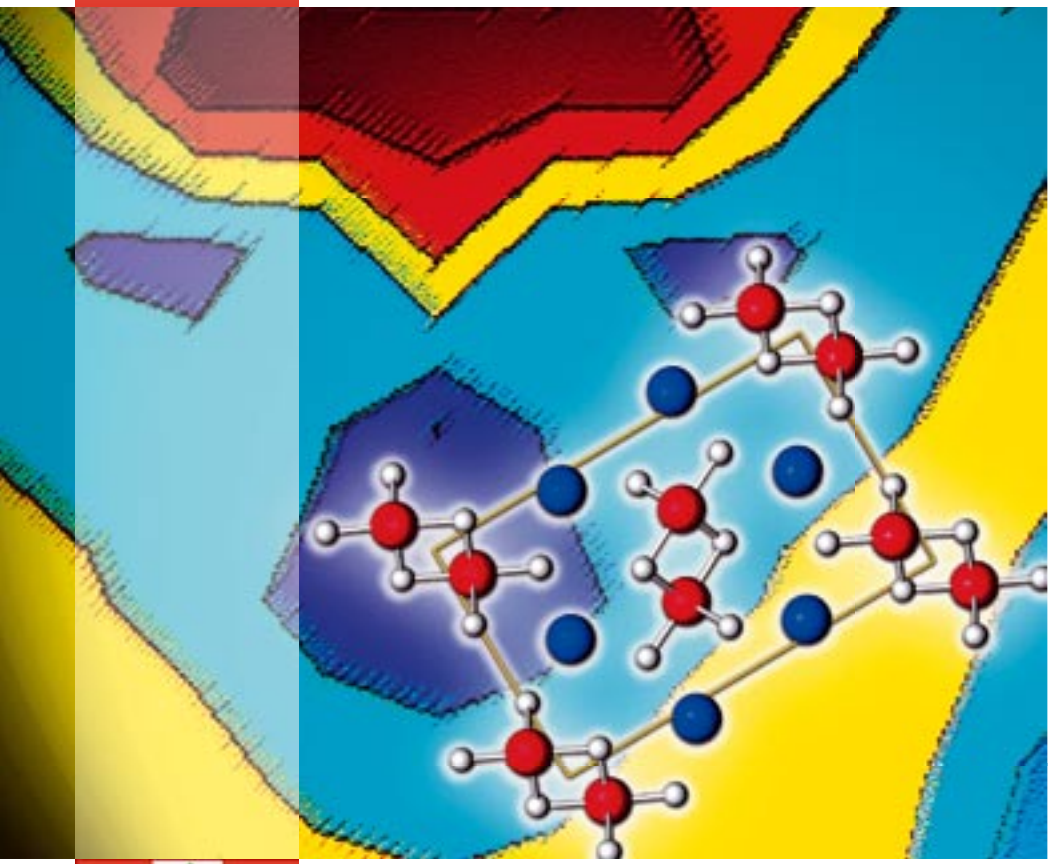
Number 23
June 2003

SWISS NEUTRON NEWS



Schweizerische Gesellschaft für Neutronenstreuung
Société Suisse pour la Diffusion des Neutrons
Swiss Neutron Scattering Society

Editorial

Editor: Swiss Neutron Scattering Society

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Printing: Paul Scherrer Institut

Circulation: 1600, 2 numbers per year

Cover illustration

The fascinating phenomenon of Bose-Einstein condensation (B.E.C.), as observed in clouds of ultra cold atoms, is predicted to occur also in quantum spin systems with bosonic excitations and a spin energy gap. The cover image shows the spectrum of the elementary excitations in a B.E.C. of magnetic quasi-particles investigated by inelastic neutron scattering on $TlCuCl_3$ single crystals in a magnetic field of 14T. In this class of copper salts the S=1/2 spin moments of the Cu^{2+} ions are paired by a dominant antiferromagnetic coupling leading to a non-magnetic singlet ground-state in zero field. The excitations are bosonic quasi-particles, S=1 triplets. In the B.E.C. phase across a quantum critical point at $H_c \approx 6T$ the Goldstone mode of the ordered condensate shows linear dispersion whereas the non-condensed fraction supports gapped and quadratic excitations.
C. Rüegg, N. Cavadini, A. Furrer, H.-U. Güdel, K. Krämer, H. Mutka, A. Wildes, K. Habicht, P. Vorderwisch, ***Nature*** *423, 62-65 (2003)*

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The SGN/SSDN President's Page

Dear members,

it is remarkable and somewhat discouraging to see how quickly the future prospects for neutron scattering in Switzerland and Europe can change. A year ago I wrote about the ESS conference in Bonn (May 16/17, 2002) and interpreted it as a clear sign for a very prosperous neutron scattering community that demonstrated its support for the construction of a next generation neutron source in Europe. Already half a year later there appeared dark clouds on the sky when the Science Council of Germany (Wissenschaftsrat) apparently did not share this opinion and expressed doubts about the long-term importance of neutrons. In the mean time the situation has become clear, and we all have to realize that the ESS has died or is at least postponed for a long time due to a lack of support from the key players such as Germany, France or England. We thus have to seriously think about the future of neutron scattering in Switzerland (and Europe in general).

