base
  - Evolutions
- SOLEIL user access
- Comparison between the LLB and SOLEIL processes

LLB

2 km

SOLEIL

20 km South-West of Paris

LLB : UMR CEA-CNRS
Soleil : Société Civile CEA-CNRS

LLB current status of proposals submission:

- 250 beam time request twice a year (April and October 1st)
- 2 pages Word file send by email. One page administrative form (user name, address, instrument, sample, safety) and one page of scientific description. One sheet per proposal.
- Data retyped in an Access database (long process)
- All proposals in Access database since 1993
- Paper copy of proposals send to reviewer
- Result of selection put internally on-line
- Counting of beam time used done manually each year by instrument responsible and integrated manually into the database. Light crosschecked done.

LLB Access database:

12900 users and 2300 laboratories (Pb: affiliations and name and address of laboratories vary with time and user)

- 6500 experiments
- 28 instruments
- 4 thematic selection committees
- Results of reviewing processes
- 600 user access per year (entrance, room, canteen, …)
- User data, medical, safety and radiological records
- NMI3 European beam allocation and access records
- Yearly use of instruments

Database also used to provide statistics on the use of our instruments for the direction and the administration board.

LLB proposal form page 1

BORATOIRE LEON BRILLOUIN
CEA-SACLAY
91191 Gif sur Yvette Cedex
France

N° :

Ne pas remplir
(Do not fill)

PROPOSITION D'EXPERIENCE
(RESEARCH PROPOSAL)

CLASSIFICATION
Thème : 8 • Sous thème : 04

A remplir par le participant (cf. classification)
(To be filled by the applicant, see classification list)

Projet dans le cadre d'un contrat : ☒

European support request : ☒

Type : Nouvelle proposition (New proposal)

N° Exp. précédente : 3456
(Prev. exp. number)

TITRE DE L'EXPERIENCE : Structure of NaCl
(TITLE OF THE EXPERIMENT)

PREMIER PROPOSANT *(FIRST APPLICANT)*

NOM *(Name)* : Menelle — **Nationalité :** F

PRENOM *(First Name)* : Alain — **STATUT :** Chercheur (Researcher)

ORGANISME DE RATTACHEMENT *(Affiliation Institut)* : CEA

LABORATOIRE : LLB — Institut : Iramis
(Affiliation) — Adresse : CEA Saclay

Code Unité CNRS : UMR12 — CP (Zip) : 91191 — Ville : Gif sur (City) Yvette — Pays : France (Country)

Tél. : 9699 — **Fax :** 8261 — **e.mail :** alain.menelle@cea.fr

AUTRES PARTICIPANTS (OTHER APPLICANTS)

Nom, Prénom, Nationalité, Courriel *(Name, first name, nationality, email)*	Statut *(status)*	Laboratoire, Institut : (Laboratoty, Institut)	Adresse, Code postal, Ville, Pays : (Adress, zip code, city, country)	Code Unité CNRS
Petit Sylvain F sylvain.petit@cea.fr	Chercheur (Re	LLB Iramis	CEA Saclay 91191 Gif sur Yvette France	umr1
	Autre (other)			
	Autre (other)			
	Autre (other)			
	Autre (other)			

Appareil(s) souhaité(s) : *(Instrument(s))* G3.Bis

Jours demandés : *(measuring days)* 7,00

Correspondant : *(Local contact)* A.Menelle

Proposition liée à d'autres propositions sur les appareils suivants: *(linked to proposal on other spectrometers)*

INFORMATIONS COMPLEMENTAIRES
(COMPLEMENTARY INFORMATIONS)

SUBSTANCE ET COMPOSITION CHIMIQUE : Na Cl
(Substance or formula)

CARACTERISTIQUES ECHANTILLON(S) :
(Description of the sample)

Poudre *(Powder)* ☒ — **Liquide** *(Liquid)* ☐
Monocristal *(Single crystal)* ☐ — **Polycristal** *(Polycrystal)* ☐