In its strategy paper 'Status und Zukunft der Neutronenstreuung in der Schweiz', a study of the status of neutron scattering in Switzerland and its perspectives for the next 15 years, our society has shown that the participation of Switzerland at a future 3rd generation neutron source will be vital in order to allow Swiss researchers to (continue to) be among the world leading research teams in this domain. Only at such sources we can extend the currently accessible range of problems, tackle the most interesting and important scientific questions of the future and successfully perform the cutting edge experiments. With the sudden death of ESS the situation has changed dramatically, and we need to think about different possible scenarios that can guarantee us access to the facilities that we need in order to continue our research. It is obvious that the USA and Japan will soon be in a very good position to take over the lead in neutron scattering from the still dominating European community thanks to the new spallation sources that are currently being built there. This would have severe consequences for the attractivity of our research labs for the coming generations of talented young researchers.

There are of course several options on how to optimally adjust to this new situation. The ILL and its supporting partner countries have already started to plan the future and see whether there is room for an increased investment in the existing facilities. This could for example lead to an accelerated Millenium program, which will already now result in an overall gain factor of 1.9 at the end of this year when compared to the situation at the ILL in 2000. Such a development then has to be taken into account in future negotiations between Switzerland and the ILL. One could also think about an intensified participation at ISIS, where the planned second target station will improve the currently existing situation considerably. And finally, there are of course possibilities to work at the new 3rd generation spallation sources such as SNN either through individual collaboration with local research teams or possibly even on the basis of a more formal contract. It will be most important that our society does respond to this situation as soon as possible, tries to define our needs and design a solution for the future of neutron scattering in Switzerland. The Swiss Federal Office for Education and Research ('Bundesamt für Bildung und Wissenschaft, BBW') has already responded, and a first "brain storming event" has been held between representatives of our community and the BBW. It is now up to us to work for a bright future of neutron scattering!

Peter Schurtenberger

Minutes of the SGN/SSDN General Assembly on 16/01/2003

Locality:Paul Scherrer Institute, Auditorium WHGA/001
Begin:15:07, End:15:35
Participants:27 members of the society, 1 non-member

1. Welcome

The president of the SGN/SSDN, Prof. Peter Schurtenberger welcomes the participants to the general assembly 2003.

2. Minutes of the General Assembly 2002

The minutes of the general assembly of the SGN/SSDN from May 15, 2002 published in Swiss Neutron News 21 (June 2002) are accepted without objections.

3. Annual Report of the Chairman

The president P. Schurtenberger reports on the activities of the SGN/SSDN in the year 2002:

a) One main activity in 2002 was the presence and active participation of many society members at the ESS conference in Bonn in May. The society explicitly demonstrated its support for the ESS project by organising the 2002 annual meeting on 15/05 at the Bonn conference.

b) The society was also represented by a booth at the 'International Union of Crystallography'-meeting in Geneva from 06-15/08.

c) A welcome reception was offered during the 'First PSI Summer School on Condensed Matter Research' in Zuoz from 10-16/08.

d) Two new issues of 'Swiss Neutron News' were published, numbers 21 and 22.

e) Actually the society consists of 189 members. In 2002 eight new members entered the society, nineteen left. The withdrawals are mostly due to an update of the member data base. Some members left the society because of retirement or because their work is no longer related to neutron scattering.

4. Report of the Treasurer (S. Janssen)

Annual Balance 2002:

Assets SGN/SSDN on 01/01/2002: **SFr 3.669,70**

	Revenues [SFr]	Expensens [SFr]
Membership-fees (cash box)	1.185,25	
Membership-fees (postcheque acc.)	685,10	
Donations	25,00	
Credit for accrued interest	7,10	
Cash deposit (to PC-account)	1.300,00	
Cash deposit (from cash box)		1.300,00
Total expenses		1.129,30
– Apéro Swiss/Danish workshop		*346,00*
– Present for A. Furrer (ENSA)		*65,00*
– Apéro Zuoz		*675,00*
– PC-account (fees,postcards etc)		*43,30*
Total	3.202,45	2.429,30

Net earnings 2002: **SFr 773,15**

Assets SGN/SSDN on 31/12/2002: **SFr 4.442,85**

Balance sheet 2002:

	Assets [SFr]	Liabilities [SFr]
Postcheque account	4.390,55	
Cash box	52,30	
Assets on 31.12.02	**4.442,85**	

5. Report of the Auditors

Both Auditors (W. Fischer, P. Schobinger) have examined the bookkeeping and the balance 2002. They accepted it without any objections. The participants therefore unanimously vote for a release of the SGN/SSDN board.

6. Budget 2003

The treasurer presents the following proposal for the budget 2003:

SGN/SSDN property 01/01/2003: SFr 4442,85

	Earnings [SFr]	**Expenses [SFr]**
member fees	750,–	
interests	5,–	
fees PC account		40,–
Zuoz Apero 2003		680,–
Total	755,–	720,–
Earnings 2003	**35,–**	

SGN/SSDN property 31/12/2003: SFr 4477,85

The participants accept the budget proposal unanimously.

7. News from the European Neutron Scattering Association, ENSA

P. Allenspach as the Swiss representative in ENSA reports on recent news from the European user organisation:

European Spallation Source, ESS:

– European Strategy Forum on Research Infrastructures (ESFRI) has inaugurated a working group on neutron sources to discuss following scenarios:
  • Build ESS as currently designed
  • Build ESS with long-pulse target only
    (option for a later addition of a short pulse target)
  • Go on with existing sources (improve ISI, build AUSTRON,…)

– MoU is in force (French CEA pulled out for budgetary reasons)

– Base engineering design for costing before end of 2003

– Reaction to the assessment of the German Wissenschaftsrat (WR)
  (letters to WR, try to get re-assessment)

ILL:

– Reduction of cycles (see next item on the agenda)

FRM-II:

– Expected answer from federal minister Trittin (environment)

ISIS target station II:

– Have the scientific "go" (2-15 times of present flux, depending on moderator)

– Received 7.1.M£ in August 2002 for site preparation

– Expected start of earth moving (together with Diamond): spring 2003

– First beam on target: December 2006

ECNS'03 in Montpellier, 03-06/09/2003:

– High registration fees were sharply criticized:
€ 240 (Budapest), € 250 (Munich), € 290 (Montpellier) + € 60 for dinner

EU Framework Programme 6 (FP6):

– Submission of an "Integrated Infrastructure Initiative" proposal: NMI3 (network, access, R&D)

– Deadline April 15, 2003; Co-ordinator Robert McGreevy, ISIS

8. News from the Institute Laue Langevin, ILL

The german associate ILL director W. Press reports on recent news:

a) Due to reinforcement work of the reactor structure, expected to secure the operation of the ILL reactor, a three years 'refit'-program has been committed. 12 people per year up to 2005/06 and investment costs of 20 M€ are necessary for that purpose. As a consequence the ILL decided to reduce the number of operation cycles per year from 4.5 to 3 for a duration of three years. A larger percentage of the available beamtime is foreseen to be delivered to the users to partly compensate for that loss.

b) The Millennium program will be continued with an annual budget of 3.5 M€.

c) For a longer time the ILL hot source was not in operation. It will be available again in the third cycle 2003 together with at least one hot beamtube.

d) Since October 2002 there is a new head of the reactor division: Hervé Guyon replaced Ekkehardt Bauer.

In addition P. Schurtenberger summarizes some information that he obtained prior to the meeting by H. Güdel:

a) The three partner countries have prolongated the ILL contract up to 2013.

b) After the national balance the allocated beamtime for Swiss users at ILL was 3.7% according to the Scientific Council in November 2002. T. Brückel has evaluated the Swiss use of ILL on behalf of the 'Swiss Bundesamt für Bildung und Wissenschaft, BBW'.

9. Acivities of the SGN/SSDN 2003

A first activity is to combine the general assembly 2003 with the SINQ users' meeting. This procedure is also foreseen for the next years. A lot of the members regularly attend the users' meeting such that they easily can also attend the GA.

Furthermore the society encourages strongly its members to participate actively in the ECNS'03 conference in Montpellier (03/09-06/09/2003). In that context W. Fischer asks what could be done to prevent a further increase of the ECNS/ICNS conference fees. P. Allenspach replies that ENSA would be the appropriate organisation to react, however, since the organisation of the Montpellier conference has proceeded very far it is too late for any changes this time. For the next conferences ENSA will take care of that.

10. Miscellaneous

The next general assembly will be organized together with the 6th SINQ users' meeting on 22/01/2004.

S. Janssen, Secretary

Local Atomic Arrangements in Ni-Au Alloys

M.J. Portmann, B. Schönfeld, G. Kostorz, Applied Physics, ETHZ
F. Altorfer, Laboratory for Neutron Scattering, ETHZ & PSI
J. Kohlbrecher, Spallation Source Division, PSI

Introduction

The phase diagram of Ni-Au (Fig. 1) is characterized by a large miscibility gap and a continuous solid solubility at elevated temperatures ranging from pure Ni to pure Au. The miscibility gap reflects the large atomic size mismatch of 15% between the constituents. As Ni-Au alloys decompose into Ni-rich and Au-rich phases at low temperatures, one intuitively expects pre-cursors of phase separation in the solid solution above the miscibility gap.

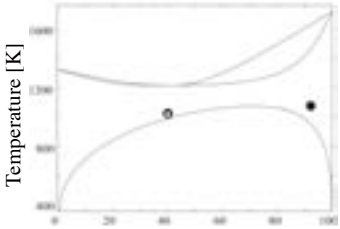

Figure 1:
*Phase diagram according to Okamoto [1]. The symbols mark states investigated by Wu and Cohen [2] (**o**) and in this work (•).*

Surprisingly, a diffuse x-ray scattering study of Ni-60 at.% Au revealed local order and not local decomposition in the solid solution [2]. Ab-initio electronic structure calculations [3] supported this result. They also revealed the crucial role of lattice relaxation in Ni-Au, as an unrelaxed solid solution would be locally ordered.