Dimensions ou volume : *(Size or volume)* 2*2*2 mm3 — **Nombre d'échantillons :** *(Number of samples)* 4 — **Date de disponibilité :** *(When will the sample be available)*

Groupe d'espace : *(Space group)* — **Param. de maille :** *(Unit cell parameters)*

Environnement Echantillon (à préciser)
(Sample environment, give details)

Neutron polarisés et analyse ? *(Polarised neutrons with analysis ?)* non

Température et pression : *(Temperature and pressure range)* 500K PA

Domaine de champ magnétique : *(Magnetic field range)* 1T

Autre : *(Other)*

ASPECTS SECURITE :
(Safety aspects)

L'échantillon est-il :
(Is the sample :)

Radioactif* : *(Radioactive)* ☐ — **Explosif *:** *(Explosive)* ☒ — **Toxique* :** *(Toxic)* ☐ — **Actif après irradiation* :** *(Activated after irradiation)* ☐

Autres risques* : aucun
(Other risks)

* Une analyse de sécurité avec l'ingénieur de sécurité du LLB sera faite avant la réalisation de l'expérience
(A safety analysis of your proposal will have to be done with the safety officer of the LLB before your experiment)

NOM ET DATE : Menelle — 20 mai 2008

Ne pas remplir *(To be filled by LLB)*

Commentaires du responsable d'appareil
(Comments by instrument scientist)

Faisabilité de l'expérience : *(Feasability of the experiment)*

Choix de l'instrument : *(Recommended instrument)*

Temps de faisceau : *(Beam time)*

LLB proposal form page 2

RECOMMANDATIONS

1. La totalité de la proposition **ne doit pas dépasser 2 pages, cette page incluse**. L'utilisation de figures couleurs est déconseillée. La proposition doit être envoyée à l'adresse : experience-llb@cea.fr
2. **La date limite de réception des propositions est le 1er Avril et le 1er Octobre.**

1. The entire proposal should not exceed 2 pages including this page. Color plots should be avoided. The proposal should be send at the following address : experience-llb@cea.fr

2. Deadline for submission is April 1er and October 1er.

DESCRIPTION DE L'EXPERIENCE PROPOSEE
(DESCRIPTION OF THE PROPOSED EXPERIMENT)

RESUME *(ABSTRACT)*

The measurements of polarized neutron scattering in off-specular directions deliver a unique information on the magnetic imperfections at the interfaces, e.g. those created by the atomic roughness. Such an information is rather important from the point of view of the fundamental problems of magnetism at the interfaces and directly related to the possible technical applications of magnetic multilayered structures

LISTE DES PUBLICATIONS INCLUANT UNE EXPERIENCE REALISEE AU LLB (SUR 3 ANS)

* *(LIST OF PUBLICATIONS ARISING FROM PREVIOUS LLB EXPERIMENT OVER 3 YEARS)* *

V.G. Syromyatnikov, A. Menelle, B.P. Toperverg , Z.N. Soroko, A.F. Physica B, 1999, v. 267-268, p.190.

We are rather interested to continue the experiment on the multilayers 60Co(101Å)/Ti(84Å) and 60Fe(121Å)/Al (91Å) at neutron reflectometer PRISM using complete polarization analysis mode (for study prominent features in the off-specular scattering patterns), position sensitive detectors and collect more points along the hysteresis loop. In the proposed experiment the scans are assumed to be performed in a wide angular range up to the 4th order Bragg reflection.

Use of the position sensitive detector will considerably increase the quality of the information, which is lost in the former experiments. The data collected at each incident angle will provide a possibility to built up an intensity distribution in coordinates glancing scattering angle and angle of incidence (see, similar contour maps presented in [2]). This kind of the map can be built for each spin state of neutron and at each value of magnetic field H. Such maps not only makes more transparent the origin of the alternating anomalous peaks and dips recorded in our previous experiment, but hopefully enables us to find via two dimensional fitting routine the field dependency of the basic parameters of the system, i.e.: mean-square-root magnetic and atomic roughness, their characteristic correlation lengths, the conformity degree, etc.