In the x-ray data reported by Wu and Cohen [2], large thermal diffuse scattering was always present, especially near Bragg reflections, and no data were obtained in the small-angle scattering region. To exclude the presence of local decomposition, small-angle scattering – preferably with neutrons – is required, together with wide-angle neutron scattering to cover any tendency for local order. Such a study was undertaken in the present investigation.

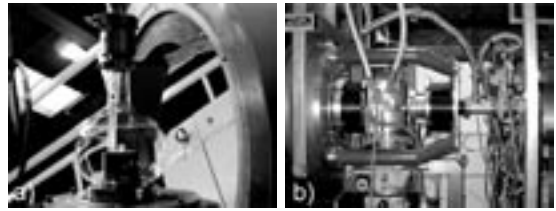

Figure 2:
High-temperature furnaces used in the experiments. a) At DrüchaL and RITA-II, b) at SANS-I.

Experimental

Ni-8.4 at.% Au and Ni-60 at.% Au single crystals were grown by the Bridgman technique. As natural nickel has a large elastic incoherent scattering cross section of 5.2 barn, the elastic coherent diffuse scattering is in the range of a few percent of the total elastic scattering. By use of the Ni-58 isotope, incoherent scattering is largely reduced. In addition, the scattering contrast $(b_{Ni} - b_{Au})^2$ important for weighing the short-range scattering contribution with respect to displacement scattering of a one-phase state, is increased by a factor of 6.4 (for a two-phase state, the corresponding expression $(\boldsymbol{\rho}_{b,\,particle} - \boldsymbol{\rho}_{b,\,matrix})^2$ also increases).

The diffuse wide-angle scattering was measured on the triple-axis spectrometers DrüchaL and RITA-II (PSI), both equipped with a high-temperature furnace (Fig. 2a) and an Eulerian cradle. A detailed three-dimensional data set was taken at 750 crystal settings for Ni-8.4 at.% Au at 1083 K, with neutrons of an energy of 14.68 and 4.76 meV and a nominal energy transfer of 0 meV. For Ni-60 at.% Au, only a linear scan along <100> could be measured at 1023 K, as there were only a few hundred counts per 90 min.

Small-angle neutron scattering was measured for polycrystals of ^{58}Ni-8.3 at.% Au and ^{58}Ni-60 at.% Au. Data were taken at SANS-I (PSI) equipped with a high-temperature furnace (Fig. 2b). Neutrons of a wavelength of 6 Å were used.

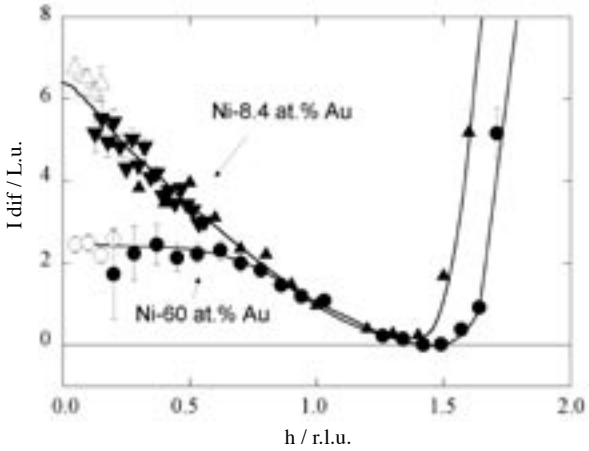

Figure 3:
Small-angle and wide-angle scattering intensities along <h00>. The open and filled symbols represent small-angle and wide-angle scattering data, respectively. A dashed and a solid line serve to guide the eye.

The elastic incoherent scattering of vanadium served to calibrate wide- and small-angle scattering.

Results

Elastic diffuse scattering along <100> is summarized for both alloys in Fig. 3. A smooth overlap in intensities taken at the two stations is seen. The scattering largely increases close to the 200 reflection and near the direct beam, indicating local decomposition. Thus, the result of the previous x-ray investigation of Ni-60 at.% Au [2] where a diffuse maximum was reported for 0.6 0 0 (Fig. 4), cannot be confirmed. To demonstrate convincingly the type of local atomic arrangement, it is thus necessary to measure small-angle and wide-angle scattering and to reduce other scattering contributions (inelastic, incoherent) as much as possible.

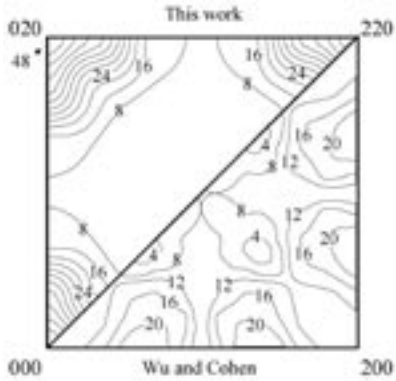

Figure 4:
Short-range order scattering I_{SRO} (in 0.1 Laue units) from Ni-8.4 at.% Au and from Ni-60 at.% Au [2].

The three-dimensional diffuse scattering of Ni-8.4 at.% Au was separated into the various elastic scattering contributions, (i) short-range order scattering I_{SRO}, (ii) atomic-size effect scattering I_{SE} and (iii) Huang scattering I_H. For this separation, the different dependences of these contributions on the scattering vector and the different symmetries of the underlying Fourier series are exploited [4,5].

However, in nearly all diffuse neutron scattering experiments performed at elevated temperatures, a deficiency is observed; the average short-range order scattering is too low, and the problem is getting more severe at higher temperatures [6]. An increase of the linear absorption coefficient with increasing temperature has recently been identified to cause this deficiency.

It arises because of the changing total thermal diffuse scattering $\boldsymbol{\sigma}_{TDS}$. The change of the transmission factor with temperature could be reproduced by a calculation where $\boldsymbol{\sigma}_{TDS}$ is determined for one-phonon scattering within the incoherent approximation (for details, see Kothari and Singwi [7]). Using the correct linear absorption coefficient, the average short-range order scattering is now close to its physically correct value. The other Fourier coefficients of the short-range order scattering I_{SRO} (the Warren-Cowley short-range order parameters) that determine the local atomic arrangement, are also modified.

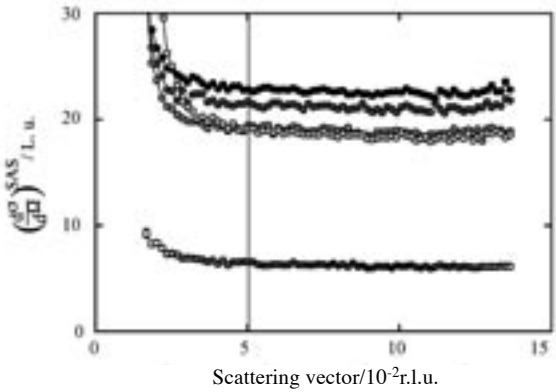

Figure 5:
Azimuthally-averaged small-angle scattering of a Ni-8.3 at.% Au polycrystal (from top to bottom 1173, 1053, 973 and 953 K). A state quenched from 1173 K was measured at 293 K (lowest curve).

Small-angle neutron scattering of polycrystalline Ni-8.3 at.% Au in the state of solid solution showed no dependence on the scattering vector within 0.08 to 0.24 $Å^{-1}$. Within this range, the scattering intensities increased with increasing temperature and were much larger at elevated temperatures than for the as-quenched state measured at room temperature (Fig. 5). Increased values in small-angle neutron scattering (which is not energy-resolved) at elevated temperature had also been noted in a previous study on the decomposition in Ni-Ti [8]. Amount and temperature dependence was now attributed to thermal diffuse scattering and approximated by $\sigma_{TDS}/4\pi$. A smooth overlap of small-angle scattering with wide-angle scattering is then achieved (Fig. 3).

Discussion

From the separated short-range order scattering, a real-space visualization of the local atomic arrangement of Ni-8.4 at.% Au can be obtained. The main difference between the real state and a random arrangement lies in the presence of small Au agglomerates (Fig. 6a). Among the nearest-neighbor configurations, a tetrahedron with an adjacent atom was identified to be most enhanced with respect to a random arrangement.

From the separated short-range order scattering of Ni-8.4 at.% Au, effective pair interaction parameters were determined by the inverse Monte Carlo. These parameters arise if one writes the energy of formation as a series expansion in the *n*-point correlation functions. The strength of this approach lies in the possibility to calculate coherent phase diagrams (as these coefficients do not change much with temperature and composition). With the present set of effective pair interaction parameters, a miscibility gap is present at low temperatures. However, with a set of parameters reflecting local order in the solid solution [2], no such miscibility gap would show up (as noted by Wolverton and coworkers [3]).

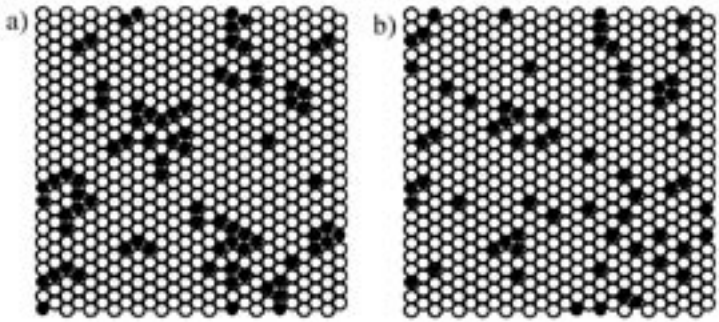

Figure 6:
{111} planes of Ni-8.4 at.% Au model crystals (open circles: Ni atoms; filled circles: Au atoms) comprising 32 x 32 x 32 fcc unit cells. The crystals represent an equilibrium state at 1083 K (a) and a statistically uncorrelated atomic arrangement (b).