The experimental results will be processed by use of the existing computer programs in PNPI.

We hope that the result of the proposed experiment will deliver detailed information on the remagnetization processes in such systems. To the best of our knowledge, it would also be the first complete study of the process off-specular polarized neutron scattering from rough interfaces in periodic magnetic multilayered structures, where peculiarities off-specular scattering are so strong, as seen in figure.

[1]. Syromyatnikov V., Toperverg B., Schebetov A., Ebel T., Bittorf C., Kampmann R., Wagner R. Preprint PNPI-2006 (1994), p.37. Petersburg Nuclear Physics Institute Russian Academy of Sciences.

[2]. Syromyatnikov V., Toperverg B., Deriglazov V., Schebetov A., Ebel T., Kampmann R., Wagner R. Physica B, 1997, v. **234-236**, p.475.

[3]. V.G. Syromyatnikov, A. Menelle, B.P. Toperverg, Z.N. Soroko, A.F. Physica B, 1999, v. **267-268**, p.190.

[4]. Syromyatnikov V.G., Toperverg B.P., Siebrecht R., Menelle A., Plesanov N.K., Pusenkov V.M., Schebetov A.F., Soroko Z.N., Ul'yanov V.A. Preprint PNPI-2311 (1999), p.13 ; Physica B, 2000, v. **276-278**, p.700.

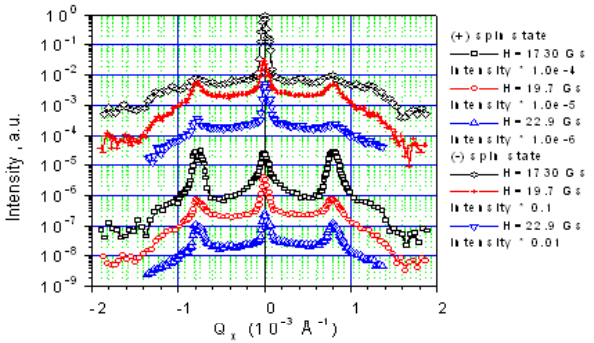

Fig. Transverse Diffuse Scans (TDS) for the 2nd order Bragg reflection ($Q_z \cong 0.067$ Å^{-1}) for both spin states of neutrons and for three magnitudes of magnetic field H, applied within the sample plane. The sample is 60Co(101 Å)/Ti (84 Å) periodic magnetic multilayer.

Evolutions of the LLB system:

Not requested by the user, but improvement required by internal efficiency:

- No retyping process at the submission of proposal
- In line reviewing process expected (but try to keep something close to the current simple form for easy reviewing)
- On line link with experiment for automatic list of use at the end of each year

Solution:
Move to a common portal with SOLEIL similar to SINQ/SLS

Benefits:
Shows-up coordination/cooperation between X-ray and neutrons sources.
A single development for 2 sources.

Pb (current and future):

Maintain laboratories and user database up to date with history of users and labs.

Keep a experimental form for submission as simple as possible.

Agenda

- **SOLEIL current status of proposals submisson:**
  - **1/ Call for proposals**
  - **2/ Peer Review Committees**
  - **3/ Beamtime allocation modes**
- **Proposal submission steps**
- **SOLEIL access data base : SUN *set***
- **General overview of SOLEIL proposal process**
- **Comparison between the two processes**

SOLEIL current status of proposals submission

- **2 calls for proposals since the opening (1 in 2006 and 1 in early 2008)**
- **about 350 submitted proposals per call**
- **From now, 2 calls for proposals per year (February and Sept. 15th)**
- **Two allocation periods (mid-June to mid-December and mid-January to mid-June each year)**
- **Two peer review committee meetings (mid-April and mid-Nov.)**
- **7 PRC domains (from 9-16 members)**
- **Beamtime allocation modes: Standard, rapid access, access with charge for admission ; foreseen: LTP, BAG**
  Main purpose: to offer a range of access modes and flexibility to ensure that the varying needs of users can be met