Acknowledgments

The authors thank E. Fischer very much for growing the single crystal used in these experiments. Partial financial support by the Swiss National Science Foundation is gratefully acknowledged.

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Fifth SINQ Users' Meeting at PSI, 16/01/2003

S. Janssen, Laboratory for Neutron Scattering, ETHZ and PSI

On January 16, 2003 the 5th SINQ users' meeting was held at PSI. The growing community interest in SINQ (2002: 573 visitors, 315 experiments, 167 new proposals) was clearly demonstrated by the large number of participants: almost 70 people came together to present and discuss their scientific results.

After the welcome by A. Furrer and K. Mortensen on behalf of PSI and Risø National Laboratory, respectively, the meeting began with a plenary session with general information about the user program and two invited talks on hard and soft condensed matter, respectively: C. Ulrich (MPI for Solid State Research, Stuttgart) talked about 'Orbital order and fluctuations in Titanates and Vanadates' and A. Blanchard (FZ Jülich) gave a presentation on her SANS-work on 'Relaxation mechanisms in polymers under strain'.

The meeting was then splitted into parallel topical sessions on 'Magnetism and Superconductivity', 'Soft Condensed Matter', 'Materials and Techniques' and 'Structure and Materials' with totally 14 contributed talks. Due to the fact that almost all members of the SINQ scientific committee attended the users' meeting it was a good opportunity especially for the authors of new longterm proposals to present their previous results to the committee.

After the SGN annual meeting which was embedded into the users' meeting a poster session was organised in the afternoon. Besides 14 scientific posters presented by the participants the instrument responsibles prepared posters with detailed information about the present status, recent upgrades and future plans on the SINQ instruments. Several users took the opportunity to discuss new projects and their feasibility with the instrument scientists. A visit of SINQ for the new users completed the program of a successful meeting with new contacts and fruitful discussions.

The next meeting will be held on 22/01/2004 at PSI. In between, it is foreseen to organise a SINQ users' session at the ECNS '03 conference in Montpellier.

Fig. 1: *Clemens Ulrich / MPI Stuttgart during his talk.*

Fig. 2: *Ariane Blanchard, FZ Jülich presenting her results on 'Polymers under strain'.*

Fig. 3: *Bernd Schönfeld, ETH Zürich.*

Fig. 4: *Kim Lefmann, Risø, presenting the upgrade program for RITA-II.*

Fig. 5: *The AMOR scientists Thomas Gutberlet (right) and Mukul Gupta (left) discussing with Peter Böni (TU Munich) during the poster session.*

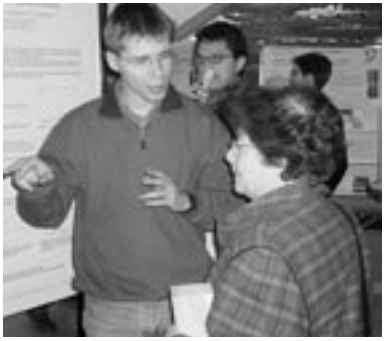


Fig. 7: *Joel Mesot, LNS and Penelope Schobinger, ETH Zürich.*

Fig. 9: *The former and the present head of the LNS diffraction group: Peter Fischer (left) and Jürg Schefer (right) talking with S. Gvasalyia (2nd from left) and A. Podlesnyak.*

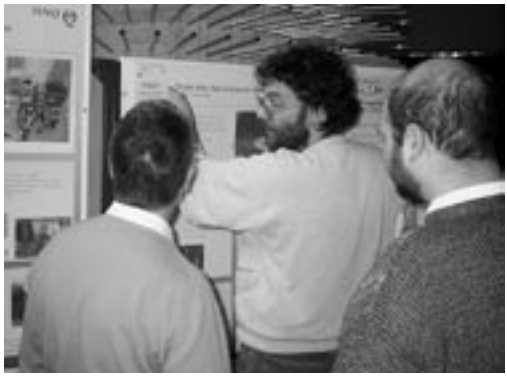


Fig. 6: *Bertrand Rössli (middle) during his attempt to explain the mysteries of triple-axis spectroscopy to Heinz Heer (left). The new TASP co-responsible (S. Gvasalyia, right) carefully listens…*

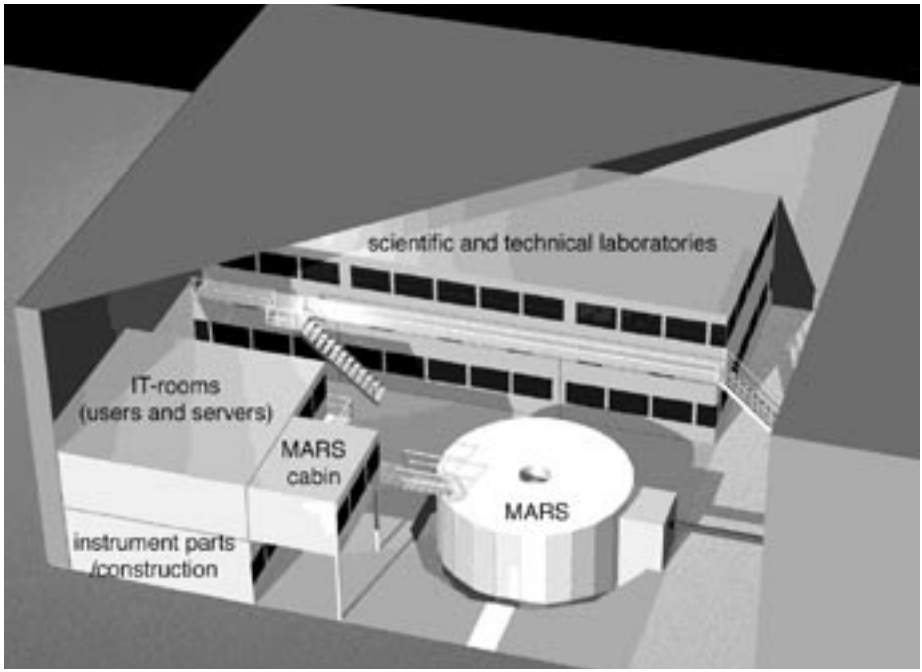
Fig. 8: *In his welcome address Kell Mortensen, Risø (left with Thomas Thurn-Albrecht, Freiburg) stressed the importance and the success of the PSI-Risø cooperation.*

Fig. 10: *The RITA-II responsible Christof Niedermayer (right) and V. Hinkov, MPI Stuttgart.*

Extension of the Neutron Guide Hall at SINQ

P. Allenspach, Laboratory for Neutron Scattering PSI & ETHZ

Soon a period of improvisation at SINQ will find its end. In September 2003 the construction of the extension of the neutron guide hall with its laboratories (see figure) will start and in May 2004 it will be ready for installations. Hence, from summer 2004 onwards it will no longer be necessary for users to condition or prepare their samples for measurements directly at the instruments (this was especially the case for soft condensed matter samples) and the delicate sample environments such as cryostats, magnets, and furnaces will be stored and maintained in dedicated laboratories. Besides the chemistry laboratory for users and the sample environment laboratories most notable for the users is the new backscattering spectrometer MARS (start of installation in 2004; tests and commissioning in 2005) and the new user IT-room with all necessary and up-to-date installations. Larger measurement teams find here also space to discuss their ongoing measurements and the results, eradicating the „canned-sardine" situations in the instrument cabins. In addition to all that, the extension will also host laboratories for the technical infrastructure.



Announcements

New SGN/SSDN Members

The Swiss Neutron Scattering Society welcomes the following new members:
• U. Filges (LNS, PSI&ETHZ)
Presently the SGN has 188 members.

SINQ Proposal Deadline

The next deadline for the submission of proposals for SINQ will be
15 November 2003

For more detailed information please have a look at the SINQ webpages (http://sinq.web.psi.ch).

ILL access

As a result of the refit programme the ILL only runs three reactor cycles per year at present. At the last meeting of the Scientific Council it was announced that for organisational reasons two cycles of beam time will be distributed in the 2003 autumn round of submissions and only one cycle in the 2004 spring round. To improve their chances of success ILL users should take note of this and time their submissions accordingly.

H. Güdel, Bern, April 2003

PSI Scientific Report 2002, Volume III,

Department of Condensed Matter Research with Neutrons and Muons (NUM)

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J. Schefer, D. Castellazzi and M. Braun-Shea (Editors)

Open Positions at ILL

The 'Swiss Bundesamt für Bildung und Wissenschaft, BBW' regularly informs us about open positions for scientists, engineers or technicians at the Institut Laue Langevin (ILL), Grenoble. Quite often it happens that the deadline for the application has already passed before the next issue of 'Swiss Neutron News' is published such that an announcement of the open job here does not make sense anymore.

Therefore we would like to bring to your notice that you can easily check the actual open positions at ILL at the ILL-homepage: http://www.ill.fr following the link 'Job Offers'.

Conferences 2003

for an updated list please also have a look at: http://sinq.web.psi.ch/sinq/links.html

date	place	conference
30/06-25/07	Boulder, USA	School on Frontiers in Magnetism http://research.yale.edu/boulder
06-11/07	Linz	14th Int. Conf. On Solid Compounds of Transition Elements Scte2003@jku.at
09-10/07	Oak Ridge	Workshop on Ultra Small Angle Scattering IConUSAS http://www.sns.gov/iconusas_workshop/iconusas_2003.htm
14-17/07	Washington	Scientific Opportunities with Cold Neutron, TOF Spectroscopy http://sokolii.phys.psu.edu/cnw/
23-25/07	Florence	International Conference on Theoretical Trends in Low-Dimensional Magnetism (ICM) http://infmweb.fi.infn.it/LDM03
27/07-01/08	Rome	International Conference on Magnetism (ICM) http://www.icm2003.mlib.cnr.it
04-06/08	Venice	Int. Conf. on Polarised Neutrons and Sync. X-rays for Magnetism (PNSXM 2003) http://venice.infm.it/