SOLEIL current process for proposals submission

- **The proposal 'form' is available on-line via a Web interface to a Data base SOLEIL Users Net *set* (SUN *set*).**
- **Proposals must be written in English.**
- **Proposals require the completion of 6 steps (following form templates) including the submission:**

  1/ General part of the proposal
  2/ Scientific and experimental description
  3/ Images attachment, if necessary (.Jpeg .png format)
  4/ Samples and substances declaration together with ancillary equipment declaration (for safety considerations)
  5/ Experimental report (previous proposal(s))
  6/ Submission

SOLEIL access database (1)

SUN set (web interface)

A tool based on the PSI Digital User office

Some users operations:

Currently:

- ✓ Submission of a new proposal,
- ✓ View all proposals,
- ✓ Submission or edition of an experimental report,
- ✓ Registration of a publication,
- ✓ Submission of an end of run report,
- ✓ Applying for access to Soleil,
- ✓ Completion of a safety training,
- ✓ Applying for support laboratory access,
- ✓ Complementary samples declaration, …

Later on:

- ❖ Accommodation booking,
- ❖ Travel booking,
- ❖ BAG submissions
- ❖ LTP submissions

SOLEIL access database (2)

Soleil Menus & operations:

Currently:

✓BLM : Technical assessment, Experiment scheduling

✓Safety group : technical assessment on proposals ; assessment on samples declaration; view on safety training; SAS editing;

✓ Board of directors : overview of all steps (in continuous) ; beamtime validations after PRCs meetings

✓ Laboratory manager : validation of support laboratory access request ; scheduling of the preparation

✓ UO : checking & validations ; reviewing results to users

✓ Administration : badges & canteen

Later on:

✓ Beamtime sessions scheduling

✓ BAG management

✓ LTP management, …

SOLEIL access database (3)

Soleil Menus & operations:

Later on:

- ✓ **Administration: accommodation & travel organisation**
- ✓ **Reception: badge delivery & users set**
- ✓ **Infrastructure: equipment handling**

Other Menu & Operations:

Currently:

- ✓**Peer Review Committees Members & Chairpersons: Referees assignation; Reviewing work and proposals grading; Meetings**

Later on:

- ✓**LTP reviewing**
- ✓**BAG reviewing**

Some figures: 1631 users; 1849 institutes; 705 proposals; 11 beamlines

Proposal 'life': main steps (1)

(SOLEIL)

(LLB if different)

Proposal writing/editing (possible any time)
status « editing »

Main proposer

Submission : 8 weeks (during two calls for proposals/year)
status « submitted »

All year long

Email submission

Technical assessments

Beam Line Manager (3 weeks) — **Safety group** (6 weeks)
status « in review »

BLM only

Database incorporation : 5 weeks

Reviewing work and proposals grading

Peer Review Committee (5 weeks : 1 for referees assignation / 4 for reviewing work)
Meetings (3-4 weeks)

Reviewing : 4 weeks

Meetings : 2 days

Validation of PRC decisions

Board of directors
status « declined » or « accepted »

Results information

User office (after about 12 weeks from the proposal submission dead line)

Proposal 'life': main steps (2)

(SOLEIL)

Beamtime scheduling

BLM (continuously)

+ LLB safety review

Users Formalities

Main proposer:

Safety forms complementary samples declaration	Safety training on-line	Apply for access participants declaration	Access to Laboratory (for e.: chemical lab.)	travel& Accommodation organisation
SOLEIL	Safety Approval Sheet	BADGE + Canteen		SOLEIL funding

No travel org., on site room res.

Refunds

Experiment

Participants experiment performing

BLM experiment recording *status "finished"*

BLM list of exp. 1/year

After Experiment

Main proposer	End of run report	Experimental report (mandatory)	publications (if appropriate)

End of run rep. for UE only

No Exp.rep. check

(LLB if different)