date	place	conference
09-16/08	Zuoz	2nd PSI Summer School on Condensed Matter Research: Soft Condensed Matter http://sls.web.psi.ch/view.php/science/events/Conferences/Zuoz2003/Scope.html
12-15/08	Samarkand	5th International Conference on Modern Problems of Nuclear Physics http://www.academy.uz/conf/index.htm
24-29/08	Geneva	Int. Conference on f-Elements (ICFE '5) http://ereswww.epfl.ch
24-29/08	Durban	African Neutron Diffraction Meeting http://www.sacrs.org.za/andm/index.html
26-30/08	Grenoble	Highly Frustrated Magnetism http://www.grenoble.cnrs.fr/hfm2003/
01-05/09	Lausanne	EUROMAT 2003 http://www.euromat2003.fems.org/
03-06/09	Montpellier	3rd European Conference on Neutron Scattering (ECNS 2003) http://www.ldv.univ-montp2.fr
03-06/09	Szczecin	7th Int. Conf. on Intermolecular and Magnetic Interactions, nikos.guskos@ps.pl
08-18/09	Oxford	8th Oxford School on Neutron Scattering http://www.isis.rl.ac.uk/conferences/osns2003/
10-13/09	Risø	International Symposium on Magnetismand Superconductivity http://www.risoe.dk/afm/symp24/
14-19/09	Stara Lesna	Structure Solution from Powder Diffr. Data http://www.sspd-03.sav.sk/
15-26/09	Jülich	7th Lab Course on Neutron Scattering d.richter@fz-juelich.de
22-25/09	Trieste	DYPROSO XXIX http://www.elettra.trieste.it/dyproso/
29/09-01/10	Les Diablerets	Swiss Workshop on Materials with Novel Electronic Properties, MANEP http://www.manep.ch/swm03/
04-10/10	Erice	Symmetry and Heterogeneity in High-Temperature Superconductors antonio.bianconi@romal.infn.it

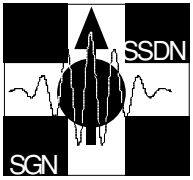
ECNS 2003

Please remember the approaching

3rd European Conference on Neutron Scattering

Montpellier, 3-6 September 2003

http://www.ecns2003.org



Schweizerische Gesellschaft für Neutronenstreuung
Société Suisse pour la Diffusion des Neutrons
Swiss Neutron Scattering Society

Anmeldeformular / Registration Form

Name / Surname ……

Vorname / First Name……..……..

Akad. Titel / Academic Degree ……

Geschäftsadresse / Business Address ……

……..……...

……..……...

Telefon / Phone ……

Fax ……

E-mail ……

Privatadresse / Home Address ……..…….

……..……...

……..……...

Zustelladresse / Mailing Address: O Geschäft / Business
O Privat / Home

Datum / Date Unterschrift / Signature

…… ……...

Please submit to: **Secretariat SGN/SSDN, c/o Laboratory for Neutron Scattering, bldg. WHGA/147, Paul Scherrer Institut, CH-5232 Villigen PSI**

RESEARCH PROPOSAL

Paul Scherrer Institut
SINQ Scientific Coordination Office
CH-5232 Villigen-PSI, Switzerland
phone: +41 56 310 2087, **fax:** +41 56 310 2939
email: sinq@psi.ch, **web:** http://sinq.web.psi.ch

SINQ
Swiss Spallation Neutron Source

Experiment Title:	**Proposal number** (to be completed by SINQ-SCO)

[ ] Short term proposal (next allocation period)	**[ ] Long term proposal (2 years)**

Proposer *(to whom correspondence will be addressed)*	
Name and first name: Address:	Phone: Fax: Email:
Co-proposer(s): Name: Address: *(if different from above)* Phone/Fax/Email:	

Sample description

Substance and formula: Mass: Size:

[ ] Polycrystalline [ ] Single crystal [ ] Multilayer [ ] Liquid [ ] Gas

Sample Container: Space group: Unit cell: a= b= c=

Area of Research

[ ] strongly correlated electron systems [ ] quantum spin systems [ ] superconductivity
[ ] structure [ ] dynamics [ ] magnetism [ ] materials science
[ ] polymer systems [ ] colloidal systems [ ] biological systems [ ] others

Hazard

Is there any danger associated with the sample or sample environment?
[ ] No [ ] Yes [ ] Uncertain If yes or uncertain, please give details of the risks associated:

Experimental details

Instrument	**Days**	**Sample cond.:** Temp., Pressure, Magn. field	**Exp. cond.:** E, ΔE, λ, Δλ, Q, ΔQ

[ ] New SINQ user [ ] New proposal [ ] Continuation of…….. [ ] Resubmission of……..

Requested dates:	**Unacceptable dates:**

Experiment Title:

Research funded by:

Scientific background/Aim of experiment: *(Please restrict to the space given within this box!)*

I certify that the above details are complete and correct.
Date: Signature of proposer: