Minutes of the 6th AONSA Executive Committee Meeting

Inter-University Center, Institute of Technology Bandung (ITB), Bandung, Indonesia
May 19-20, 2011

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Minutes of the 6th AONSA Executive Committee Meeting

- Date: 9:00-12:30, May 19 (Thursday), 2011
  9:00-12:30, May 20 (Friday), 2011
- Place: Institute of Technology Bandung (ITB), Bandung, Indonesia
- Participants:

[**Board Members**]
John White (President, ANU)
Yasuhiko Fujii (Vice-President, CROSS)
Sung-Min Choi (Secretary, KAIST)
Wen-Hsien Li (Treasurer, NCU)
[**Members**]
Ki Bong Lee (POSTECH)
Chris Ling (U. of Sydney)
Toshiji Kanaya (Kyoto U., on the behalf of K. Yamada)
Hsiung Chou (National Sun Yat-Sen Univ., on the behalf of K.S. Liang)
[**Observers**]
Shane Kennedy (Bragg Institute/ANSTO, on the behalf of R. Robinson)
Kye Hong Lee (HANARO/KAERI)
Mitsuhiro Shibayama (JRR3)
Gunawan (BATAN)
Adbul Aziz Mohamed (Malaysian Nuclear Agency)
Dongfeng Chen (CARR/CIAE)
[Special Observers]
Iman Kuntoro (BATAN)
Edy Giri Rachman Putra (BATAN)
Hesheng Chen (CSNS)
Ismunandar (ITB)
Megat Harun Al Rashid (Malaysian Nuclear Agency)

1. **Opening Remarks by President, John White**

The meeting was started with opening remarks of President, John White, and noted the great efforts and hospitality of Dr. Iman Kuntoro, Dr. Gunawan, Dr. Edy Giri Rachman Putra at BATAN and Dr. Ismunandar at Institute of Technology Bandung (ITB) to arrange the 6th EC meeting at the ITB in Bandung, Indonesia. This was highly appreciated by all EC participants and followed by self-introduction of participants.

2. **Approval of Agenda**

The agenda of the 6th AONSA EC meeting was approved by the EC.

3. **Brief of the Minutes of the 5th AONSA EC Meeting in India**

The minutes of the 5th AONSA EC meeting in Mumbai, India, which were approved by the EC over email in October 2011, was distributed to all the EC participants in hard copies and noted in the EC.

4. **Approval of the Minutes of the informal AONSA EC Meeting in Korea**

The minutes of the informal AONSA EC meeting held in Daejeon, Korea were distributed to all the EC participants in hard copies and approved by the EC.

5. **Reports of the AONSA Office.**

Recent activities of the AONSA office (Appendix 1) were reported to the meeting, which include

- A Board Meeting held on February 20, 2011, near Narita Airport in Japan
- Updates of AONSA Website
- Two new JPY bank accounts for AONSA membership fee and AONSA Prize fund
- Publication of AONSA Newsletters in April 2011

6. **Report of the Minutes of the Board Meeting on February 20, 2011.**

The minutes of the Board meeting held on February 20, 2011 at Narita in Japan were distributed to all the EC participants in hard copies and briefly explained by President. Items from the meeting were presented to the EC in the formal Agenda of the current meeting for discussion and decision.

7. **Earthquake and Neutron Facilities in Japan and AONSA Actions.**

- President and all the EC participants expressed their strong support for Japanese scientists and neutron facilities.
- Japanese colleagues expressed their gratitude for the strong support and actions from all AONSA colleagues.

- The damages occurred by big earthquake and the current status of recovery of J-PARC (Appendix 2) and JRR-3 (Appendix 3) were reported by Y. Fujii and M. Shibayama, respectively.
- Actions of JSNS to recover from the earthquake were reported by T. Kanaya. (Appendix 4)
- Neutron beamtime offers from HANARO and ANSTO (together with other neutron facilities in US and Europe) for Japanese scientists were appreciated and the key contact persons for communication were presented.
- All EC participants were very sorry for the damages but also very glad that the damages were less severe than expected and the recovery is in good process with strong leadership of Japanese colleagues. All the EC participants hope that the recovery is done by the end of December this year as planned and J-PARC and JRR3 becomes available in the early 2012.
- President J. White will bring the reports from the Executive meeting of ENSA which will be held in Prague during ECNS in July 2011 (J. White is invited to the Executive meeting of ENSA).

8. Discussions and Decisions

8.1 Formal matters

8.1.1 Change of EC members and observers

Recently, there were requests or inquiry about the change of EC members or observers during their term. It was explained that the reason for the present rules was to have a continuity of EC membership for a two year period. While there were some opinions to allow the EC members to change at any time when presidency of each member association changes within the normal two year period the EC agreed on the following procedure for the continuity of EC.

- In the case of new presidency of member Association, the current EC member (the previous President of the member Association) can request the EC to nominate the new President of member Association to participate the EC on the behalf of him/her. The nominee will have full responsibility and rights of EC member.

The procedure for the nomination of observers, proposed by the Board, was presented to the EC and agreed by the EC.

- All nominations including observers should be made by each member association each two year at the 2nd EC meeting the 2nd year of the term. For regions without associations, the EC can formally nominate and decide.
- The observers from neutron facilities or major projects should be the facility director or his/her nominee.

Action: These should be included in the rules for nomination of EC members and observers.

8.1.2 Clarification on the rules for nomination of Board members.

The need for clarification on the rules for nomination of Board members was pointed out during the Board meeting and briefed to the EC.

The Article 5.1 Board states "The holder of each of these positions will be elected by the committee from amongst the current registered delegates." It was noted that we are supposed to nominate new Board members in the 2nd EC meeting of the 2nd year of term. The 'current' indicates the members of the current EC (not the new EC to be formed).

The EC agreed that for the effective operation of Board it is desirable to nominate Board members amongst 'current' EC members who are also nominated for the new EC.

8.1.3 AONSA Facility Director's meeting.

The origin and purpose of the facility directors' meeting was explained by President J. White. The discussion about having this meeting started during the 5th EC in India, followed by a series of discussions at the informal EC in Korea (October 2010), virtual Board meeting, and the Board meeting in Japan (February 2011).

The need of a Facility Directors meeting, associated with AONSA's Executive meeting, has evolved in 2010-2011. The broad Aims of AONSA – Article 2 in the Articles of Association imply this wider and coherent cooperation. Practical ways to improve mutual cooperation and scientific access between centres (EC Mumbai) and the need for coordinated approaches in developing, for example, TC proposals to IAEA (Informal EC, Daejeon) are examples. At a different level, proposals to international bodies such as IAEA, ICSU and the IUCr could reinforce the efforts with funding (EC May 2010) if coordinated with the Asia-Oceania facilities. Some of the history of these features is given in Appendix 5.

The letter from President J. White to neutron Facility Directors regarding possible AONSA Visiting Fellows was noted (Appendix 6). It was pointed out that the name AONSA fellow requires some financial support from AONSA (although it may be partial).

The 1st AONSA Facility Directors' meeting was very successfully held at BATAN, Bandung, Indonesia in the afternoon of May 19th, 2011. The minutes of the meeting is

attached (Appendix x7).

8.2 Process matters

- No items.

8.3 Financial Matters

8.3.1 AONSA Annual Fee and Budget Report.

The AONSA Annual Fee and Budget report was made by Treasurer, Wen-Hsien Li, and approved (Appendix 8).

Payment of Annual Membership Fee

It was noted that the annual AONSA membership fee of INSS in 2011 was paid. The EC agreed that the membership fees of INSS for the first two years (2009 and 2010) are waived to help the participation of INSS.

AONSA expect INSS to continue their payment of annual AONSA membership fee every year from now on.

Support of J-PARC

The EC acknowledged the support of J-PARC for an administrative secretary at AONSA office.

Acquittal of expenses

It was agreed that AONSA requires receipts for all components of the meetings that need to be paid by AONSA.

8.3.2 AONSA Prize Fund

Current Status of AONSA Prize Fund

The current status of AONSA Prize fund was reported by Treasurer Wen-Hsien Li (Appendix 9). The donations from NSRRC, HANARO, ANSTO, ISSP/U of Tokyo, Mahn Won Kim and KNBUA are highly appreciated by all the EC. Currently, the total amount of donation for the prize is USD16,000.

Report of Virtual Board Meeting on the Donation for AONSA Prize

The results of virtual Board meeting on the donation for AONSA Prize fund (which was held during December 2010) were reported. All items reported were agreed by the EC.

- It was agreed that the amount of donation $5,000 for each major donor is only a reference number, which will have to be decided by the donators depending on their will.
- It was agreed that AONSA will ask for donations every two years (every presidency).
- It was noted that, with this donation, we can have enough funding to make a new Prize for young scientists.

How to resolve the difficulties in financially contributing for AONSA Prize

- It was noted that some Associations and Institutes have difficulties in directly donating for AONSA Prize fund due to various issues. Possible ways to resolve the difficulties (discussed during the Board meeting on February 20, 2011) including the Association donation attached to their annual membership fee, were reported to the EC. With the further discussions at the EC, the following way, which will allow member associations can make more financial contribution to AONSA without difficulties, is agreed by the EC.

The AONSA annual membership fee is in the unit of USD 1,000, with the minimum fee as two units. The use of units more than two can be specified by paying association or AONSA (if it is not specified by the donor).

- It was confirmed that there is no conflict in the AONSA articles for changing the rules for AOSNA annual membership fee.

8.3.3 Opening new JPY bank accounts

It was reported that two new JPY bank accounts (one for AONSA annual membership fee and the other for AONSA Prize fund with initial deposit of USD 500, respectively) were opened to avoid the difficulties in paying the handling charge of international wire transfer. It is noted that the bank accounts for AONSA membership fee and AONSA Prize fund are in USD.

8.4 AONSA Prize

8.4.1 Report from Selection Committee

Nomination and Approval

- Y. Fujii (Chair of the Selection Committee for the AONSA Prize 2011) reported that the Selection Committee nominates unanimously Professor Noboru Watanabe (Scientific Consultant of JAEA, Emeritus Professor of KEK) as a recipient of the AONSA Prize 2011 for his great contribution to spallation neutron source. The nomination was accompanied with a detailed report on selection process. (Appendix 10)
- The nomination was strongly supported and officially approved by the EC.
- The EC greatly appreciated the selection committee for their excellent work.
- The official citation for the contributions of the recipient will be prepared by Y. Fujii

(Chair of the Selection Committee) and circulated to the EC for review and approval. Once it is approved, there will be a press release by AONSA and a formal letter to Professor Noboru Watanabe setting out the terms of the award. This will be signed by Professor Fujii and the President.

Prize Money and Commemorative Item

It was approved by the EC that the AONSA Prize consists of

- Plaque citing the contributions by the recipient
- Monetary Prize of USD 5,000
- Travel expenses for attending the Ceremony and Lecture

8.5 AONSA Neutron School

8.5.1 The 4th AONSA Neutron School

Cancellation of the 4th AONSA Neutron School in Japan

- It was reported by M. Shibayama (Principal of the 4th AONSA Neutron School) that the 4th AONSA Neutron School in Japan (November 13-18, 2011) had been cancelled due to the large earthquake on March 11, 2011 and resulting damages at J-PARC and JRR-3 (Appendix 11).
- It was also noted that hosting AONSA Neutron School in 2012 in Japan would not be possible due to J-PARC accelerator upgrade plan in 2012 (scheduled shutdown of J-PARC from July to December 2012) and very limited electric power supply in 2012 (due to Fukushima Nuclear Power Plant accidents following the earthquake and tsunami).
- The EC agreed that, tentatively, AONSA Neutron School in 2013 will be held in Japan.

The 4th AONSA Neutron School at ANSTO

- An offer to hold the 4th AONSA Neutron School at ANSTO was received with thanks. The EC agreed that the 4th AONSA Neutron School in 2011 will be hosted by ANSTO.
- The EC suggested that the schedule of the school should not be too close to that of the 1st AOCNS. The schedule of the school will be informed to the EC by ANSTO by email.
- The EC agreed that AONSA will support USD 3,000 for students from developing countries to attend the school.
- It was pointed out that ANSTO should contact IAEA immediately for financial support for the school. (JSNS applied for the IAEA support but after earthquake they cancelled their application.)

The 5th AONSA Neutron School in 2012

- It was suggested that Chinese community host the 5th AONSA Neutron School in 2012.
- Dongfeng Chen agreed to discuss with his colleagues for the possibility of hosting the

school in 2012 and inform the EC their decision within a week.

- HANARO offered the possibility of hosting the 5th AONSA Neutron School in 2012, if Chinese community is not available for the school in 2012.

8.6 Asia-Oceania Conference on Neutron Scattering (AOCNS)

8.6.1 Report from the organizing committee of the 1st AOCNS

The great efforts of the organizers of 1st AOCNS were highly appreciated by all the EC participants. Report from the Organizing Committee of the 1st AOCNS in Japan was presented by T. Kanaya (Chair of the 1st AOCNS, Appendix 12). It was announced by the organizers that the 1st AOCNS will be held as planned even if there was big earthquake in Japan recently.

- The report includes 1) schedule of call for abstracts and submission deadline, 2) registration fee and optional fee, 3) financial support for students from developing countries, 4) accommodation, 5) meetings of regional associations and 6) AONSA EC meeting
- The EC agreed that the voluntary contribution of participants to AONSA, as an option during registration, will be in the unit of 1,000 JPY (=8 USD per unit) and up to 10 units.
- It was noted that JSNS, KNBUA, ANBUG and TWNSS planned to have their association meetings during the 1st AOCNS and the organizers will reserve rooms for that.
- It was noted that the International Scientific Program Committee are having difficulties getting enough suggestions for scientific sessions, plenary speakers, and keynote speakers. To help the situation, the EC participants agreed that they will provide their comments or suggestions for the scientific programs.
- The organizers aim to have 550 participants and ask member Associations to encourage their members to attend the AOCNS.

8.6.2 Report of Board Meeting on the 1st AOCNS

Some issues related to AOCNS discussed at the AONSA Board meeting (February 20, 2011) were reported by S.M. Choi, Secretary including the following items (Appendix 13).

a) Voluntary contribution as an option during AOCNS registration
   - In the unit of 1,000 JPY and up to 10 units.
   - This is for the activities of AONSA including student supports and so on.

b) Naming of “sponsorship” of AOCNS

c) Naming protocol used in the Poster of AOCNS

d) Advertisement of AONSA during AOCNS
   - agreed to invite Presidents of NSSA and ENSA to the opening session

- agreed to invite President of AOFSRR to the special session on Complementary Use of Neutron and X-ray

3) Schedule of the 7th EC during AOCNS

- November 20 (Sunday), 2011 in Tsukuba, Japan

All the items listed above were approved by the EC.

Action: The protocols in 2) and 3) will be defined as rules.

8.6.3 Possible bids for the 2nd AOCNS

- It was confirmed at the EC that ANBUG, TWNSS and INSS plan to bid for the 2nd AOCNS in 2015.
- It was noted that **the deadline for submitting proposals to Secretary S.-M. Choi (sungmin@kaist.ac.kr) is September 30, 2011**.
- It was noted that the decision will be made at the 7th EC meeting (on November 20, 2011) by secret voting of EC members.

8.7 AONSA Newsletters

It was reported by Secretary S.-M. Choi that AONSA Newsletter Vol. 3 No. 1 was published on April 27, 2011. The efforts of AONSA office, especially Junko Akutsu, were greatly appreciated by all the EC participants. The next issue is scheduled to be published in October, 2011.

It was agreed that an official Editor of AONSA Newsletters will be assigned at the 7th EC meeting. Until that time, Y. Fujii, Vice President, will continuously support such an editorial task.

8.8 AONSA Activities Related to South-East Asia

President J.White's visits to Singapore and Malaysia

President J. White briefed his visits to Singapore (Appendix 14) and Malaysia (Appendix 15) in 2011 with a summary of his visits and a series of communications with government officials (Malaysian) and colleagues.

Lectures at ITB, Bandung, Indonesia on May 19, 2011

Guest lectures by EC participants were given to three groups of scientists and students at ITB

1) Microbiology/Biochemistry/Biology group: J.W. White
2) Physics and Applied Physics: S.-M. Choi, K.-B. Lee, and W.-H. Li
3) Physical and Inorganic Chemistry: C. Ling and T. Kanaya

Each group lectures was reported to the EC by J.W. White, S.-M. Choi and T. Kanaya, respectively. All lectures were very successful and well attended by scientists and students at ITB. Many good questions from the audience were highly recognized by all the lecturers. It was unanimously agreed that the guest lectures at ITB by EC participants were highly valuable thing to do.

The EC greatly appreciated the organizers, Edy Giri Rachman Putra and his colleagues, for their excellent preparation and arrangement of the lectures.

It was recommended and agreed that an article about the Guest Lectures at ITB will be submitted to Neutron News. Edy Giri Rachman Putra will prepare an article for this.

Invitation to Polymer Conference, Nov. 28 - Dec. 1, 2011, Bali, Indonesia

A brief about the conference was given by Edy Giri Rachman Putra. The conference is inviting lecturers from Asia-Oceania and Europe. This activity is to promote neutron science in the region. All the EC participants expressed their wishes for the success of the conference. It was suggested that the website of the conference will be linked to AONSA website (Edy Riri Rachman Putra will help this).

8.9 Possible Collaborations with IAEA and ICSU

Issues on IAEA TC and ICSU proposals

The Board discussion on this was reported to the EC (Appendix 16).

Opinions from Directors' about future possibilities

Shane Kennedy gave a brief report about Directors' meeting (verbal). The meeting was very fruitful and all participants of the meeting unanimously agreed to continue the meeting. The 2nd Directors' meeting is planned to be held during the 1st AOCNS. It was suggested that instrumentation workshop should be held at the end of AOCNS.

8.10 AONSA Outreach

Vice-President Y. Fujii's Communications with ENSA and NSSA

Communications with ENSA and NSSA were briefed by Vice-President Y. Fujii (Appendix 17).

Report of AONSA-ENSA-NSSA Presidents' Meeting in Japan

A report about the meeting, which was reported in AONSA Newsletters Vol. 3. No. 1, was presented by Vice-President Y. Fujii (Appendix 18). The meeting was held on February 23, 2011, in Tokai, Japan. In the meeting, the experiences of running their organizations were

exchanged. It was noted that AONSA is the only association that have membership fee. This was recognized as a very good thing for the neutron community. Considering the very strong activities of AONSA, it could be a role model.

Three Presidents agreed to

- exchange information
- invite members into their regional meetings
- link homepage each other
- meet again together (possibly at the ICNS in Edinburgh, UK).

Prize winner of each society may be invited to the conference each other (this is tentative and will be worked on).

Action: Y. Fujii will submit an article about AONSA-ENSA-NSSA Presidents' meeting to Neutron News.

Vice-President Y. Fujii's Communications with AOFSRR

Communications with AOFSRR were briefed by Vice-President Y. Fujii (Appendix 19).

9. Calendar of AONSA Activities (Appendix 20)

10. Reports from Neutron Associations

Reports from associations and communities were made as following. All the reports are included as Appendix 21.

- ANBUG (Chris Ling)
- INSS (delivered by S.M. Choi on the behalf of Samrath Chaplot)
- JSNS (Toshiji Kanaya)
- KNBUA (Ki Bong Lee)
- TWNSS (Hsiung Chou)
- Indonesian Neutron Community (Gunawan)
- Malaysian Neutron Community (Abdul Aziz Mohamed)
- Chinese Neutron Community (Dongfeng Chen)

11. Reports from Neutron Facilities

Reports from neutron facilities were made as following. All the reports are included as Appendix 22.

- J-PARC (Yasuhiko. Fujii)
- JRR-3 (Mitsuhiro Shibayama)

- ANSTO (Shane Kennedy)
- HANARO (Kye Hong Lee)
- BARC (delivered by S.M. Choi on the behalf of Samrath Chaplot)
- SIKKA (Wen-Hsien Li)
- CSNS (Hesheng Chen)
- CARR (Dongfeng Chen)

12. EC Dinner

On May 19, 2011, an EC dinner was hosted by Ir. Iman Kuntoro, Director of Center for Technology of Nuclear Industry Materials, BATAN and attended by all EC participants and faculty members of ITB. The great efforts and hospitality of BATAN (especially Ir. Iman Kuntoro, Gunawan and Edy Giri Rachman Putra) and ITB (especially Ismunandar) for hosting the 6th EC and guest lectures at ITB were highly appreciated by all EC participants.

Appendix 1
Report from the AONSA Office

1. A Board Meeting was held in Japan (near Narita Airport) on February 20, 2011.
   The Minutes of the meeting (Appendix 4) was sent out to EC on March 2, 2011.

2. The AONSA website (http://www.aonsa.org) has been updated for the following items.
   - The Board Members, EC Members and Observers.
   - AOCNS, AONSA Neutron School, AONSA Prize.
   - Call for Proposals for the 2nd AOCNS in 2015
   - President's Messages for the Disaster and Recovery in Japan
   - others

   * AONSA website was temporarily shutdown due to earthquake on March 11, 2011 and is now recovered.

3. Two new Japanese Yen bank accounts for Annual Fee and AONSA Prize Fund, respectively, have been opened to pay the international wire-transfer fee efficiently.

4. AONSA Newsletters
   A Call for Articles has been sent out to EC members and observers on March 9, 2011 and a reminder on April 12, 2011.

5. AONSA Office
   AONSA office was temporarily shutdown due to earthquake on March 11, 2011 and is now being recovered.

Appendix 2
Report on the Recovery of J-PARC

The content of Appendix 2 will be placed at the end of the minutes.

Appendix 3
Report on the Recovery of JRR-3

The content of Appendix 3 will be placed at the end of the minutes.

Appendix 4
JSNS in response to the Great East-Japan Earthquake

First of all we express our deepest gratitude to the support to Japanese neutron scientists. Immediately after the serious disaster happened on March 11, we have received kind messages and kind offers to support Japanese neutron scientists from many neutron facilities all over the world, including HANARO, ANSTO, SNS, HFIR and so on. We are very much encouraged and would appreciate very much the kind offers.

* Professor J. While (President of AONSA) called for support of Japanese neutron scientists to many neutron facilities all over the world.
* Professor M. Steiner (Chair of ENSA) informed us that the major neutron scattering centers in Europe agreed to help Japanese neutron users.

1) Main Roles of JSNS:
   - Providing information to JSNS members.
   - Financial Support to JSNS members in their experiments abroad.

2) Actions of JSNS

31 Mar., '11: Releasing 1st JSNS Appeal.

06 Apr., '11: Council Meeting (extraordinary, expanded).
- Cancelation of holding AONSA Neutron School was proposed and decided.
- Series of actions were discussed such as an exploratory meeting to the general public.
- Financial supports were decided for travel expense to do experiments abroad. (3,500,000 JPY = 46,000 USD)

11 Apr., '11: Releasing 2nd JSNS Appeal.

12 Apr., '11: Presenting the petition for recovery of J-PARC and JRR-3 to MEXT, Japan.

14 Apr., '11: Starting to provide information of applying proposals to foreign facilities.

15 Apr., '11: Announcement of JSNS financial support program for carrying out experiments abroad.

27 Apr., '11: Press release on 'Appeal from 34 Academic Societies (440,000 members including JSNS)' for supporting students/young scientists, recovery of research/education facilities and domestic/international delivery of accurate information on nuclear accidents.

3) Our response to foreign neutron facilities

In short term:

Transfer of some of accepted JRR-3 & J-PARC proposals to foreign facilities.

Key contact persons:

M. Shibayama (ISSP), K. Kakurai(JAEA): Reactor

H. Seto (KEK, J-PARC): Pulse

In medium/long term:

Basically individual users apply to foreign neutron facilities which receive/accept proposals from Japanese users.

Key consultants:

M. Shibayama(ISSP) for ANSTO, HANARO, HFIR

K. Kakurai(JAEA) for BER II, LLB, FRM2, JCNS, ILL, PSI

H. Seto(KEK) for ISIS, SNS, LANSCE

H. Yoshizawa(ISSP) for US-Japan Collaboration Program on Neutron Scattering (ISSP side)

K. Kakurai(JAEA) for US-Japan Collaboration Program on Neutron Scattering (JAEA side)

Appendix 5
AONSA INTERNATIONAL COLLABORATION
Steps towards AONSA Directors Meetings

The history and related discussions about AONSA Directors Meeting is summarized by J. White.

AONSA Article 2: Aims

(i) To identify the needs of the neutron scattering community in Asia and Oceania.
(ii) To promote optimised use of present neutron sources in the region.
(iii) To stimulate and promote neutron scattering activities and training in the Region, and in particular to support the opportunities for young scientists.
(iv) To support long-term planning of future neutron sources.
(v) To assist with the co-ordination of the development and construction of instruments for neutron scattering.
(vi) To promote channels of communication with industry.
(vii) To disseminate to the wider community information which the powerful capabilities of neutron scattering techniques and other neutron methods.
(viii) To assist, if appropriate, affiliated bodies in the pursuit of their own goals.
(ix) To facilitate cooperation and networking amongst the neutron sources in the region.

AONSA submission to International Council of Scientific Unions (ICSU)
Foresight Consultation on "key drivers that may influence international science over the next 20 years". 24 January 2010

"AONSA's program is to support student summer schools, international conferences and promote collaboration across the region in the effective and complementary use of the new facilities that are being created or are available to all countries in our membership. It is our hope to intersect with the ICSU regional office in this work."

4th AONSA Executive Meeting, Institute of Materials Research & Engineering, Singapore May 22, 2010

6.8.1 Collaborations with International Council of Scientific Unions (ICSU)

- Recent activities in relation to the International Council of Scientific Unions (ICSU) were reported by the President. ICSU has established a regional office and is keen to intersect with scientific in our region to promote cooperation and international programs. The President has made contact with the regional office in Malaysia (Professor

Mohammed Nordin Hasan) and its Australian representative from the Academy of Science, Professor Bruce McKellar. The vice President and President met Prof Reiko Kuroda, the ICSU Vice President in Tokyo, on 20 March,

5th AONSA Executive Meeting (Tata Institute, Mumbai, October 5 2010)

6.10 Possible Collaborations with ICSU, IUCr and IAEA

Recent activities to promote collaborations between AONSA and ICSU, IUCr and IAEA were reported by J. White, President. Following a positive discussion at the Executive Committee meeting in May 2010, that AONSA should co-operate with other international organizations wishing to develop training and scientific collaboration in the Asia Oceania region, a draft proposal to the International Council of Science (Asia Pacific region) is being developed in collaboration with the Neutron scattering Commission of the International Union of Crystallography.

It is proposed to approach the nuclear centres in our region for their support to allow greater flexibility for young researchers to extend their work at complementary facilities in our region. At the EC meeting, Professor Yamada and Professor Arai suggested that we share the information about beamtime application deadlines of facilities in the region and possibly arrange them to enhance the accessibility for neutron in the region. This idea will be further developed by the Board.

AONSA Board Meeting 31-10-10 (see Appendix I)

As it was announced before, a Board meeting and an informal EC meeting will be held on October 31 (Sun) at KAIST, Daejeon. Date : October 31 (Sun), 2010Place: Faculty Conference Room (3rd Floor) at KAIST Institute (KI) Building at KAIST, Daejeon.

10:00 - 12:00: Board meeting

JWW notes taken at the 10.00 Board Meeting for verbal report to Informal Executive meeting at 14.00.

Summary: We should begin the process at the informal EC meeting of how to get cooperation between neutron scattering institutes in our region as discussed in the minutes of the 5th EC in India.

Informal EC meeting

AONSA Board and Informal Executive Committee Meetings Held at KAIST 14.00 31-10-10.

Newsletter Report

The AONSA Board and informal Executive Committee (EC) meetings were held at Korea Advanced Institute of Science and Technology (KAIST) in Daejeon, Korea, on October 31, 2010. The Board meeting in the morning was attended by John White (President), Yashuhiko Fujii (Vice-President), Sung-Min Choi (Secretary), Wen-Hsien Li (Treasurer), Mahn Won Kim (former President) and Masatoshi Arai (former Secretary) and various issues identified in the draft minutes of 5th AONSA Executive Committee meeting in India were discussed. The meeting was followed by a lunch hosted by the Basic Atomic Energy Research Institute at KAIST. At the lunch, Yong Hee Lee, Dean of Natural Science at KAIST and Ki-Bong Lee, President of Korean Neutron Beam Users Association, welcomed all the Board and informal EC participants.

The informal EC meeting in the afternoon was attended by 14 participants including Ki-Bong Lee (KNUBA), Kye Hong Lee (HANARO), Rob Robinson (ANSTO), Masatoshi Arai (J-PARC), Yuntao Liu (CIAE), Edy Giri Rachman Putra (BATAN), Abdul Aziz Mohamed (Malaysian Nuclear Agency), Kookheon Char (KNBUA), Chang Hee Lee (HANARO) and all Board members. In the meeting, all participants enjoyed very active discussions on various issues to strengthen the collaborations in the Asia-Oceania region, which made the meeting very productive. Association and facility reports were made by participants, which updated current status of user communities and facilities in the region. The meeting was followed by a dinner hosted by the Korean Neutron Beam Users Association. The minutes of the meeting will be posted in the AONSA website once it is ready.

Presentation of discussions at 10.00 am AONSA the Board Meeting by JWW **(JWW Notes)**

1. Consideration of the Minutes of the 5 EC (Mumbai) meeting agendum by agendum.

2. Report on IAEA Consultancy (27-29 October 2010) and Board discussion.

a. Possible lack of success of 2009 TC proposal to promote science and technical interchanges in ASIA-OCEANIA region. Next opportunity – propose 2012, likely success low and start not before 2014. May fail to energise our region.
b. Recommendations of the meeting

to lobby National Delegates within two weeks for IAEA meeting which will decide in mid November 2010.

Request 3 Major regional IAEA “donors” to each promise $50,000 to IAEA to kick start the process

ACTION AONSA Board members to help if possible.

c. ACTION Draft a contact letter re TC program.

(letter to delegates attached) Donors have been asked.

d. ACTION Regular contact with National Representatives on IAEA
e. ACTION Report on discussions in Indonesia re EC6 – Indonesia May 2011

AONSA Board Meeting 19- 2- 2011

2. Review of the Minutes of Board and Informal EC Meetings
The minutes of Board meetings in Mumbai, India and Daejeon, Korea, and the minutes of informal EC meeting in Daejeon, Korea were reviewed. It was ensured that all issues or action items in the minutes were covered by the agenda of this Board meeting.

3.1 Preparation of the 6th EC Meeting in Indonesia.
- The 6th EC meeting will be held on May 19-20, 2011, in Bandung, Indonesia.
- The confirmed expected number of participants of the 6th EC meeting is 14.
- Combined with the EC meeting, AONSA plans to arrange the following meetings together
1) 6th EC Meeting
2) Lectures at ITB
3) Facility Director's Meeting
4) IAEA TC Meeting (Danas Ridikas/IAEA, combined with Facility Director's meeting)
5) Follow-up Board Meeting after the EC
- Considerations for scheduling
1) For the effectiveness of Director's meeting, it should be held after the EC meeting (at least after the first half of the EC meeting)
2) There is a long break on Friday afternoon for praying time in Indonesia
3) President plans to invite Dr. Iman Kuntoro and Gunawan to the EC and Director's meetings.
4) To accommodate all the meetings, the lectures at ITB need to be either all in the morning or all in the afternoon (not split into morning and afternoon).
- The tentative schedule of the 6th EC meeting in Indonesia (suggested by Edy) and current status of arrangement were reviewed. Taking all the issues into account, two tentative revised schedules are suggested.
Option 1
May 19 (Thursday)

Morning: EC Meeting
Afternoon: EC Meeting
Evening: EC Dinner with Indonesian Colleagues
May 20 (Friday)
Morning: Lectures at ITB & Director's Meeting, simultaneously
Afternoon: Follow-up Board Meeting.

Option 2

May 19 (Thursday)
Morning: EC Meeting
Afternoon: Lectures at ITB & Director's Meeting, simultaneously
Evening: EC Dinner with Indonesian Colleagues
May 20 (Friday)
Morning: EC Meeting
Afternoon: Follow-up Board Meeting.

Action

- S.M. Choi will consult with Edy Giri Rachman Putra for the schedule and try to finalize the schedule of meetings by the end of the 1st week of March.
- S.M. Choi will work with Edy Giri Rachman Putra for the local arrangements (including transportation & hotels). AONSA will follow suggestions from Edy.
- J. White will write a letter to all directors who will attend the EC meeting calling for Facility Director's meeting. Here, the directors eligible for the Facility Director's Meeting are the directors or representatives of major neutron facilities listed as AONSA observers.
- J. White will write a letter to Danas Ridikas (IAEA) for the IAEA TC Meeting combined with the Facility Director's meeting.

Other issues

- It was noted that a recent trial for IAEA TC for neutron scattering network in the Asia-Oceania region was failed and possible reasons for that were discussed. Since it is expected that there will be another chance for application (in 2012) for IAEA TC with a bigger and longer (2014-2016) proposal, we should be well prepared for that.

The Director's meeting with IAEA personnel present this time would be a good starting point to prepare it. It was emphasized that the contents of IAEA TC should be well arranged not to conflict with other IAEA proposals.

- It was noted that IAEA Consultancy Meeting for Neutron Source (Tokai, Japan, November 22-25, 2011) is scheduled during the 1st AOCNS.
- The information about the Microbiology Mini-Symposium at ITB was forwarded to all EC members and observers.

AONSA President to AONSA Facility Directors

Asia-Oceania Neutron Scattering Association
AONSA Office
c/o Neutron Science Section,
J-PARC Center, Japan Atomic Energy Agency
2-4 Shirakata-Shirane, Tokai, Ibaraki 319-1195, Japan
Phone: +81-29-284-3752, Fax: +81-29-284-3889
http://www.aonsa.org/

From the President

Professor John.W.White CMG, FAA, FRS

Email: jww@rsc.anu.edu.au, http://rsc.anu.edu.au/index.php

11 March 2011

Asia-Oceania Facility Directors Meeting 19 May 2011
Bandung, Indonesia

On behalf of AONSA we would like to thank you for your expressed intention of attending the first meeting of Directors of neutron scattering centres in our region to be held at the Institute of Technology, Bandung in conjunction with AONSA's sixth Executive Committee meeting.

Looking to the future of neutron scattering developments in our region, the AONSA Informal Executive Daejeon 31 October 2010, explored closer cooperation with the Centres on future planning of our programs such as the Neutron Schools, Conferences and other forms of collaboration. This would be done through a meeting of Directors coincident with the AONSA Executive.

We hope that this first meeting will bring together ideas for future collaboration and will be able to report to a meeting of the Executive on 20 May to allow wide discussion of future possibilities through the AONSA mechanisms.

We look forward to meeting you in Bandung.

Yours sincerely

R.C. Robinson

Dr Rob Robinson (interim Chairman of the Directors meeting))

John W White

John White (President of AONSA)

11 March 2011 AONSA President to Dr Danas Ridikas at IAEA

To: D.Ridikas@iaea.org
From: John White <jww@rsc.anu.edu.au>
Subject: AONSA Directors Meeting and Possible IAEA meeting in Bandung
Cc: <e.g.r.putra@gmail.com>
Bcc:

Dear Danas,

I am following up on your suggestion of 22 December 2010 (below) in connection with the coincident AONSA Executive, Facility Directors and AONSA sponsored symposium for Indonesian colleagues which will all be held at Bandung on 19 and 20 May this year as foreshadowed. The relevant correspondence is below this message.

AONSA would be glad to hear from you about planning for a new TC proposal - which may need detailed preliminary discussion as soon as possible between the eventual partners. The Facility Directors meeting may be a convenient way to start that discussion.

Edy Giri Rachman Putra and our Indonesian colleagues have been thinking about this and keeping AONSA involved recently and AONSA would like to have a clear picture of the possibilities.

The AONSA Facility Directors meeting is not the same thing as a meeting to prepare the new TC proposal. Consistent with our Articles of association, the "charge" for the AONSA Directors meeting is :

Looking to the future of neutron scattering developments in our region, the AONSA Informal Executive Daejeon 31 October 2010, explored closer cooperation with the Centres on future planning of our programs such as the Neutron Schools, Conferences and other forms of collaboration. This would be done through a meeting of Directors coincident with the AONSA Executive.

Professor Rob Robinson has accepted to be the interim Chair of this meeting which should plan ahead.
He has already been in contact with a number of the Facility Directors who have indicated that they can come to Bandung. He and I are sending out the formal letter of invitation today.
I am sure that we can achieve some exciting things at our meetings but we need to set the whole agenda soon.

Yours sincerely,
John

Correspondence

1) your message of 21 December 2010
Subject: RE: potential meeting in May

Date: Tue, 21 Dec 2010 16:36:18 +0100
From: <D.Ridikas@iaea.org>
To: <e.g.r.putra@gmail.com>
Cc: <jww@rsc.anu.edu.au>

Thanks for photos and information regarding the meeting in Indonesia.

We might combine the IAEA CM with this. Have thought of the week already? 16-20 May still could be fine with me. If we reach an agreement, we should start the official process in January.

Regards,
Danas

To: <D.Ridikas@iaea.org>
From: John White <jww@rsc.anu.edu.au>
Subject: RE : AONSA Directors Meeting and Possible IAEA meeting i n Bandung

Dear Danas,

Thank you for keeping us informed. I will pass your message on to the Board and Executive. I think that it will be quite valuable to work closely together for Q3 and Q4 and into 2012.

AONSA will have its first International Conference on Neutron Scattering in Tsukuba , Japan 20-24 November 2011. (The poster is attached) . The week before the conference is our neutron school at J-PARC.

We will have to see what the effects of the great earthquake disaster will be on these events - I assume that we will try to go ahead unless the effects are too bad.

We will keep you informed.

I will also put to the Board and Executive the possibility of using the Beijing occasion.

In any case we may be able to have a good pre-discussion of a joint - IAEA-AONSA - Facilities proposal at our Directors Meeting in Indonesia in May.

Yours sincerely,

John

15 March 2011 reply from Danas Ridikas.
Dear John/Edy,

unfortunately we cannot organize the IAEA meeting in such a short time frame. Our meetings and travel plans for Q2 2011 are already approved. We still could have tried it in January as indicated in my last message...

I am open for any other suggestions in Q3 or Q4. Last time Edy has mentioned a Conference he is organizing in autumn - perhaps there we could combine 2 events.

Please also note that tentatively we have scheduled the 2nd Research Coordinated Meeting (RCM) on Characterization and Testing of Materials of Relevance to Nuclear Energy Sector Using Neutron Beams" from 19 to 23 September in Beijing (China). Just now we have initiated an official process to request the CIAE to host this meeting, and Yuntao is our focal point for this event.

I've also initiated a new project on neutron beams (see attached for your informal information only and restricted distribution): the funds were requested through the PUI (peaceful uses initiaitive) framework as extrabudgetary. More information on this can be found at http://www.america.gov/st/texttrans-english/2010/October/20101015155243su0.2492879.html. Here also additional funding from donors as Korea, Japan and Australia is expected. I will keep you informed - more I should know in April, I hope. If this does not go through, the draft can serve as a starting document for a new TC project proposal in the new TC cycle, i.e. beyond 2012.

Best regards,
Danas (from Texas at the moment)

Research Reactor Officer

NAPC, Physics Section
International Atomic Energy Agency
Wagramer strasse 5, PO Box 100
A-1400 Vienna, Austria
Tel: +43 1 2600 - 21751
Fax: +43 1 26007- 21751
E-mail: D.Ridikas@iaea.org <mailto:D.Ridikas@iaea.org>

2 the Secretary of AONSA summary of the meetings 11 March 2011)
Date: Fri, 11 Mar 2011 16:14:29 +0900
Thread-Index: AcvfuI76IJq+plPKRAWPqsLpotX6Ig==

Dear Colleagues,

As you know, Edy is organizing Lectures at ITB during the EC meeting.
It is scheduled to be held in the afternoon on May 19
(during which facility Director’s meeting is scheduled simultaneously.)

After discussing with his colleagues at ITB, Edy proposed
the 5 lectures (studies using neutron scattering)for relevant groups.

1. Prof. John White (confirmed)- for Biology & Biochemistry groups
2. Prof. Yamada - for Physics group
3. Prof. Sung-Min Choi (confirmed) - for Applied Physics group
4. Prof. C. Ling - for Chemistry group
5. Prof. M. Shibayama - for Chemistry group
   (depending on if he attends Director's meeting)

Could you let Edy (e.g.r.putra@gmail.com) and me know if you are available for the lectures ? Also, please send a tentative title of your lecture as well.

Best regards,

Sung-Min

3 Recent Correspondence with Dr Edy Giri Rachman Putra

Date: Fri, 11 Mar 2011 10:00:47 +0700
Subject: Re: FW: EC meeting in Indonesia
From: Edy Giri Rachman Putra <e.g.r.putra@gmail.com>
To: John White <jww@rsc.anu.edu.au>
Cc: Sung-Min Choi <sungmin@kaist.ac.kr>

Dear John,

I have met and discussed with Mr. Iman Kuntoro regarding director facility meeting.
He mentioned that it would be better we are waiting a formal confirmation from IAEA. He is going to take an action and then ask a permission to the top level BATAN's management, when IAEA formally confirmed for having a facility (institution) meeting in Indonesia.

Thank you.
Best regards,
Edy

On Fri, Mar 11, 2011 at 6:19 AM, John White <jww@rsc.anu.edu.au> wrote:
Dear Edy,
Thank you for your meeting with Mr. Iman Kuntoro. I am glad that he and Gunawan are being kept informed. We are looking forward very much to the meetings in Bandung and hope that this will be useful for our Indonesian colleagues.

I have contacted Danas Riikas about his attending the Facility Directors meeting- as he suggested a couple of months ago. I am awaiting his reply. The meeting will be about cooperation with AONSA but I hope that it may begin the discussion of a new TC proposal also.

I am copying this to the Board and to Rob Robinson whom we have asked to be the interim chair.

Yours sincerely,
john

12 May 2011 AONSA President to Professor Rob Robinson re agenda of Facility Directors meeting in Bandung

> -----Original Message-----
> From: John White [mailto:jww@rsc.anu.edu.au]
> Sent: Thursday, 12 May 2011 5:27 PM
> To: ROBINSON, Robert
> Subject: AONSA Visiting Fellows
>
> Dear Rob,
> I attach a draft of a letter to you suggesting that the possibility of AONSA Visiting Fellows might be raised at the Directors meeting at the EC in Bandung.
> I should be glad of your comments . I have had enthusiastic support from Yasuhiko and Man-won.
> Yours sincerely,
> john

From the President
Professor John.W.White CMG, FAA, FRS
Email: jww@rsc.anu.edu.au, http://rsc.anu.edu.au/index.php

12 May 2011 **DRAFT**
AONSA Visiting Fellows

This letter is to ask the Facility Directors of neuron scattering Institutes in the Asia-Oceania region for their potential support to AONSA in mounting a pilot scheme for multilateral exchanges of one or two high quality post-doctoral fellows between Institutes per year.

The purpose is to promote Asia-Oceania collaboration by identifying some of the best young people doing neutron scattering experiments for whom access to facilities, apart from those at their home institute, would be scientifically beneficial to them and the receiving Institute. This proposal is not meant cut across current bilateral arrangements but enhance them.

In 2010, AONSA Executive and Board discussed this possibility and has the support of the Neutron Scattering Commission (IUCr) and encouragement to propose a small scheme from the regional office of the International Council of Scientific Unions (ICSU). If the Facility Directors' support were to be forthcoming, the chances of funding through ICSU and possibly IAEA would be enhanced.

I ask the Directors at their May 20 meeting in conjunction with the AONSA executive for their comments.

Yours sincerely
John White
President AONSA

From: "ROBINSON, Robert" <rro@ansto.gov.au>
To: "John White" <jww@rsc.anu.edu.au>
message from <rro@ansto.gov.au> (titania1.ansto.gov.au [137.157.57.192]);
Thu, 12 May 2011 17:45:26

Yes, I support tabling this. I guess the main question will be where the money is to come from. In our case, we are reaching the point where we cannot handle much more from a financial point of view, especially if all the money comes from the facility. We came perilously close to having one or more redundancies this time around, but I have avoided that. But leveraging might be possible, in our case.

But I think it is a good idea to table the question, and I can take care of that if you send the letter to me. I'll forward it on to all the others, if you do not send it to them directly.

……
Rob

Foreshadowed Informal EC at Daejeon.

Date: Mon, 26 Jul 2010 15:25:49 +1000
To: "Y. Fujii@CROSS" <y_fujii@cross.or.jp>
From: John White <jww@rsc.anu.edu.au>
Subject: Re: FW: International HANARO Symposium & CNRF IAC Meeting
Dear Colleagues,
Thank you Yasuhiko for your suggestion.

As many colleagues will be in Dajeon for the IAEA and then the HANARO meeting and IAC I suggest that we meet in HANARO rather than Busan for an informal Executive meeting. If many Executive members are going to Busan I am happy to go there also.

Possible dates for me are Saturday 30 October and Sunday 31 October. I presume from Key-Hong and Min Kyoung's e-mail that the IAC meeting will be held during the Symposium on the Monday or Tuesday.
Board members please let me know your plans so that we can suggest a date and place to the Executive.

Dear Sung-Min - when you are back from your vacation would you please find out the availability in either HANASO or Busan of Executive members please.
Yours sincerely,
john

Rob Robinson's Draft agenda for the First AONSA Directors meeting

Inaugural Asia-Oceania Neutron Facility Directors Meeting, in conjunction with the AONSA Executive Meeting

Bandung, Indonesia, 19-20 May 2011

Expected attendees:

CARR:	Dongfeng Chen
CSNS:	Hesheng Chen
G. A. Siwabessy Reactor:	Iman Kuntoro
HANARO:	Kye-Hong Lee
JRR-3M:	Mitsu Shibayama
OPAL:	Rob Robinson (interim chair/facilitator)

Apologies:

DHRUVA:	Samrath Chaplot
J-PARC:	Masa Arai

Proposed Agenda:

1. Introductions
2. Short statement from each facility regarding our main issues (5 minutes each)
3. What do we want to achieve from Facility Directors' Meetings like this?
   What is "in scope"? And what is "out of scope"?
4. How do we improve our user programs?
5. How do we trace the research outcomes using our facilities more effectively?
6. Are there any facility problems that we can discuss together and help/support each other?
7. How about linking AONSA facilities separately from other regional facilities at each facility or user association web site? It may include the neutron source operation schedule, proposal procedure and deadline, etc.
8. Assistance to our Japanese colleagues, in the wake of the earthquake/tsunami
9. The request from the AONSA Executive regarding "AONSA Visiting Fellows"
10. Where next?
11. Any other Business

Appendix 6
President's Letter to Facility Directors for AONSA Visiting Fellows

AONSA Office
c/o Neutron Science Section,
J-PARC Center, Japan Atomic Energy Agency
2-4 Shirakata-Shirane, Tokai, Ibaraki 319-1195, Japan
Phone: +81-29-284-3752, Fax: +81-29-284-3889
http://www.aonsa.org/

From the President

Professor John.W.White CMG, FAA, FRS

Email: jww@rsc.anu.edu.au, http://rsc.anu.edu.au/index.php

13 May 2011

AONSA Visiting Fellows

This letter is to ask the Facility Directors of neuron scattering Institutes in the Asia-Oceania region for their potential support to AONSA in mounting a pilot scheme for multilateral exchanges of one or two high quality post-doctoral fellows between Institutes per year.

The purpose is to promote Asia-Oceania collaboration by identifying some of the best young people doing neutron scattering experiments for whom access to facilities, apart from those at their home institute, would be scientifically beneficial to them and the receiving Institute. This proposal is not meant cut across current bilateral arrangements but enhance them.

In 2010, AONSA Executive and Board discussed this possibility and has the support of the Neutron Scattering Commission (IUCr) and encouragement to propose a small scheme from the regional office of the International Council of Scientific Unions (ICSU). If the Facility Directors' support were to be forthcoming, the chances of funding through ICSU and possibly IAEA would be enhanced.

I ask the Directors at their May 20 meeting in conjunction with the AONSA executive for their comments.

Yours sincerely

John W White

John White
President AONSA

Appendix 7
(Draft) Report on the Inaugural Asia-Oceania Neutron Facility Directors Meeting

14:00 - 17:30 BATAN-Bandung, Indonesia, 19 May 2011

Attendees (Neutron Facility):

Shane Kennedy	(OPAL & Interim chair/facilitator)
Dongfeng Chen	(CARR)
Hesheng Chen	(CSNS)
Iman Kuntoro	(G. A. Siwabessy)
Kye-Hong Lee	(HANARO)
Mitsuhiro Shibayama	(JRR-3M-Universities)
Yasuhiko Fujii	(observer from AONSA EC)

Apologies:

Samrath Chaplot	(DHRUVA)
Masatoshi Arai	(J-PARC)

1. Introductions

All attendees presented themselves and business cards were exchanged.

2. Short statement from each facility

2.1 CARR: Dong feng (CIAE)

(a) Technical issues

- CARR first criticality was on 13 May 2010, but problems with safety rods prevent operation. Restart is anticipated between Oct. 2011 and Jan. 2012.
- CNS is not yet built. Plan to finish over next 2-3 yrs with users support.
- All first phase neutron beam instruments are built: HRPD, Residual Stress, Four Circle Diffractometer, SANS, Reflectometer, Texture diffractometer and TAS.
- Further instrument are under development with participating user groups; e.g. High Intensity Powder Diffraction with Beijing University, Thermal TAS with IOP-CAS and PGAA & another University.

(b) User Program

- First neutrons for users should be available early in 2012.
- CARR and CSNS have jointly run an annual national users meeting since 2009. It is held in Nov/Dec, typically with ~200 delegates.

2.2 CSNS: Hesheng Chen: (IHEP)

(a) Technical issues

- Construction is in two stages;
  - 1st stage is 100kW power with LINAC at 85 MeV,
  - 2nd stage is 500kW power with upgrade of LINAC to 250 MeV.
- The budget is tight, so user investment in instruments is encouraged.

- First funded instruments will be; High Intensity Powder Diffractometer, Multi-purpose reflectometer and SANS.
- Ground breaking will be in Sept. 20`1. First neutrons should be in 2016.

(b) User Program

- CSNS have had 6 user meetings since 2004. Since 2009 this has been in conjunction with CIAE & IOP (see above).
- The science advisory committee consists of 12 members. So far they are mostly concentrating on advice with construction & facility scope.
- User training is being promoted at foreign sources.

2.3 Hanaro: Kye hong Lee (KAERI)

- A facility report will be given to the AONSA EC.
- There are no issues to report for this meeting.

2.4 JRR3-U: Mitsuhiro Shibayama (ISSP-Tokyo)

(a) Technical issues

- JRR3 damage is not serious, but a licensing process is necessary before restart.
- Safety repairs are highest priority for JAEA.

(b) User Program

- The JRR3 University user program is mature, but human resources are is low with only 12 staff and some support from Tohoku Uni for operation of 13 neutron beam instruments.
- ISSP and JAEA each receive ~300 experiment proposals per annum. (in additional to the 130 proposals for JPARC).
- Reactor management is independent of the user programmes so ISSP and JAEA facility directors need to negotiate usage issues.
- JAEA is in a difficult situation, so there is some pressure to close JRR3.
- An expression from the Facility Directors in support of the user programs at JRR-3 to JAEA, may be helpful.

2.5 GA Siwabessy: Imam Kuntoro (BATAN)

(a) Technical Issues

- Siwabessy has 7 Neutron Beam Instruments. All but the TAS, which is undergoing an upgrade, are fully operational.
- BATAN have 8 PhD scientists operating these instruments.
- Reactor operates at 15 MW for ~3500 hrs/year.
- Reactor cycles are; 11 days on, 9 days off, then 4 days on and 4 days off. This is mainly geared to radioisotope production. (Start-up is often on weekend)

(b) User Program

- There is no formal user program, so the instruments are not fully utilized.
- Residual Stress diffractometer and SANS are the busiest. All others have available capacity
- The reactor operating schedule is difficult for neutron beam users. Staff are not compensated for after hours work.
- Open for regional user for the remaining beam times. The most frequent

- regional users, by now, are coming from Malaysia and Japan.

2.6 OPAL: Shane Kennedy (ANSTO)

(a) Technical issues

- In 2010 OPAL operated for 279 days. The CNS was out of action for 43 days, due to technical problems.
- In 2011 CNS was out of action until 14 May. Now it is operating again.
- There are 6 instruments under development, two of which will be commissioned this year; TOF-INS & cold-TAS (with NSC, Taiwan). The other 4 instruments are due for completion in 2013
- Funding has been approved for building extensions to the Bragg Institute (> 120 people + co-location of National Deuteration Facility (NDF) labs).
- We are planning our strategy for development of a 2nd neutron guide hall.

(b) User Program

- Seven neutron beam instruments & the NDF are running.
- There are ~ 6 month backlogs of experiments on Reflectometer & SANS due to the problems with CNS operation.
- OPAL is in its sixth user proposal round.
- We have now moved to regular 6 month calls for proposals (May & Nov)
- Proposal success rate is around 60% -70%, with 47% Australian community, 31% overseas, and 22% ANSTO.
- We now face a challenge in growing the Australian community to match the projected growth in instrument capabilities.

3. Aim and scope of Directors Meetings

- to coordinate activities in support of AONSA,
- to provide an execution path for requests from AONSA EC,
- to raise operational issues for the user communities to consider,
- to coordinate requests to AONSA for support for our various initiatives,
- to foster deeper discussion of our technical developments, and of specific issues related to provision of service to our user communities.

4. Membership of Directors Meetings

- All agreed to continue to include the current members.
- The criteria for eligible facilities and directors need to be defined; e.g.
  - definition of eligible facility could include source power and/or facility size, and
  - definition of eligible director could include one who operates a user program and/or one who owns instruments.
- N.B. Neither definition was decided at this meeting.
- Other facilities/directors who do not meet the criteria for membership could be given observer status.

5. Possible facility issues for collaboration and discussion.

5.1 Co-ordination of user support activities

- Provision of reactor/source schedules to each other would facilitate backup for urgent projects. Directors from HANARO, JRR3-U & OPAL all support this idea.
- OPAL provides an open proposal portal on the web, and HANARO is opening their web based proposal portal in June. Others may benefit from advice on provision of portal services. Also there may be benefit from co-ordination of timing of calls for proposals.
- Prof. Fujii suggested that neutron source & proposal schedules could be posted on the AONSA home page.

5.2 Support for facility outages

- Recent events, such as the earthquake and tsunami in Japan and the extended outages of the OPAL CNS, highlight the value of close collaboration in support of our user communities.
- In the first instance Japanese neutron beam users benefitted by provision of beam time at HANARO & OPAL. In the second instance Australian neutron beam users benefitted by the provision of beam time at HANARO.
- The facility directors could provide a forum for coordination of support for neutron facility outages (both planned and unplanned outages).

5.3 Training and workshops

- Instrument scientists would benefit from shared knowledge, particularly in respect of complementary capabilities at other facilities in the region.
- This could be achieved by periodic workshops for instrument scientist. (e.g. as satellite meetings of the Asia-Oceania Conferences on Neutron Scattering).
- These workshops should each have specific themes, and may be best run as invitational, with 2-3 nominated representatives per facility.
- It was agreed that a workshop be held as a satellite to the AOCNS in Tsukuba (possibly on Friday 25th Nov). Prof. Shibayama agreed to coordinate the planning for this (see actions below).
- The meeting generally agreed that neutron powder diffraction and SANS would be worthwhile topics for the first workshop in Tsukuba.

6. Request from the AONSA Executive regarding "AONSA Visiting Fellows"

- The meeting welcomes the suggestion of such a scheme & could potentially provide support.
- Secondments of 6 month to 12 months, or even longer, are favoured.
- The aims of scheme should be clearly differentiated from those that are managed under bilateral agreements.
- The directors would like to encourage AONSA Executive to develop the concept further.

7. Future meetings, activities & actions arising from this meeting

- All agree that there is a good reason for regular AONSA Neutron Facility Directors meetings.

- All agree to holding the next meeting during the Asia Oceania Conference on Neutron Scattering, in Tsukuba (20-24 Nov 2011), with Rob Robinson as chair. **[ACTION: Rob Robinson]**
- It was generally agreed to hold the meetings biannually, in conjunction with the AONSA-EC meetings. It may be necessary to arrange video conferencing for those who cannot attend.
- A mission statement for the Facility Directors Meeting is to be drafted and circulated for comment. **[ACTION: Shane Kennedy]**
- Directors agree to propose that the Facility Reports to the AONSA Executive Committee be scheduled early in that meeting to reduce repetition and hence to save time in the Facility Directors meeting, allowing more time for focussed discussion. **[ACTION: Shane Kennedy]**
- The Facility Directors propose to organise 1-2 instrumentation focussed workshops immediately after AOCNS to promote direct exchange between specialist instrument scientists at the member facilities (see item 5.3) **[ACTION: Mitsuhiro Shibayama]**
- Chair to provide a brief summary report of this meeting for AONSA-EC on Friday 20th May. **[ACTION: Shane Kennedy]**

8. Other Business

No other business was raised.

9. The meeting closed at 17:30

Appendix 1: Mission statement

S J Kennedy, 3rd June 2011

Draft Mission Statement for the Asia-Oceania Neutron Facility Directors Meeting

The aim of the Asia-Oceania Facility Directors meetings is to provide tangible benefit to each other through enhanced utilization of our neutron sources. Mechanisms for achieving this include co-ordination of our user programs, multilateral exchange of technical information and provision of support to users of facilities that are at reduced capacity.

Appendix 10
Report from AONSA Prize Selection Committee

Asia-Oceania Neutron Scattering Association
AONSA Office
c/o Neutron Science Section, Materials & Life Science Facility Division,
J-PARC Center, Japan Atomic Energy Agency
2-4 Shirakata-Shirane, Tokai, Ibaraki 319-1195, Japan
Phone: +81-29-284-3752, Fax: +81-29-284-3889, E-mail: aonsa-web@ml.j-parc.jp
http://www.aonsa.org/

May 19, 2011

Dear AONSA Executive Committee,

Nomination of a Recipient for the AONSA Prize 2011

The Selection Committee for the 1st AONSA Prize 2011 nominates unanimously

Professor Noboru Watanabe
Scientific Consultant of JAEA, Emeritus Professor of KEK

as a recipient for his great contribution to the development of accelerator-based neutron sources and instrumentations, as well as the establishment of neutron science community, and finally to the realization of one of the most powerful pulsed neutron scattering facility at J-PARC.

Detailed selection process has been reported as enclosed.

Sincerely yours,

Prof. Yasuhiko Fujii
Chair , Selection Committee
for the AONSA Prize 2011

Enc.

Selection Committee's Report on the Selection Process

The Selection Committee's actions in chronological order is as follows:

Oct. 5, 2011 The Rules for AONSA Prize established where Vice President of AONSA shall chair the Selection Committee (SC; Y. Fujii this time).

At the 6th Meeting in Mumbai, the Executive Committee approved SC members selected with a special care for balance of research fields and member societies as

B. Kennedy (ANBUG), M. W. Kim (KNBUA), K. S. Liang (TWNSS),
R. Mukhopadhyay (INSS), and Y. Fujii (JSNS): Chair.

Oct. 18, 2010 SC sent out "Call for Nominations for AONSA Prize 2011" to all EC members and observers as Attachment 1 (copy of AONSA Newsletter). It was also posted on the AONSA Home Page.

Feb. 28, 2011 (deadline for nominations) Three nominations as Attachment 2 received by SC Chair, who decided not to co-opt any additional member because of research fields for three nomminees well covered by five SC members (Rules 3c.).

Apr. 6, 2011 SC Chair sent a full set of documents on three nominees to all SC members for their recommendation by Apr. 30. (The unexpected earthquake and following disaster in Japan delayed the start of SC's review by about one month.)

May 5, 2011 Collected all SC members' own recommendation for a recipient.

May 8, 2011 A summary of SC members' recommendation sent to all members.
They were unanimous in nominating Prof. N. Watanabe as a recipient for his pioneering works on development of the accelerator-based neutron source and establishment of pulse neutron scattering techniques, which have impacted the worldwide neutron science and technology, and led to the realization of one of most powerful pulse neutron source at J-PARC. Attachment 3 is a part of documents for Prof. N. Watanabe.
SC is very pleased to know that all of three nominees are highly qualified, reflecting the quality in our Asia-Oceania Region.

May 19, 2011 SC's Report submitted to the EC Meeting in Bandung for official approval (Rules 1b, 3e,).

> Certificate citing the contributions by the recipient
> Monetary Prize: $US 5,000
> Medal or Plaque (max $US 1,000)
> Travel expenses for attending the Ceremony and Lecture (about $US 500)

* Thanks for **the AONSA Prize Fund** $US 15,000 as of May 10, 2011:
5,000 x 2 (ANSTO, HANARO) , 3,000 (NSRRC/Taiwan),
1,000 x 3 (M. W. Kim/Korea, M. Shibayama/Japan)

SC's next actions after EC's approval:

> Two nominees not selected this time will roll over to the next review for the AONSA Prize 2013 (Rules 2e.).

> Announcement on the Recipient to be posted on the AONSA Home Page.

> Nov. 23, 2011 SC will host the AONSA Prize Ceremony at the 1st AOCNS in Tsukuba (Rules 3f).

AONSA

Attachment 1

Call for Nominations for the AONSA Prize 2011

The AONSA has established the "AONSA Prize" for the first time to recognize outstanding research career with a significant impact or contribution to the use or development of neutron science or technology in the Asia-Oceania Region.

Anyone may submit one nomination or seconding letter for the AONSA Prize in 2011 by following the rules as described below by February 28, 2011 to the Chair of Selection Committee electronically (y_fujii@cross.or.jp). The Prize Ceremony will be held and awardee(s) will deliver the Prize Lecture during the first Asia-Oceania Conference on Neutron Scattering (Nov. 20-24, 2011, Japan) .

Selection Committee for the AONSA Prize 2011
Y. Fujii (JSNS): Chair
B. Kennedy (ANBUG), M. W. Kim (KNBUA),
K. S. Liang (TWNSS), R. Mukhopadhyay (INSS)

AONSA Prize
(Established on Oct. 5, 2010)

The Asia-Oceania Neutron Scattering Association (AONSA) awards the AONSA Prize every two years to a person or persons to recognize his/her or their outstanding research career with
a significant impact or contribution to the use or development of neutron science and technology in the Asia-Oceania Region.

1. Rules

a. The Prize shall ordinarily be awarded to one person but may be shared by no more than three persons when all the recipients have contributions to the same accomplishment. Recipient(s) should receive the AONSA Prize only once.

b. The Prize consists of a certificate citing the contributions made by the recipient(s) and a monetary prize. The amount shall be decided by the AONSA Executive Committee (hereafter referred to as the EC). Where the award is shared, the prize money shall be equally divided amongst recipients

2. Nomination and Eligibility

a. Nomination shall be opened to anyone whose work has significantly impacted or contributed to the Asia-Oceania Region.

b. Anyone (not a member of the AONSA Prize Selection Committee (hereafter referred to as the SC)) may submit one nomination or seconding letter for the Prize.

c. A nomination should include:

- A letter of not more than 5,000 characters evaluating the nominee's qualification for the Prize and identifying the specific work to be recognized.
- A brief curriculum vitae
- A short list of major publications
- Up to five reprints/preprints
- At least two, but not more than four seconding letters

d. Nomination should be electronically submitted to Chair of the SC by the deadline issued by the SC.

e. Nomination shall be active through two review cycles (4 years). Nominations may be updated while still active.

3. Selection Committee

a. The SC shall consist of five members chaired by the AONSA Vice President while other four members shall be appointed by the EC. Their term shall be two years (one selection cycle). A member can be reappointed for the next selection cycle (up to two cycles for four years).

b. The SC shall be independent of the EC. Nominations shall be treated in confidence within the SC.

c. The SC members shall represent a broad range of member societies (not observers) and fields of neutron science and technology. The Chair of the SC may co-opt a person or persons from member societies or from observer country/region when none of five members can cover research field(s) for reviewing nominations submitted. Co-opted member(s) shall be approved by the EC.

d. The SC members shall be posted on the home page of AONSA when the SC issues the call-for nominations. The co-opted member(s) shall also be posted.

e. The SC shall submit the name(s) of recipient(s) with a report of nomination process to the EC prior to five months to Prize Ceremony at the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS) or the quadrennial International Conference on Neutron Scattering (ICNS), both held in an interval of two years.

f. The SC shall carry out AONSA Prize Ceremony at AOCNS or ICNS.

Curriculum Vitae of Prof. Noboru Watanabe

Date of birth: April 16th, 1934.
Place of birth: Ehime Prefecture, Japan.
Nationality: Japanese.
Home Address: 5-10-5, Shibayama, Izumi-ku, Sendai city, Miyagi Prefecture, Japan.
Description: Age: 77 years old in Feb. 2011

Education and Professional Experience

Mar 1958	Graduated from Tohoku University
Jan 1971	Ph.D. from Graduate School of Tohoku University
1958-1961	Nihon Educational Television Co., Ltd.
1961-1969	Research Associate, School of Engineering, Tohoku University
1969-1971	Research Associate, Laboratory of Nuclear Science, Tohoku University
1971-1979	Associate Professor, Laboratory of Nuclear Science, Tohoku University
1979-1995	Professor, Booster Synchrotron Utilization Facility, High Energy Accelerator Research Organization
1989-1995	Director of Booster Synchrotron Utilization Facility, High Energy Accelerator Research Organization
Jun 1995-	Professor Emeritus, High Energy Accelerator Research Organization (KEK)
Apr 1995-	Professor Emeritus, The Graduate University for Advanced Studies
1996	Invited Researcher, Japan Atomic Energy Research Institute (JAERI)
1996-2005	Scientific Consultant, Japan Atomic Energy Research Institute
2005-	Research Advisor, Japan Atomic Energy Agency (JAEA)

Awards

1987	Kou-enerugi Kasokuki Kagaku Shourei Shou (Incentive Award of High Energy Accelerator Science) (高エネルギー加速器科学奨励賞)
Jun 2004	Nihon Genshiryoku Kenkyusyo Yuukou Shou (Award from Japan Atomic Energy Agency for valid research achievements) (日本原子力研究所有効賞研究)
Dec 2004	Nihon Cyuuseisi Kagaku-kai Kouseki Shou (Achievement Award from The Japanese Society for Neutron Science) 〔日本中性子科学会功績賞〕

International Collaboration

1981-1995:

Japanese Representative of the Organization of International Collaboration on Advanced Neutron Sources (ICANS)

1987-1992:

Japanese Representative of the Japan-UK Collaboration on Neutron Scattering Research

*(*Attached document)*

Organizing International Conferences

ICANS meeting is the most prestigious collaboration meeting in the pulsed spallation technology lasting more than 40 years since the 1970's. Through the ICANS collaboration, all spallation sources have been developed and come to the prime time today. Noboru Watanabe is the most contributed person to the collaboration.

1980	The 4th International Collaboration on Advanced Neutron Sources (ICANS-IV) Organizing Committee
1990	The 18th INS International Symposium Organizing Committee
1990	The 2nd International Symposium on Advanced Nuclear Energy Research Organizing Committee
1991	The 11th International Collaboration on Advanced Neutron Sources (ICANS-XI) Organizing Committee (Chair)
1991	International Conference on Neutron Scattering (ICNS'91) Advisory committee
1993	The 5th International Symposium on Advanced Nuclear Energy Research Organizing Committee
1994	International Conference on Neutron Scattering (ICNS'94) Organizing Committee
1998	OECD/NEA Workshop on Utilization and Reliability of High Power Proton Accelerators International Advisory Committee (Chair) Organizing Committee
1998-2002	SNS Experimental Facilities (Target/Instrument) Advisory Committee
2000	The 15th International Collaboration on Advanced Neutron Sources (ICANS-XV) Local Advisory Committee
2003	The 16th International Collaboration on Advanced Neutron Sources (ICANS-XVI) Honorary Chair
2002-2003	SNS Experimental Facilities Advisory Committee
2002-2005	China Spallation Neutron Source Technical Advisory Committee

Member of Japan Domestic Committee (Excerption)

1986-1995	Executive Council member of High Energy Accelerator Research Organization
1990-1995	Executive Board member of High Energy Accelerator Research Organization
1982-1995	Committee member of Synchrotron Utilization Facility, High Energy Accelerator Research Organization
1980-1995	Neutron Sub-committee member of Synchrotron Utilization Facility, High Energy Accelerator Research Organization
1984-1989	Radiation safety committee member of High Energy Accelerator Research Organization
1988-1995	Educational Research Steering Committee member of The Graduate University for Advanced Studies
1989-1995	Physical Specialty Committee member of Science Council of Japan
1990-1994	Joint Study Steering Committee member for neutron scattering of ISSP, the Tokyo University
1994-1995	Advisory Board member of Neutron Science Laboratory of ISSP, the Tokyo University
1989-1995	Proton Therapy Study Committee member of University of Tsukuba
1992-1993	Neutron Effect Studying Committee member for Fusion Reactor Safety System of Tokyo Institute of Technology
1988-1993	Physics and Engineering Expert Committee member of Research Reactor Institute, Kyoto University
1992-1995	Neutron Scattering Committee member (Chair) of Japan Atomic Energy Research Institute
1994-1996	Japan Proton Accelerator Research Committee member of Japan Atomic Energy Research Institute
1996-1997	Neutron Science Planning Committee member of Japan Atomic Energy Research Institute

List of five reprints (Prof. Emeritus Noboru Watanabe)

1. Neutronics of pulsed spallation neutron sources
   Noboru Watanabe
   Rep. Prog. Phys. 66, (2003) 339–381

2. Neutron Production from Lead Targets for 12-GeV Protons,
   M. Arai, Y. Kiyanagi, N. Watanabe, R. Takagi, H. Shibazaki, M. Numajiri,
   S. Itoh, T. Otomo, M. Furusaka, Y. Inamura, Y. Ogawa, Y. Suda and S. Satoh
   Journal of Neutron Research, Vol. 8, (1999) 71-83

3. Intensity enhancement of cold neutrons from a coupled liquid-hydrogen moderator for pulsed cold neutron sources
   Y. Ogawa, Y. Kiyanagi, N. Kosugi, H. Iwasa, M. Furusaka, and N. Watanabe
   Nuclear Instruments and Methods in Physics Research, A432, (1999) 415-421

4. Experimental Studies on Neutronic Performance of Coupled Liquid-Hydrogen Moderator for Pulsed Spallation Neutron Sources
   Y. Kiyanagi, N. Watanabe and H. Iwasa
   Nuclear Instruments and Methods in Physics Research, A312, (1992) 561-570.

5. Neutron Debye-Scherrer Diffraction Works Using Linear Electron Accelerator
   M. Kimura, M. Sugawara, M. Oyamada, Y. Yamada, S. Tomiyoshi, T. Suzuki, N. Watanabe and S. Takeda
   Nucl. Instr. Meth. 71 (1969) 102-110.

Appendix 11
Cancellation of 4th AONSA Neutron School

The 4th AONSA Neutron School in a series of annual Neutron School was assigned to be held in Tokai, Ibaraki, Japan during the period of Nov. 13 (Sun.) – Nov. 18 (Fri.), 2011, preceding the 1st AOCNS (See Newsletter from AONSA, vol. 2, No. 2, November, 2010). The lecture sites will be Ibaraki Quantum Beam Research Center (IQBRC), Materials and Life Science Facility (MLF)/ J-PARC, and JRR-3. The total number of students is expected to be about 40. The school will be organized by the AONSA and co-organized by Japanese Society for Neutron Science, J-PARC, JAEA, KEK, and ISSP, U. Tokyo.

However, Tohoku-Kanto (Northeast and Central) Area of Japan suffered a calamity by a large earthquake of M9.0 and following giant tsunami on March 11, 2011. J-PARC and JRR-3 facilities were seriously damaged. According to the announcements of Prof. S. Nagamiya (J-PARC) on Mar. 18 and Dr. Uetsuka (Director General, Tokai Research Center, JAEA) on Mar. 22, it would take significant time to recover the function of J-PARC and JRR-3. Staff of J-PARC Center, JAEA, and KEK is now devoted to work on for repair, it would not be recovered by November, 2011. Since we had planned to serve a chance to study at state-of-the-art neutron instruments at J-PARC/MLF and JRR-3 on the occasion of the 4th AONSA Neutron School, we had to accept that it would be impossible to realize it as was scheduled. Considering these facts, we sorry to report that it would be impossible to hold the school this year.

Note that to hold AONSA Neutron School in 2012 would not be possible either due to the following reasons: (1) J-PARC has a plan to upgrade of accelerator in 2012. It will be shut down from July to Dec. 2012. (2) Because of the accident of Fukushima Atomic Power Plant, electric power supply will be very limited even next year. By considering these facts, we would like to postpone hold AONSA Neutron School by two years, i.e. 2013.

On behalf of Execute Committee
4th AONSA Neutron School
Mitsuhiro Shibayama, Principal

Appendix 12
Report from the Organizing Committee of 1st AOCNS

We have decided to hold the 1st AOCNS even though we had big disaster by the earthquake. After the earthquake we have not held the organizing committee meeting, so that we have not decided officially anything. The organizing committee meeting will be held on May 23rd. However, we have tentatively decided many things. I will show you some of important things here.

0) We will open "Call for Abstract" in the beginning of June, and will close at Aug.22 (maybe it is first postponed to Aug 31, and second to Sept 10)
1) Full registration fee is 20,000 JPY (=160 USD) for early registration
(after Aug. 22, it is 25,000 JPY (=200 USD))
2) Student registration fee is 10,000 JPY (=80 USD) for early registration
(after Aug. 22, it is 12,000JPY (=96 USD))
3) Optional fees:
- Banquet fee is 7,000 JPY (56 USD)
- Lunch box is 900 JPY (per day)

Voluntary fee for AONSA is 1,000 JPY (=8 USD per share) (up to 10 shares)
4) Financial Supports.
In order to facilitate attendance of student from developing countries, AOCNS will offer financial support for the student registration fee and travel expenses.
The deadline for the application is July 18 (too early?)
(i) financial support for registration fee (for students):
a copy of student ID
a document describing a reason why you need the financial support
(ii) financial support for travel expense (50,000 JPY for each student)
a copy of student ID
motivation letter
recommendation letter from a super visor
5) Accommodation
We prepare Hotels near the conference site and KEK accommodation. The KEK accommodation is cheap and good for students.
6) Regional meetings of Korea, Australia and Japan will be held during the AOCNS.
If other countries want to have regional meeting, please let me know immediately.
7) AONSA_EC meeting will be held during the AOCNS.

Problems

(1) International Scientific Program Committee (ISPC) does not work well. So we have not enough suggestions on scientific sessions, plenary lecturers, key note lecturers in scientific session.

Today I have a tentative list of scientific sessions. Would you please give some comments on the tentative lists, not now but after discussing with your colleagues in your country.

We also ask you to nominate Plenary lecturers as well as Key Note lecturers to ISPC or me by May 26th. One week later; I know it is a hard job, but please help us.

(2) Number of participants.

We were expecting 550 participants. This number has been decided in AOCNS_EC meeting. Hope you remember it. 300 from Japan, 100 from Korea, 80 from Australia, 30 from Taiwan, 20 from China, 20 from India, 10 from Indonesia, …..

After the earthquake, we are little bit worrying about the number of 550. Would you please push your colleagues to attend the CONFERENCE.

Sessions and their keywords for AOCNS 2011

field number	key words	Session NO	persons in charge (subcommittee)
	Hard matter, Chemistry		
1	Fe-based Superconductivity, ,	S01	Shamoto, Sato(Taku)
2	Cuprates, Actinides, p-electron Superconductivity, ,	S04	Yamada, Iwasa
3	Lattice dynamics, Ferroelectricity, Relaxor, phase transition ,	S02-1	Noda, Fujii
4	Multiferroic, functional material	S02-2	Noda
5	high pressure, Earth Sciences, mineral	S05	Utsumi
6	Magnetism, metal insulator transition, Frustrated magnet, Multipole ordering, ,	S08-1	Iwasa, Yamada
7	High magnetic field, Molecular magnet, Films, Multilayers, Magnetic semiconductors, ,	S08-2	Kakurai, Takeda
8	Disordered systems, Amorphous materials, Local structure, Quasi crystals, ,	S12	Fukunaga
9	Guest-Host materials, Li, Hydrogen, Hydrogen bond, batteries, Catalysis, ionic conductor ,	S15	Otomo
	Soft matter		
10	Small angle scattering, Hierarchical structures, polymer, Macromolecule, ,	S03	Shibayama
11	Interfaces, dynamics, kinetics, ,	S06	Seto
	Biomaterials		
12	Protein structure, Membrane, Enzyme, Protein dynamics, ,	S10	Niimura, Kuroki
	Complementary use of neutron and other techniques		
13	Soft matter, Theories, X-ray, synchrotron, muon, ,	S17	Yamada
14	Hard matter, Theories, X-ray, synchrotron, muon, Photoemission, ,	S18	Yamada
	Industrial application		
15	Residual stress, Imaging, New magnets, ,	S11	Hayashi
16	Li-batteries, Catalyses, Drug, Fine particles, Surfaces, ,	S14	Fukunaga, Kamiyama
	Neutron techniques		
17	New spectrometers, Neutron Sources, Shielding, ,	S13	Arai
18	Detectors, Beam focusing, Data taking, Data analyses, optics ,	S16-1	Kiyanagi,Hino
19	Monochromater, Analyzer, Polarizer, Magnetic Imaging, Accessories, Neutron radiography, tomography,	S16-2	Oku, Ohoyama
20	advanced powder diffraction	S19	Kamiyama, Ohoyama
	Fundamental physics and neutron properties		
21	Dipole moment, Capture cross section, Interferometry, ,	S09	Shimizu, Kiyanagi
	Facility report		
22	Facility report (All invited)	S07	Noda, Ikeda, Fujii

Appendix 13
Discussions about the 1st AOCNS during the Board Meeting on Feb. 20, 2011

The report from the 2nd Preparatory Committee Meeting (November 26, 2010, Tokyo) for the 1st AOCNS was presented and the great efforts of the preparatory committee were highly appreciated by all the Board members.

Voluntary contribution as an option during AOCNS registration

The preparatory committee agreed to have a $10 box for voluntary contribution of AOCNS participants as an option during registration. The preparatory committee pointed out that there should be a clearly stated reason why AONSA asks participants for the voluntary contribution.

The Board suggests a statement "For the activities of AONSA including student supports and so on."

Naming of "sponsorship" of AOCNS

It was noted that the preparatory committee decided to use the rule 'C' in the Report.

<C>
Organized by
Japanese Society for Neutron Science (JSNS) and
Asia-Oceania Neutron Scattering Association (AONSA)
: These two (host Association and AONSA) are major organizers
Sponsored by J-PARC Center, KEK, JAEA, ISSP/Tokyo Univ. Ibaraki Prefecture …
: Organizations which make monetary contributions
Supported by the Physical Society of Japan, Crystallographic Society of Japan …
: Organizations which make no monetary contributions but help advertisement of AOCNS through announcement of AOCNS on their Journals or Websites.

Naming protocol used in the Poster of AOCNS was confirmed and it was agreed that this naming rules will be applied for future AOCNS as well.

S. -M. Choi, Korea Advanced Institute of Science and Technology, KNBUA
J. W. White, The Australian National University, ANBUG
W. -H. Li, National Central University, TWNSS
C. Loong, Sun Yat-Sen University (China)
E. G. Putra, National Atomic Energy Agency (Indonesia)

A. A. Mohamed, Malaysian Nuclear Agency (Malaysia)

where
KNBUA (The Korean Neutron Beam Users Association),
ANBUG (The Australian Neutron Beam Users Group),
JSNS (The Japanese Society for Neutron Science),
TWNSS (Taiwan Neutron Science Society),
INSS (Indian Neutron Scattering Society).

Advertisement of AONSA during AOCNS

The Board members agreed that the 'Opening Session' is used to celebrate the 1st AOCNS which is the biggest activity of AONSA. President of AONSA will give a speech about AONSA in this session. The Board members also agreed to invite the Presidents of ENSA and NSSA (which are the counter parts of AONSA in other regions of world) to give speech in the Opening Session. It was noted that the Opening Session is planned to have an official from MEXT-Japan, Governor, and others (Industrial Applications) as well.
It was noted that a special session for 'Complimentary Use of Neutron and X-ray' is being prepared and the president of AOFSRR is planned to be invited.

It was noted that Program will have a slot for National/Regional Association Meetings during AOCNS. The SE Asian colleagues can have a regional meeting as well. The fee for the room will be paid by the AOCNS.

Action: Y. Fujii will send formal letters to the Presidents of member Associations.

Schedule of the 7th EC during AOCNS

Tentatively, the 7th EC meeting during AOCNS is planned to be held on November 20 (Sunday), 13:00-17:00. This will be decided in the 6th EC in May.

Possibility of sending invitation to Embassy of Korea, Australia and others

While it may provide a good chance to advertise AONSA and national neutron science activities to government officials of member countries, the Board decided not to do this to eschew possible political conflicts and uncertainties in running the conference.

Possible bids for the 2nd AOCNS

It was noted that there are possible two bids for the 2nd AOCNS, from ANBUG and TWNSS.
The Associations should confirm their bids in the 6th EC in May, 2011.
The decision will be made in the 7th EC during AOCNS by secret voting of EC members.

Appendix 14
President J. White's visit to Singapore in 2011

President J. White visited Singapore on January 10, 2011 and had a meeting with a group of scientists who are interested in neutron scattering.

Scientists in Singapore have very little experience of neutron scattering but are very much interested in using it. They would like to have a lecture or workshop, if AONSA members travel to Singapore. The contact person for this is

Dr. Stefan Adams, Associate Professor
Department of Materials Science and Engineering
Faculty of Engineering,
National University of Singapore
Block E3A, #04-02, 7 Engineering Drive 1,
Singapore 117574.
Tel (65) 6516 6869 Fax (65) 6776 3604
Email mseasn@nus.edu.sg ,Website www.mse.nus.edu.sg

<Summary of Meeting>

Rang Stephan at 10.00 11-1-11 to confirm meeting.

Extracted e-mails from RSC/mail

From Stephan Adams

Meeting in Engineering Building 4. Meeting Room 539

1 Meeting started at 14.00

2 present

a. Dr Stefan Adams, Associate Professor
Faculty of Materials Science and Engineering, Faculty of Engineering, Block E3A, #04-02, 7 Engineering Drive 1, Singapore 117574. Tel (65) 6516 6869 Fax (65) 6776 3604 Email mseasn@nus.edu.sg Website www.mse.nus.edu.sg

b. DONG Zhili PhD (Mater.Sci Eng), Assistant Professor, School of Materials Science and Engineering, Division of Materials Science, Block N4.1, Level 1, Room 04, 50 Nanyang Avenue, Singapore 639798. Tel +65 6790 6727 Fax +65 6790 9081 Email ZLdong@ntu.edu.sg www.ntu.edu.sg

c. Jun LI PhD, Associate Professor, Division of Bioengineering, Faculty of Engineering, Block E3A, #04-15, 7 Engineering Drive 1, Singapore 117574 Tel (65) 6516 7273 Fax (65) 6872 3069 Email bielj@nus.edu.sg www.bioeng.nus.edu.sg/people/acad.htm

d. Dr Maung Maung Saw, Senior Research Fellow, National University of Singapore, Clinical Imaging Research Center, 28 Medical Drive, #B1-06

Singapore 117456 DID (65) 6516 7407 Fax (65) 6773 0353 Email medmms@nus.edu.sg

e. Dr Martin Karl SCHREYER, Senior Research Fellow, Process Science and Modelling, Institute of Chemical and Engineering Sciences, 1 Pesek Road, Jurong Island, Singapore 627833. DID (65) 6796 3955 Tel (65) 6796 3700 Fax (65) 6316 6185 Email martin_schreyer@ices.a-star.edu.sg
f. Dr. Sundramurthy Kumar, Manager X-ray, Biopolis Shared Facilities, 30 Biopolis Street, #B2-14 Matrix, Singapore 138671. DID (65) 6407 0650 Tel (65) 6407 0130 Fax (65) 6478 9012 Email kumar@bsf.a-star.edu.sg
g. Dr Wim Klooster, SHayoNano, wklooster@hotmail.com
h. Dr. Mark Breese, Professor, NUS Physics / Singapore Synchrotron Light Source SSLS, phymbhb@nus.edu.sg
i. Dr. Ding Jun, Associate Professor, NUS Materials Science and Engineering msedingj@nus.edu.sg

< Further interested persons who could not attend due to schedule clashes>

- Asst. Prof. Roshan Deen GULAM RASOOL; NSSE, Natl. Inst. of Education, roshan.gulam@nie.edu.sg
- Dr. Yang Ping;Singapore Synchrotron Light Source SSLS slsyangp@nus.edu.sg
- Prof. Seeram Ramakrishna; NUS Vice-president, Research Strategy dprsr@nus.edu.sg

3 JWW made presentation of AONSA re opportunities for the region + Power point

4 Discussion on Singapore situation and desirability of interaction with bigger community (Indonesia and Malaysia)

5 Statements from members around the table about their scientific interests relevant to neutrons.

6 Agreement that Stefan would produce a statement from each on this to show the style of science and as a start of a process to discern the next actions. This to be given to JWW by mid February to discuss at Board meeting on 19 February.

7 Follow up of the suggestion of a local workshop organised by the local group –

a. say once a year to introduce student to neutrons and share ideas.
b. Possibility of an AONSA member – who might be travelling via Singapore assisting with the workshop . eg after the IUCr meeting – wouod be a good time – out of the Singapore conference season.

8 JWW to put these ideas to Board

9 Meeting ended at 15.30

Appendix 15
President J. White's visit to Malaysia in 2011

#

President J. White visited Singapore on January 11, 2011 and had a very fruitful meeting with the MOSTI and Nuclear Malaysia. The details are in the draft minutes of the meeting (This draft will become available once it is finalized). During his visit to Malaysia, J. White found that to make the IAEA TC proposal for neutron scattering in the region successful, we have to avoid possible conflicts with other IAEA programs eg ASEAN-IAEA. Political support from national representatives is also very important. The situation with respect to bilateral and current Asian multilateral programs should be carefully considered.

Asia-Oceania Neutron Scattering Association
AONSA Office
c/o Neutron Science Section,
J-PARC Center, Japan Atomic Energy Agency
2-4 Shirakata-Shirane, Tokai, Ibaraki 319-1195, Japan
Phone: +81-29-284-3752, Fax: +81-29-284-3889
http://www.aonsa.org/

From the President

Professor John W. White CMG, FAA, FRS

Email: jww@rsc.anu.edu.au , http://rsc.anu.edu.au/index.php

Brief to Minister
Y.B. Datuk Seri Dr Maximus Johnity Ongkili

This brief is to request political and financial commitment from Malaysia to a leading role in training the next generation of scientific personnel in our Asia-Oceania region in neutron science. The background will be explained.

- Multi billion dollar investments in advanced reactors and spallation neutron sources are being made in this region, notably in Australia, China, Korea and Japan.

- The Asia-Oceania Neutron Scattering Association, AONSA, is a growing organization, formed in 2007 to realise the great potential for practical socio- economic outcomes (such as energy, environment..) arising from the above new and existing investment (1).

- The primary aim is to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region.

- A strategic objective of AONSA is to facilitate long term collaboration across all centres in the region by promoting cooperation between existing and new nuclear centres and by co-ordination in training the next generation of graduate scientists and engineers.

- AONSA Articles of Association http://www.aonsa.org/ lists our aims.

- AONSA's strategic plan in this area to boost collaborative research "productivity" from a strengthening base (2).

- A second and equally important outcome is the mutual comprehension and cultural understanding that comes from collaborative work. The intergenerational consequences of this social outcome may be of great value in addressing societal stresses in our region over the next 30 years.

AONSA's "Track Record" 2008 – 2011

Formation, Articles, Bye-Laws and processes
An efficient working system of operation between National Associations, Board and Executive has been established.

Neutron Schools
- Neutron Schools for PhD students from all Asia-Oceania countries:
  Korea (2008), Australia (2009), India (2010) and Japan 2011.
- 160 students given theory and practical experience + social contacts **with financial help from AONSA**

International Conference
1st ASIA-OCEANIA Neutron Conference and School, Japan 2011

The AONSA Prize Established and funded- a valuable Prize for the Region.

RECOMMENDATIONS

- **Fully paid up membership for all Executive members ($US 5000pa.)**

- **Promotion of new regional Associations eg Malaysia- Indonesia – Singapore (currently under discussion)**

- **A sound financial basis for the "Next Step" in AONSA's role - to launch of a program of internationally funded, medium term exchanges of scientific personnel between regional Nuclear Institutes.**

Footnotes
(1) The opportunities from the current and projected advanced neutron scattering facilities in the Asia-Oceania region closely resemble those in Europe in the 1960s and 1970s when France and Germany established the Institut Laue Langevin, ILL, in Grenoble for general policy reasons as well as science. This move has brought European scientific leadership and understanding between *scientists and nations.* Now, ten European countries have 'scientific membership' in the ILL and durable international collaborations.

(2) The recently released *OECD STI Scoreboard 2009* noted that:

> "*Researchers are increasingly networked across national and organization borders. Moreover, international co-authorship has been growing as fast as domestic co-authorship…. Scientific articles from Latin-America have more than tripled since 1993 and those from south-east Asian economies (Indonesia, Malaysia, the Philippines, Thailand and Vietnam) expanded almost three times over the period.*

John White **12 January 2011**

Asia-Oceania Neutron Scattering Association
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http://www.aonsa.org/

From the President
Professor John.W.White CMG, FAA, FRS
Email: jww@rsc.anu.edu.au
http://chemistry.anu.edu.au/chem/people/

23 January 2011

The Hon. Salmad Ahmad
High Commissioner of Malaysia
7, Perth Avenue
Yarralumla Canberra ACT 2600

Your Excellency,

I would like to thank you for the arrangements that you made with the Malaysian Government for my visit to Minister Datuk Seri Dr Maximus Johnity Ongkili JP ten days ago.

I was received most graciously by the Minister and the Under-Secretaries Ho Koon Seng and Wan Zaharah Wan Mohamad. Others present were Rakam Sijim, Special Officer to the Honorable Minister, and Dr Muhamad Lebai Juri, Deputy Director General, Nuklear Malaysia. I also met Dr Ainul Hayati Daud, (IAEA Technical Cooperation National Liaison Officer). We had a good discussion before and during the meeting.

I had dinner with Professor Mohn Nordin Hasan the night before and would like especially to mention his contribution in suggesting the brief to the Minister, a copy of which I enclose. You will see that the chief thrust at the meeting was to explain AONSA at this early stage in its life and its goals. Our request is that political support from Malaysia in future programmes will be strong as will Malaysia's participation in our governance.

The IAEA project matter was raised and further discussed in a subsequent meeting – possible conflicts with an existing ASEAN programme were resolved – as there is no component of ASEAN for the neutron scattering area and its socio-economic benefits for the region. AONSA Board will consider what to do at its meeting in February 2011.

My courteous reception in Malaysia, and the understanding I formed in the short time there - of Malaysia's wise Government and long term planning - was impressive. I shall certainly have pleasure in describing these meetings to the Board and Executive of AONSA.

Thank you once again for the essential actions to begin a closer relationship of AONSA with Malaysia.

Yours sincerely

John White

Asia-Oceania Neutron Scattering Association
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J-PARC Center, Japan Atomic Energy Agency
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Phone: +81-29-284-3752, Fax: +81-29-284-3889
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From the President
Professor John.W.White CMG, FAA, FRS
Email: jww@rsc.anu.edu.au ,
http://chemistry.anu.edu.au/chem/people/

23 January 2011

Emeritus Professor Mohd Nordin Hasan
ICSU Regional Office Asia and the Pacific
902-4, Jalan Tun Ismail
50480 Kuala Lumpur
Malaysia

Dear Nordin

I write to thank you for the excellent dinner, conversation and preparation for my meeting with the Hon Maximus Johnity Ongkili in Malaysia ten days ago.

It was a great pleasure to be in Malaysia for the first time and I have formed a very positive impression the country and its ways from my courteous reception. Malaysia's wise government and good long term investment was evident and, in nuclear matters I see strong potential for leadership.

I hope that AONSA can help in training some of your best young people. Your suggestion of a "two pager" for the Minister was most helpful as a first step.

Yours sincerely,

John White

Asia-Oceania Neutron Scattering Association
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c/o Neutron Science Section,
J-PARC Center, Japan Atomic Energy Agency
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Phone: +81-29-284-3752, Fax: +81-29-284-3889
http://www.aonsa.org/

From the President
Professor John.W.White CMG, FAA, FRS
Email: jww@rsc.anu.edu.au ,
http://chemistry.anu.edu.au/chem/people/

23 January 2011

The Hon. Datuk Seri Dr Maximus Johnity Ongkili JP
Minister of Science , Technology and Innovation
Level 7, Block C5, Parcel C
Federal Government Administrative Centre
62662, Putrajaya,
Malaysia

Dear Minister

On behalf of AONSA, I would like to thank you for your most gracious reception when I visited MOSTI ten days ago. I was grateful for the chance to openly describe AONSA in the early stage of its growth and the intentions of all of the partner associations to cooperate in forming a durable resource to foster excellence in science and technology and increasing international cooperation to use neutron scattering for the socio-economic benefits of our region. The matters in the briefing paper that I left with you were followed up at the subsequent meeting at Nuklear Malaysia under that chairmanship of Dr Muhamad Lebai Juri.

AONSA's principal aim at this stage is to have Malaysia's political support for our efforts to build collaborations in the region by training the next generation of scientists and technologists. Malaysia's full involvement in this is our request.

I believe that matters of potential conflicts between ASEAN initiatives in nuclear science and what we may be proposing to the IAEA have been resolved as there is no ASEAN programme involving the wider aspects of neutron scattering.

The AONSA Board and then the Executive will consider what we do next and will resolve this at the Asia-Oceania-side neutron scattering conference in Japan in November 2011 – if not before.

In addition to my wholehearted thanks to yourself, I would like to thank your colleagues who attended the meeting for their constructive involvement. I would be grateful if you would pass on these thanks.

Yours sincerely

John White

Appendix 16
Issues on IAEA TC and ICSU proposals

The facility Director's meeting will be a good starting point to work on a new IAEA TC proposal (submit in 2012 and operate TC for 2014-2016).

AONSA will work on IAEA TC (bigger funding) first and then think about ICSU proposal (smaller funding) later depending on the results of IAEA TC.

To make the IAEA TC proposal for neutron scattering in the region successful, we have to avoid possible conflicts with other IAEA programs eg ASEAN-IAEA. Political support from national representatives is also very important. The situation with respect to bilateral and current Asian multilateral programs should be carefully considered.

Appendix 17
Vice-President Y. Fujii's Communications with ENSA and NSSA

<Communication with ENSA>

From: Steiner, Michael [mailto:steiner@helmholtz-berlin.de]
Sent: Thursday, January 06, 2011 6:27 PM
To: Y. Fujii@CROSS; JWW@rsc.anu.edu.au
Subject: AW: AONSA's Proposal for Cooperation with ENSA

Dear Yasu, dear John,

Thank you very much for your kind letter. Sorry for the late answer, but I didn´t check my e-mail over the Christmas and New Year holidays.
I was very pleased to hear, that AONSA would like to cooperate with ENSA. Having not yet discussed this issues with my colleagues in ENSA I can nevertheless say that ENSA will be happy to install a cooperation as you propose. This should help us to make the regional strategies more coherent and thus more attractive for politicians!
As you perhaps know, I shall come to Tokai at the end of February, mainly to join a meeting on Feb. 28th. In addition I plan to attend the Meeting on Correlated Electron Systems as well. I sincerely hope, that we will find time to discuss the cooperation between ENSA and AONSA during my visit. By then I shall have circulated your proposal within the ENSA Delegates and I shall have the first comments of the colleagues when I come to Japan.
I look very much forward to interesting discussions with you!
Dear John, we can certainly organize, that you join our ENSA-meeting, which will take place during ECNS Prag. This would be a very good opportunity to have have an intensive discussion between AONSA and ENSA.

I hope you had a pleasant Holiday Season and a wish you all the best for 2011!

Best wishes

Michael

P.S.: Please use the new e-mail given below! Thank you!
Michael

Prof. Dr. Michael Steiner
Chairman of ENSA

Von: Y. Fujii@CROSS [y_fujii@cross.or.jp]
Gesendet: Dienstag, 21. Dezember 2010 02:46
Bis: Steiner, Michael (ehemalige HMI Adresse)
Cc: 'John White'; sungmin@kaist.ac.kr; 'Wen-Hsien Li'; mwkim@kaist.ac.kr; '新井　正敏';
Betreff: AONSA's Proposal for Cooperation with ENSA

Dec. 21, 2010
Prof. Michael Steiner
Chairman, European Neutron Scattering Association

Dear Michael,

It was already three years ago when Prof. Mlynek and you visited J-PARC in Tokai one year before the start of its operation.　As Prof. John White, President of AONSA, wrote you this week, we'd like to propose our possible cooperation between your ENSA and our AONSA as

below. My formal letter on behalf of AONSA is also attached.

We have been impressed to know your ENSA actively playing a crucial role in scientific/technological development as well as political influence for neutron research not only in Europe but also worldwide for many years.

In August 2008 we, neutron scatters in our Asia-Oceania Region, established the Asia-Oceania Neutron Scattering Association (AONSA; http://www.aonsa.org/) to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region. Under Prof. Mahn Won Kim's Presidency in the first term (Aug. 2008 – Dec. 2009) and Prof. John White's in the second term (Jan. 2010 – Dec. 2011) , we have also intensively conducted various activities such as the annual AONSA Neutron School, the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS), the biannual AONSA Prize and issuing AONSA Newsletter twice a year. We have also held the Executive Committee Meeting twice a year at different country/region to promote and encourage their neutron society/community.

At the recent Executive Committee Meeting, we seriously discussed any possible cooperation with other neutron scattering community to exchange information on conference, school, workshop, facility reports, new projects etc. and to let our members access to it worldwide. The Vice President has been assigned to take a duty for such an outreach activity toward our mutual benefit with your ENSA.

My present letter on behalf of AONSA is to propose such cooperation with your ENSA. We would like to start this cooperation as simply as possible. When it's needed, however, we'll conclude any Agreement at any level between ENSA and AONSA in the future.

Looking forward to your kind consideration and cooperation on this matter.

Sincerely yours,

Prof. Yasuhiko Fujii
Vice President of AONSA

P.S. Attached please find two files of the recent issues of our AONSA Newslettter.

Asia-Oceania Neutron Scattering Association
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http://www.aonsa.org/

Dec. 21, 2010

Prof. Michael Steiner
Chairman,
European Neutron Scattering Association

Dear Michael,

We have been impressed to know your ENSA actively playing a crucial role in scientific/technological development as well as political influence for neutron research not only in Europe but also worldwide for many years.

In August 2008 we, neutron scatters in our Asia-Oceania Region, established the Asia-Oceania Neutron Scattering Association (AONSA; http://www.aonsa.org/) to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region. Under Prof. Mahn Won Kim's Presidency in the first term (Aug. 2008 – Dec. 2009) and Prof. John White's in the second term (Jan. 2010 – Dec. 2011) , we have also intensively conducted various activities such as the annual AONSA Neutron School, the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS), the biannual AONSA Prize and issuing AONSA Newsletter twice a year. We have also held the Executive Committee Meeting twice a year at different country/region to promote and encourage their neutron society/community.

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My present letter on behalf of AONSA is to propose such cooperation with your ENSA. We would like to start this cooperation as simply as possible. When it's needed, however, we'll conclude any Agreement at any level between ENSA and AONSA in the future.

Looking forward to your kind consideration and cooperation on this matter.

Sincerely yours,

Prof. Yasuhiko Fujii
Vice President of AONSA

<Communication with NSSA>

From: Bruce Gaulin [mailto:bruce.gaulin@gmail.com]
Sent: Sunday, January 23, 2011 11:29 PM
To: Y. Fujii@CROSS
Cc: Julie Borchers; Fernandez-Baca, Jaime A.; John Tranquada; Chris Leighton; tproffen@lanl.gov
Subject: Re: AONSA's Proposal for Cooperation with NSSA

Dear Prof. Fujii;

Thank you for your recent letter on behalf of AONSA, and my apologies for taking so long to respond. I'm pleased to hear that IUPAP is benefitting from the inputs of yourself and Dr. Bader!

I've discussed your letter and suggestion of cooperation between AONSA and NSSA with the NSSA executive, and the Executive's response was unanimously positive; we are very keen on such cooperation, as it would clearly be to the benefit of both of our communities.

Did you have specific joint initiatives in mind for such cooperation?

I will be attending the upcoming NACSES11 conference at Tokai in about 1 month. If you will also be in or near Tokai, perhaps we could get together to discuss these and related plans.

with best regards;

Bruce Gaulin
President, NSSA

2010/12/20 Y. Fujii@CROSS <y_fujii@cross.or.jp>

Dec. 21, 2010
Prof. Bruce D. Gaulin
President, Neutron Scattering Society of America

Cc: S. Billinge (Vice President), S. G. E. te Velthuis (Secretary), J. Tranquada (Treasurer)J. A. Fernadez-Baca (Membership Secretary), R. Pynn (Past President)

Dear Bruce,

It was already two years ago when we met in Tsukuba on the occasion of the General Assembly of IUPAP. Since then I have been serving as Secretary of C10 under Sam Bader's chairmanship after you. Today we'd like to propose our possible cooperation between your NSSA and our AONSA as below. My formal letter on behalf of AONSA is also attached.

We have been impressed to know your NSSA actively playing a crucial role in scientific/technological development as well as political influence for neutron research not only in America but also worldwide for many years.

In August 2008 we, neutron scatters in our Asia-Oceania Region, established the Asia-Oceania Neutron Scattering Association (AONSA; http://www.aonsa.org/) to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region. Under Prof. Mahn Won Kim's Presidency in the first term (Aug. 2008 – Dec. 2009) and Prof. John White's in the second term (Jan. 2010 – Dec. 2011) , we have also intensively conducted various activities such as the annual AONSA Neutron School,

the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS), the biannual AONSA Prize and issuing AONSA Newsletter twice a year. We have also held the Executive Committee Meeting twice a year at different country/region to promote and encourage their neutron society/community.

At the recent Executive Committee Meeting, we seriously discussed any possible cooperation with other neutron scattering community to exchange information on conference, school, workshop, facility reports, new projects etc. and to let our members access to it worldwide. The Vice President has been assigned to take a duty for such an outreach activity toward our mutual benefit with your NSSA.

My present letter on behalf of AONSA is to propose such cooperation with your NSSA. We would like to start this cooperation as simply as possible. When it's needed, however, we'll conclude any Agreement at any level between NSSA and AONSA in the future.

Looking forward to your kind consideration and cooperation on this matter.

Sincerely yours,
Prof. Yasuhiko Fujii
Vice President of AONSA
P.S. Attached please find two files of the recent issues of our AONSA Newsletter.

Asia-Oceania Neutron Scattering Association
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http://www.aonsa.org/

Dec. 21, 2010

Prof. Bruce D. Gaulin
President,
Neutron Scattering Society of America

Dear Bruce,

We have been impressed to know your NSSA actively playing a crucial role in scientific/technological development as well as political influence for neutron research not only in America but also worldwide for many years.

In August 2008 we, neutron scatters in our Asia-Oceania Region, established the Asia-Oceania Neutron Scattering Association (AONSA; http://www.aonsa.org/) to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region. Under Prof. Mahn Won Kim's Presidency in the first term (Aug. 2008 – Dec. 2009) and Prof. John White's in the second term (Jan. 2010 – Dec. 2011) , we have also intensively conducted various activities such as the annual AONSA Neutron School, the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS), the biannual AONSA Prize and issuing AONSA Newsletter twice a year. We have also held the Executive Committee Meeting twice a year at different country/region to promote and encourage their neutron society/community.

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My present letter on behalf of AONSA is to propose such cooperation with your NSSA. We would like to start this cooperation as simply as possible. When it's needed, however, we'll conclude any Agreement at any level between NSSA and AONSA in the future.

Looking forward to your kind consideration and cooperation on this matter.

Sincerely yours,

Prof. Yasuhiko Fujii
Vice President of AONSA

Appendix 18
Report of AONSA-ENSA-NSSA Presidents' Meeting in Japan
February 23, 2011

The ENSA-NSSA-AONSA Chairman-Presidents Met in Japan

On the evening of February 23, 2011, Prof. M. Steiner (Chairman of the European Neutron Scattering Association; Helmholtz-Zentrum Berlin), Prof. B. Gaulin (President of the Neutron Scattering Society of America; McMaster Univ.) and Prof. J. White (President of AONSA; ANU) met face-to-face at Tokai in Japan. Such a rare opportunity was realized by finely tuning their itinerary independently scheduled for a series of meetings in Japan. Also attended were Dr. J. Tranquada (Treasurer of NSSA; BNL), Dr. M. Arai (Former Secretary of AONSA; J-PARC), Prof. T. Kanaya (President of the Japan Society for Neutron Science; Kyoto Univ.), Dr. K, Kakurai (JAEA) and Prof. Y. Fujii (Vice President of AONSA; CROSS-Tokai).

This informal meeting was opened with three Chairman/Presidents' introductory remarks on their experiences in operating Associations/Society for the last few years. Their common headache is a lack of finances. Only AONSA charges annual fees ($2,000) to member societies while other two Association and Society have been supported mostly by major facilities upon an occasion such as conference, workshop and school. A very rough number of potential members is estimated as 6,000 (ENSA), 2,000 (NSSA), and 1,500 (AONSA) although the Association/Society are organized not by individual members but by societies representing users community in country/region. They have agreed on the followings: (1) Linkage among their home pages (Buttons for entry into ENSA and NSSA already installed on the top page of AONSA HP), (2) Exchange of their calendars not to clash major activities such as Regional Conference and Neutron School, (3) Post on each HP about schedule of call-for proposals of the relevant major neutron facilities. Also discussed was a possible mutual invitation of speakers from other two to Regional Conference hosted by one of Associations/Society (i.e. ECNS by ENSA, ACNS by NSSA, AOCNS by AONSA). They also intensively discussed a possible cooperation with international organizations such as ICNS, IAEA, ICSU, IUPAP, IUCr and Synchrotron Society.

They are very happy to have the next opportunity in the future to strengthen their cooperation among the tripolar Neutron Scattering Organizations, i.e. ENSA, NSSA and AONSA.

The AONSA President (J. White) reporting the status of AONSA on a map of the world with the Asia-Oceania Region in the center, unfamiliar to European and American colleagues.

[From left in the front row] B. Gaulin (NSSA President), J. White (AONSA President), M. Steiner (ENSA Chairman)
[From left in the back row] M. Arai, J. Tranquada, Y. Fujii, T. Kanaya and K. Kakurai in front of a poster of the 1st AOCNS.

Y. Fujii
Vice President of AONSA

Appendix 19
Vice-President Y. Fujii's Communication with AOFSRR

Report of AONSA-ENSA-NSAA Presidents Meeting on Feb, 23, 2011

From: ksliang@nsrrc.org.tw [mailto:ksliang@nsrrc.org.tw]
Sent: Thursday, December 02, 2010 9:34 AM
To: y_fujii@cross.or.jp; ree@postech.edu; takatama@spring8.or.jp; simomura@post.kek.jp
Cc: jww@rsc.anu.edu.au; sungmin@kaist.ac.kr; whli@phy.ncu.edu.tw; mwkim@kaist.ac.kr; masatoshi.arai@j-parc.jp; akutsu.junko@jaea.go.jp; slchang@nsrrc.org.tw
Subject: RE: AONSA's Proposal for Cooperation with AOFSRR

Dear Prof. Fujii;

I am very pleased to learn about your thinking of the cooperation between AONSA and AOFSRR. As both organizations are now in smooth operation, the cooperation between neutron and x-ray communities are very natural and important. I strongly support such moves and will bring the issue to the attention of the Council of AOFSRR, which I am serving as the President until the end of 2010. The Vice President, Prof. Moonhor Ree of Pohang Accelerator Lab, will assume the presidency starting January 2011 for a 2-year term. I am sure he is also enthusiatic about the cooperation.

As you may know, I just moved to National Chiao Tung University to take a chair professor position. My main job is to promote the sciences by the use of large facilities at the universities. As part of the acts, I will offer a couse on Special Topics of X-ray and Neutron Scattering at the graduate school. I have invited both Profs. W. H. Li and C. H. Lee of TWNSS to give lectures at my class. I will also maintain a consulting role with NSRRC and also continue to serve in the Executive Council fo AOFSRR for another two years. In that capacity, I would be happy to help the promotion of regional cooporations in both synchrotron and neutron sciences.

I feel quite rewarding of the experiences in serving AOFSRR in the past several years under the leaadership of Dr. Osamu Shimomura. The diversity nature of the region, both ecomonically and culturally, is a big challenge to bring us together. Personally, it is quite an honor to have the opportunity to serve such a fast growing community. I am looking forward to working with people in both AONSA and AOFSRR in the future.

Best regards,
Keng Liang

From: Y. Fujii@CROSS [mailto:y_fujii@cross.or.jp]
Sent: Wednesday, December 01, 2010 9:22 AM
To: ksliang@nsrrc.org.tw; ree@postech.edu; 'Masaki Takata'; '下村 理'
Cc: 'John White'; sungmin@kaist.ac.kr; 'Wen-Hsien Li'; mwkim@kaist.ac.kr; '新井 正敏'; 'Junko Subject: AONSA's Proposal for Cooperation with AOFSRR

Dec. 1, 2010

Prof. Keng San Liang
President, Asia-Oceania Forum for Synchrotron Radiation Research

Cc: Moonhor Ree (Vice President), Masaki Takata (Secretary), Osamu Shimomura (Special Advisor)

Dear Keng,

We are very impressed to know your AOFSRR actively playing a crucial role in scientific/technological development as well as political influence for synchrotron radiation research in our Asia-Oceania Region.

In August 2008 we, neutron scatters in our Region, established the Asia-Oceania Neutron Scattering Association (AONSA; http://www.aonsa.org/) to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region. Under Prof. Mahn Won Kim's Presidency in the first term (Aug. 2008 – Dec. 2009) and Prof. John White's in the second term (Jan. 2010 – Dec. 2011) , we have also intensively conducted various activities such as the annual AONSA Neutron School, the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS), the biannual AONSA Prize and issuing AONSA Newsletter twice a year. We have also held the Executive Committee Meeting twice a year at different country/region to promote and encourage their neutron society/community.

At the recent Executive Committee Meeting, we seriously discussed any possible cooperation with Synchrotron Radiation community in our Region to exchange information on conference, school, workshop, facility reports, new projects etc. and to let our members access to it regionwide. The Vice President has been assigned to take a duty for such an outreach activity toward our mutual benefit with your AOFSRR.

My present letter on behalf of AONSA is to propose such cooperation with your AOFSRR. We would like to start this cooperation as simply as possible. When it's needed, however, we'll conclude any Agreement at any level between AOFSRR and AONSA in the future.

Looking forward to your kind consideration and cooperation on this matter.

Sincerely yours,

Yasuhiko Fujii
Vice President of AONSA

P.S. Attached please find two files for the recent two issues of AONSA Newsletter.

Asia-Oceania Neutron Scattering Association
AONSA Office
c/o Neutron Science Section, Materials & Life Science Facility Division,
J-PARC Center, Japan Atomic Energy Agency
2-4 Shirakata-Shirane, Tokai, Ibaraki 319-1195, Japan
Phone: +81-29-284-3752, Fax: +81-29-284-3889, E-mail: aonsa-web@ml.j-parc.jp
http://www.aonsa.org/

Dec. 1, 2010

Prof. Keng San Liang
President,
Asia-Oceania Forum for Synchrotron Radiation Research

Dear Keng,

We are very impressed to know your AOFSRR actively playing a crucial role in scientific/technological development as well as political influence for synchrotron radiation research in our Asia-Oceania Region.

In August 2008 we, neutron scatters in our Region, established the Asia-Oceania Neutron Scattering Association (AONSA; http://www.aonsa.org/) to provide a platform for discussion and a focus for action in neutron scattering and related topics in the Asia-Oceania Region. Under Prof. Mahn Won Kim's Presidency in the first term (Aug. 2008 – Dec. 2009) and Prof. John White's in the second term (Jan. 2010 – Dec. 2011) , we have also intensively conducted various activities such as the annual AONSA Neutron School, the quadrennial Asia-Oceania Conference on Neutron Scattering (AOCNS), the biannual AONSA Prize and issuing AONSA Newsletter twice a year. We have also held the Executive Committee Meeting twice a year at different country/region to promote and encourage their neutron society/community.

At the recent Executive Committee Meeting, we seriously discussed any possible cooperation with Synchrotron Radiation community in our Region to exchange information on conference, school, workshop, facility reports, new projects etc. and to let our members access to it regionwide. The Vice President has been assigned to take a duty for such an outreach activity toward our mutual benefit with your AOFSRR.

My present letter on behalf of AONSA is to propose such cooperation with your AOFSRR. We would like to start this cooperation as simply as possible. When it's needed, however, we'll conclude any Agreement at any level between AOFSRR and AONSA in the future.

Looking forward to your kind consideration and cooperation on this matter.

Sincerely yours,

Prof. Yasuhiko Fujii
Vice President of AONSA

---------- Feb. 9, 2011 ----------
Dear Prof. Fujii,

First of all, I thank you very much for your great efforts on the AONSA. And, I am pleased to hear that your community has the first AOCNSA in coming November. This conference looks very attractive and valuable to the neutron users as well as to the synchrotron users. I will circulate this conference to colleagues here. I hope that the AOFSRR council members agree with me and circulate it too. I hope the AOFSRR members will attend this conference and make contributions.

As communicated so far, I hope that the AONSA and AOFSRR members continue discussions for cooperation and then start cooperation works as soon as possible. Maybe it is the best way to start with easy ones. Please give ideas and comments.

At this moment, I would also like to inform you and AONSA community that for the AOFSRR community, we have the 6th AOFSRR Workshop in Imperial Qeenn's Park Hotel, Bangkok on October 25-27, 2011. I will let you know its homepage soon. Please circulate this workshop to the AONSA community.

Again, your efforts on the AONSA community and the AOFSRR community are appreciated very much.

With best wishes,

Moonhor Ree
AOFSRR

Moonhor Ree
Director, Pohang Accelerator Laboratory (PLS-II & PAL-XFEL)
POSTECH Fellow & Professor, Chemistry Department, Division of Advanced Materials Science and Polymer Research Institute
Pohang University of Science & Technology (POSTECH)
San 31, Hyoja-dong, Nam-gu
Pohang 790-784, Korea
(E-mail) ree@postech.edu

Appendix 20
Calendar of AONSA Activities

Year 2011

Date	Events
2/20	AONSA Board Meeting (near Narita Airport, Japan)
2/23	AONSA-ENSA-NSSA Presidents' Meeting (Tokai, Japan)
2/28	Deadline for nomination for the AONSA Prize
4/27	AONSA Newsletters Vol. 3, No. 1
5/19-5/20	The 6th AONSA EC Meeting (Bandung, Indonesia)
6/27-7/1	ICNX 2011 (Hsinchu, Taiwan)
7/17-7/22	European Conference on Neutron Scattering (Prague, Czech)
8/23-8/31	XXII Congress and General Assembly of the International Union of Crystallography (Madrid, Spain)
9/30	Deadline for proposal submission for the 2nd AOCNS
10/xx	AONSA Newsletters Vol. 3, No. 2
11/13-11/19	The 4th AONSA Neutron School (Tokai, Japan) *cancelled
11/12-11/17	The 4th AONSA Neutron School (ANSTO, Australia)
11/20	The 7th AONSA EC Meeting (Tsukuba, Japan)
11/20-11/24	The 1st AOCNS (Tsukuba, Japan)
11/22-11/25	IAEA Technical Meeting (Tsukuba, Japan)
11/28-12/1	Polymer Conference (Bali, Indonesia)

Year 2012

Date	Events
11/18-11/23	The 15th International Small-Angle Scattering Conference (Sydney, Australia)
12/2-12/6	The 11th Conference of the Asian Crystallographic Association (Adelaide, Australia)

Year 2013

Date	Events
7/7-7/11	The 10th International Conference on Neutron Scattering (Edinburgh, UK)

Appendix 21

Association Reports

Report from INSS

From: Dr. Chaplot [mailto:chaplot@barc.gov.in]
Sent: Wednesday, May 18, 2011 10:20 PM
To: Sung-Min Choi
Cc: jww@rsc.anu.edu.au; Dr. R. Mukhopadhyay; dpandey_bhu@yahoo.co.in; chaplot
Subject: Report from INSS and BARC

Dear Prof. Choi,

We from INSS and BARC send our best wishes for a fruitful AONSA-EC meeting.
I request you to kindly convey the following reports to the EC.

1. We join other colleagues in appreciating the exemplary efforts of Japanese colleagues in meeting the extraordinary situation following the earthquake and tsunami on 11 March 2011. We offer our support in every possible way.
2. INSS increased its membership to about 120.
3. India has joined ILL, Grenoble as a Scientific Member from 1st January 2011, and is represented by BARC.
4. While there are bids for the 2nd AOCNS from other AONSA-Members, we would be equally happy to host the AOCNS in 2015.

Best regards,

Samrath Chaplot

Report from Japanese Society for Neutron Science (JSNS)

After 5th AONSA Executive Committee Meeting on October 5, 2010

President: Professor Kazu Yamada until March 31st, 2011

The annual meeting of The Japanese Society for Neutron Science
Tohoku University, Sendai, December 9 - 12, 2010,
Chaired by Professor Yukio Noda, 230 participants.
A civic lecture was held to enlighten the public of the importance of neutrons in a society.

New (6th) Board of JSNS (from Apr., 2011, two years)

President: Toshiji Kanaya (Inst. for Chemical Res., Kyoto Univ.)

Members of Council (15)

Masayuki Imai (Ochanomizu Univ.)
Toshiya Otomo (KEK)
Kenji Ohyama (Tohoku Univ.)
Takashi Kamiyama (KEK)
Yoshiaki Kiyanagi (Hokkaido Univ.)
Mitsuhiro Shibayama (Univ. of Tokyo)
Junichi Suzuki (CROSS)
Hideki Seto (KEK)
Miwako Takahashi (Tsukuba Univ.)
Naoya Torikai (Mie Univ.)
Makoto Hayashi (Ibaraki Pref.)
Yasuhiko Fujii (CROSS)
Naoto Metoki (JAEA)
Kazuyoshi Yamada (Tohoku Univ.)
Osamu Yamamuro (Univ. of Tokyo)

Board of Administration

Secretary
Kenji Nakajima (J-PARC)
Nobuaki Tkahashi (J-PARC)

Events Coordination
Hiroyuki Suzuki (Tokyo Univ. of Science)

Public-Relations
Seiji Tasaki (Kyoto Univ.)
Masahiro Hino (Kyoto Univ.)

Treasurer
Shinichi Ito (KEK)
Noriko Yamamuro (Tokyo Denki Univ.)

Communication
Hiroyuki Kimura (Tohoku Univ.)
Toshiji Kanaya (Kyoto Univ.)

Publication
Yasushi Idemoto (Tokyo Univ. of Science)
Shinichi Sakurai (Tokyo Denki Univ.)

Current Status of JSNS / Large earthquake on March 11

Membership (20 Apr., '11)

575 members (including 70 students), 33 supporting members

Recent Events

6 Apr., '11: Council Meeting (Expanded, Extraordinary)

In response to the Great East-Japan Earthquake

- Facility Report (report on damage , handling of user program)
- Actions of JSNS
  - Statement to JSNS members.
  - Providing information of applying proposals to possible foreign facilities .
  - Financial support to JSNS members for their carrying out experiments abroad (3,500, 000 JPY ~ 43,000 USD).

12 Apr., '11: 1st Administration Board Meeting

Batonpassing meeting from previous to new administration board

Planned Events

24 May, '11: 2nd Administration Board Meeting

30 May, '11: 26th Regular Council Meeting

Aug., '11: Regular article on AONSA will start on *'Hamon'* from the August issue.

20-24 Nov. '11: 1st AOCNS Meeting (Tsukuba)

Annual Meeting of JSNS will be held during the 1st AOCNS

In response to the Great East-Japan Earthquake

We express our deepest gratitude to your support to Japanese neutron scientists.
Immediately after the serious disaster happened on 11 March, we have received your kind message and kind offer to support Japanese neutron scientists. We are very much encouraged and would appreciate very much your kind offer.

Actions of JSNS

31 Mar., '11: Releasing 1st JSNS Appeal.
06 Apr., '11: Council Meeting.
Cancelation of holding AONSA Neutron School was deiced.
Series of actions were discussed.
Decision of financial support for JSNS members for their doing experiments abroad
11 Apr., '11: Releasing 2nd JSNS Appeal.
12 Apr., '11: Presenting the petition to MEXT, Japan.
14 Apr., '11: Starting to provide information of applying proposals to foreign facilities.
15 Apr., '11: Announcement of JSNS financial support program for carrying out exp. abroad.
27 Apr., '11: Press releasing of 'Appeal from 34 Academic Societies.'

Transfer of accepted JRR-3 & J-PARC proposals to foreign facilities.

Key contact persons: M. Shibayama (ISSP), K. Kakurai(JAEA) : Reactor
H. Seto (KEK, J-PARC) :Pulse

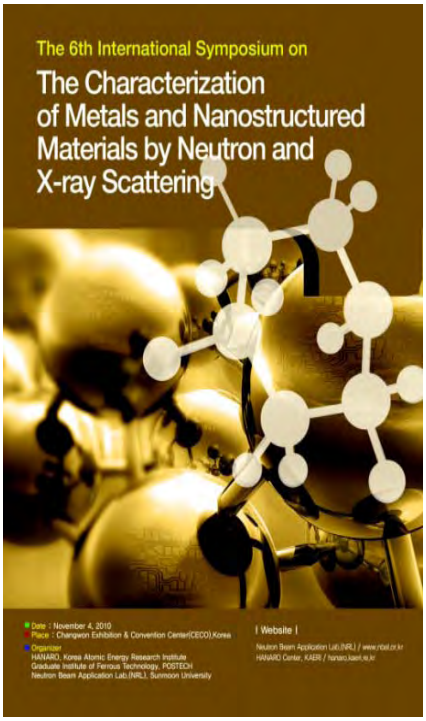
Role of JSNS:
- Providing information to JSNS members.
- Financial Supporting to JSNS members in their experiments abroad.

Recent Activities of KNBUA

May 20, 2011

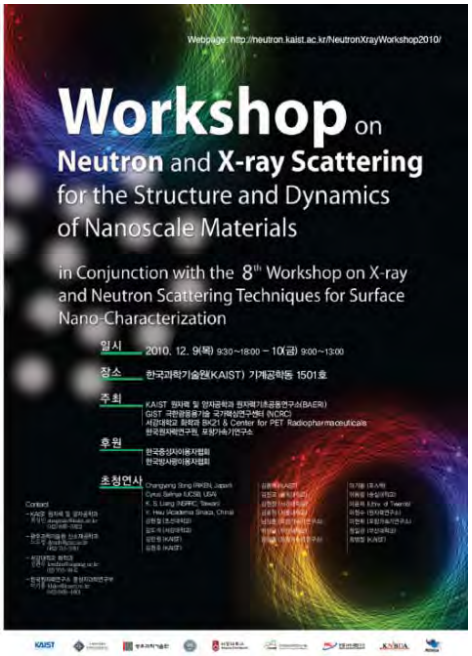
Ki Bong Lee
POSTECH

2010-2011 학술활동



held in Changwon
Nov. 4, 2010
24 participants
industry-related applications

2010-2011 학술활동



The 8th workshop on X-ray and Neutron scattering techniques for surface nano characterization

Dec. 9-10, 2010, KAIST

82 participants

Neutron Scattering Winter School

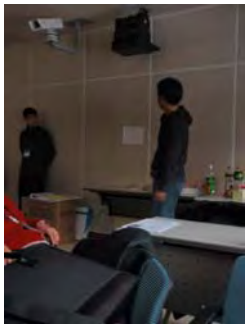
- Crystal and magnetic structure analysis using neutron diffraction

  held at INTEC, KAERI, Daejeon

  December 17-22, 2010

  Lectures by Prof. Y. Noda and Dr. A. Pirogov

  32 participants



The 11th J-K Meeting on Neutron Science

held at Korea Univ. Seoul

49 papers (22 from Japan)

71 participants

HANARO Symposium

Center for Korean JPARC Users

PI : J.-G. Park (Seoul National Univ.)
Mission: Supports for Korean users' activities at J-PARC

Research Fields: *Materials Science, Accelerator & Neutron source, Neutrino Physics, Nuclear Physics*

MEMORANDUM OF COLLABORATION(MOC)
BETWEEN
CENTER FOR KOREAN J-PARC USERS
AND
THE HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION,
JAPAN ATOMIC ENERGY AGENCY
FOR INITIATING COOPERATIVE ACTIVITY IN
THE FIELDS OF J-PARC RELATED RESEARCHES

For Center for Korean J-PARC Users:

Prof. Je-Geun Park
Director,
Center for Korean J-PARC Users,
Date: 1st October 2010

For The High Energy Accelerator Research Organization and Japan Atomic Energy Agency

Shoji Nagamiya
Director, J-PARC Center
(for KEK & JAEA)
Date: October 1, 2010

Newsletter & website

http://www.neutron.or.kr/


Newsletter from KNBUA Vol. 1 No. 1 2011

KNBUA
한국 중성자 빔 이용자 협회 소식지
KNBUA Newsletter

제 1권 제 1호 통권 제 1호
발행처/ KNBUA
발행인/ 이기봉
편집인/ 박성균, 류두열
발행일/ 2011.01
인쇄처/

신년 인사

한국중성자빔이용자협회 이사진 선출

목 차

行政院國家科學委員會 National Science Council

AONSA

台灣中子科學學會 Taiwan Neutron Science Society

Activity report of TWNSS

May 20, 2011

AONSA EC meeting

Hsiung Chou
Department of Physics
National Sun Yat-sen University
Taiwan

Wen-Hsien Li
Center for Neutron Beam Applications
National Central University
Taiwan

Workshop on Neutron Scattering Science 2011

Time : 17/01/2011~19/01/2011

Place: Dong-shi forest garden, Taichung, Taiwan

http://tsfa.emmm.tw

Attendant	Number
Researchers	30
Postdoctoral Fellow	15
Students and Research Assistants	116
Total	161

(Number of Registers:187)

Taiwan Neutron Science Society

http://www.twnss.org.tw/

Workshop on Neutron Scattering Science 2011

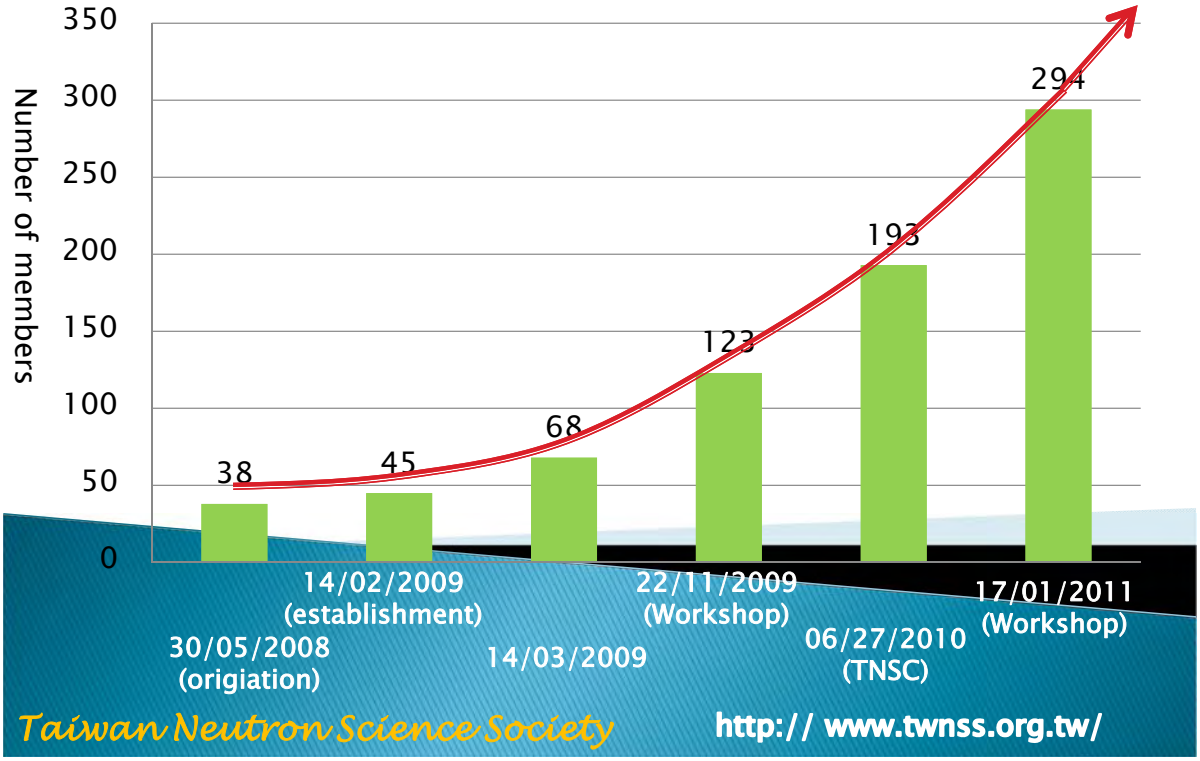
TWNSS: New members of council

- President : His-Mei Lai
  - Department of Agriculture Chemistry
  - National Taiwan University

- Vice President: Hsiung Chou
  - Department of physics
  - National Sun Yat-sen University

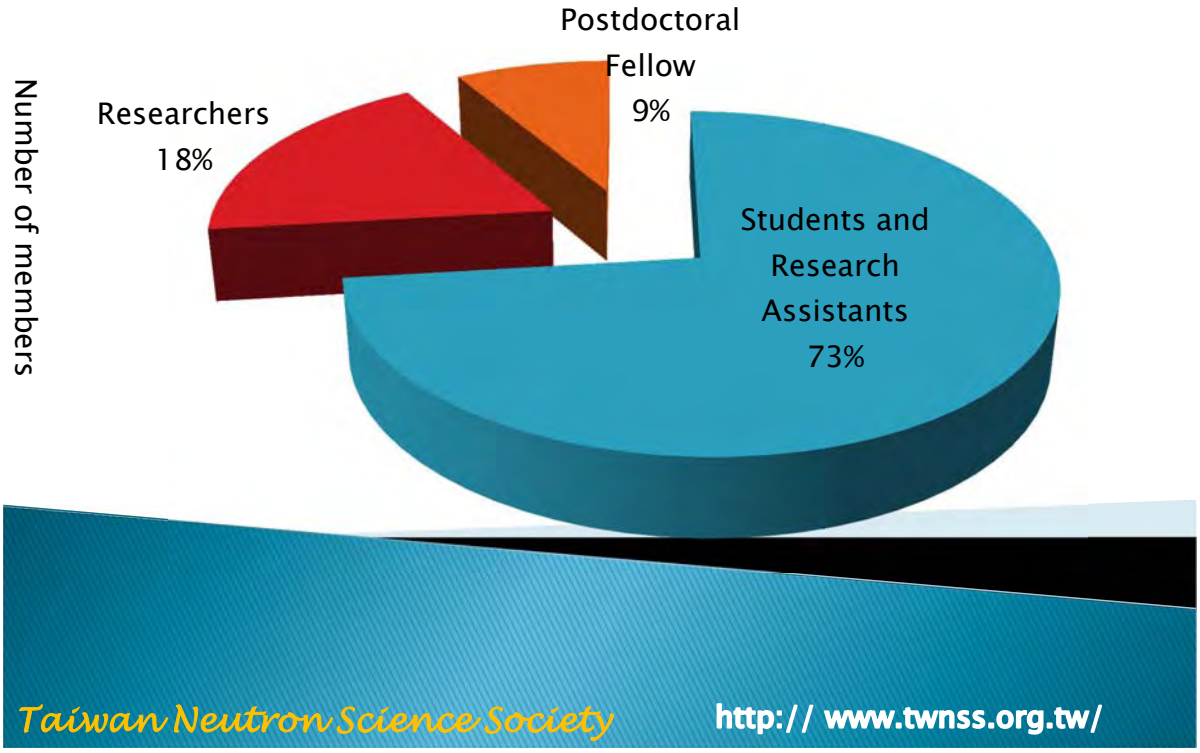
- Executed Members:

The members of TWNSS

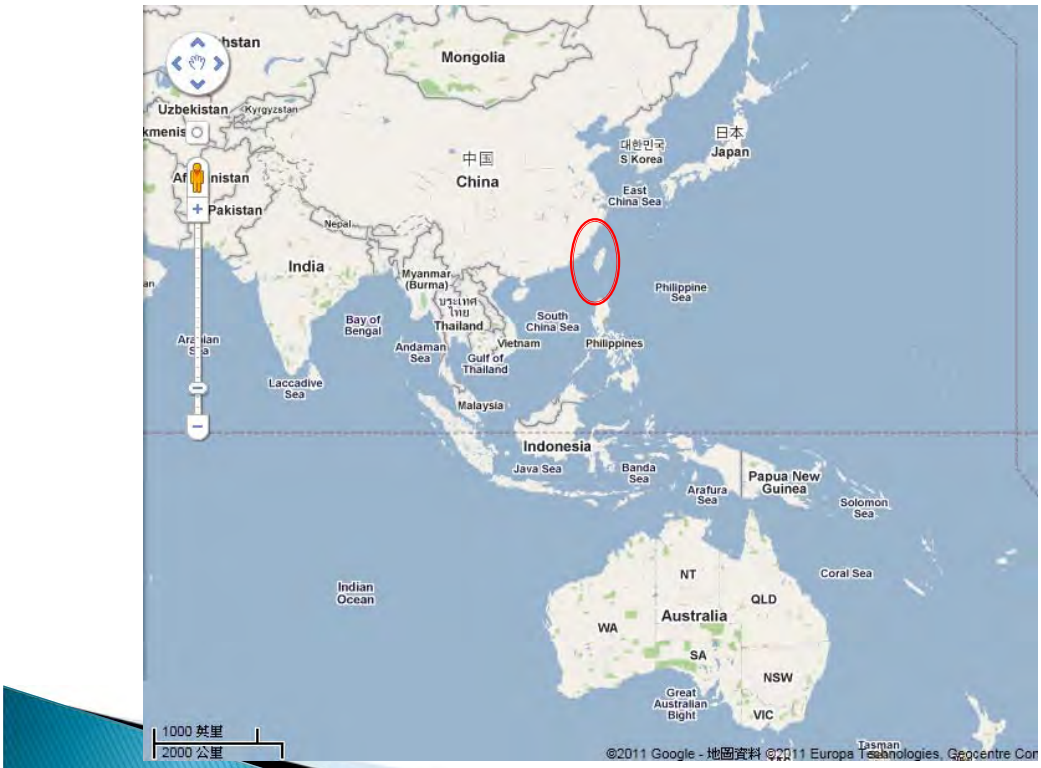


Taiwan Neutron Science Society http:// www.twnss.org.tw/

The members of TWNSS



Taiwan Neutron Science Society http:// www.twnss.org.tw/



Taipei—Grand Hotel

Hua-Lian
National Dong Hwa Universit

Kaohsiung
National Sun Yat-sen University

~Thank you~

- **Add:S4-613, 300, Jhongda Road, Jhongli 32001, Taiwan**
- **Tel:(+886) 3 4227151 ext. 65385**
- **E-mail: twnssweb@gmail.com**
- **Homepage:** http://www.twnss.org.tw/

Taiwan Neutron Science Society http://www.twnss.org.tw/

CURRENT STATUS OF NEUTRON SCATTERING LABORATORY AT BATAN SERPONG

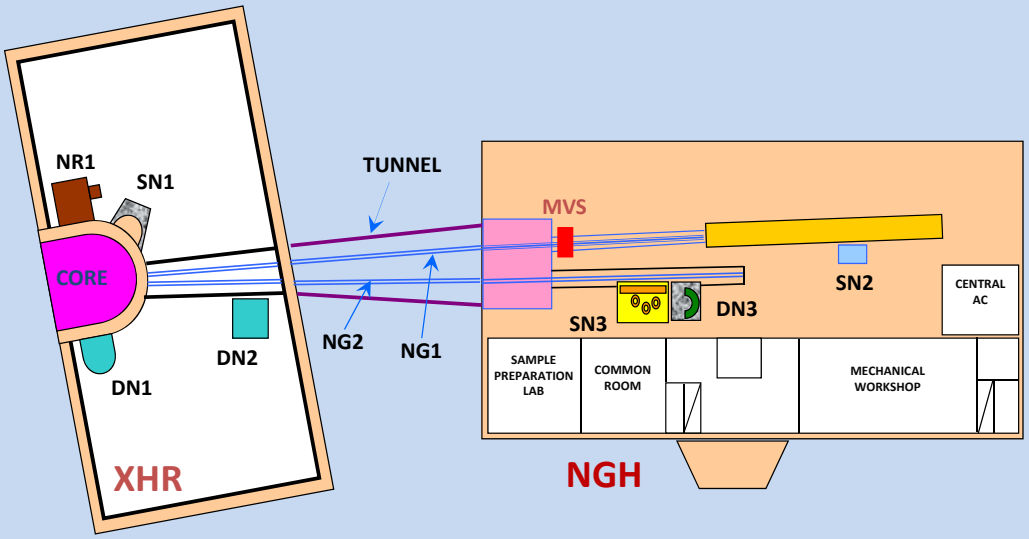
BATAN - SERPONG NUCLEAR AREA

NEUTRON SCATTERING LABORATORY FACILITY

The NSL is facilitated with 7 neutrons instruments, utilizing neutrons produced from the RSG-G.A. Siwabessy Reactor.

Those instruments are:

1) Residual stress measurement (RSM) diffractometer, DN1.
2) Four-circle /texture diffractometer (FCD/TD), DN2.
3) High-resolution powder diffractometer (HRPD), DN3.
4) Neutron radiography facility (NRF), RN1.
5) Triple axis spectrometer (TAS), SN1.
6) Small angle neutron scattering (SANS) spectrometer/ SMARTer, SN2.
7) High-resolution small angle neutron scattering (HRSANS) spectrometer, SN3.

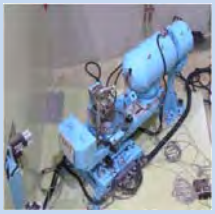


XHR	: eXperimental Hall of Reactor	DN1	: Neutron Diffractometer for Residual Stress Measurement
NGH	: Neutron Guide Hall	DN2	: Four-Circle Diffractometer/Texture Diffractometer
NG	: Neutron Guide	DN3	: High Resolution Powder Diffractometer
NG1	: First Neutron Guide	SN1	: Triple Axis Spectrometer
NG2	: Second Neutron Guide	SN2	: Small Angle Neutron Scattering Spectrometer
NR1	: Neutron Radiography Facility	SN3	: High Resolution Small Angle Neutron Scattering Spectrometer

The layout of the Neutron Scattering Laboratory

INSTRUMENTS CAPABILITIES

Triple-Axis Spectrometer Crystal dynamics (dimensionless)



Crystal strusture (atomic scale: ~ Å)

Material characterizations in atomic scale to macro scale

Molecular structure (nano scale:~ nm)

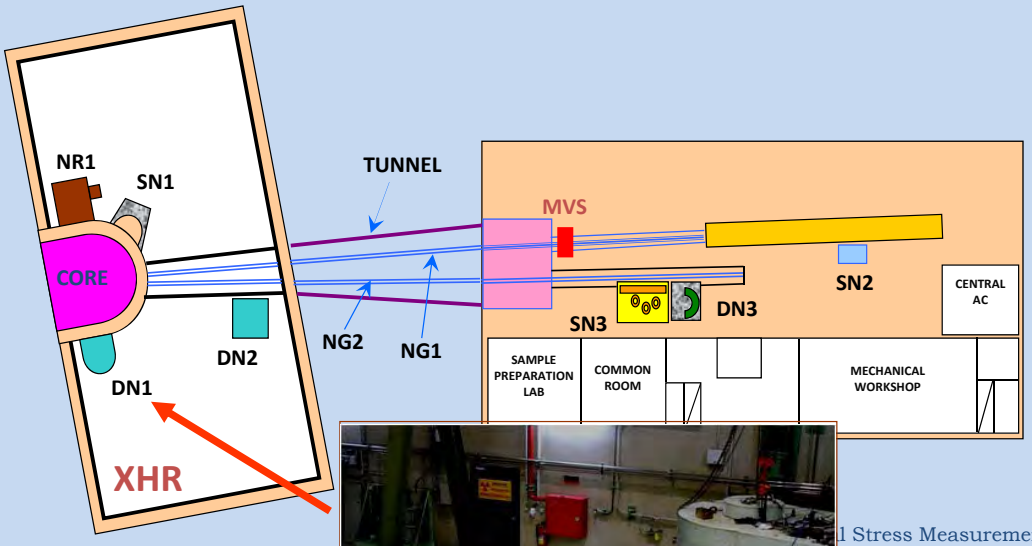
Molecular structure (micro scale:~ μm)

Defects (macro scale:~ mm)

Neutron Diffractometers → Neutron Spectrometers → Neutron Radiography

Sizes

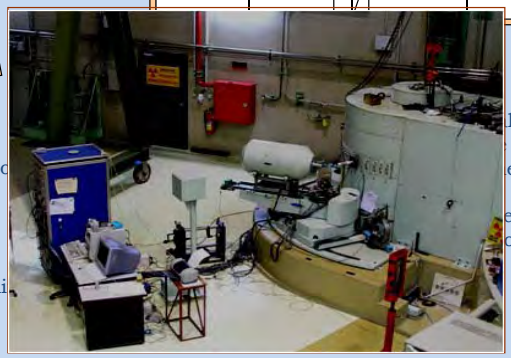
DN1 RESIDUAL STRESS MEASUREMNENT DIFFRACTOMETER (RSM-D)



XHR : eXperimental Hall of Reacto
NGH : Neutron Guide Hall
NG : Neutron Guide
NG1 : First Neutron Guide
NG2 : Second Neutron Guide
NR1 : Neutron Radiography Facili

l Stress Measurement
Diffractometer
eter

ectrometer
on Scattering Spectrometer



DN1 RESIDUAL STRESS MEASUREMNENT DIFFRACTOMETER (RSM-D)

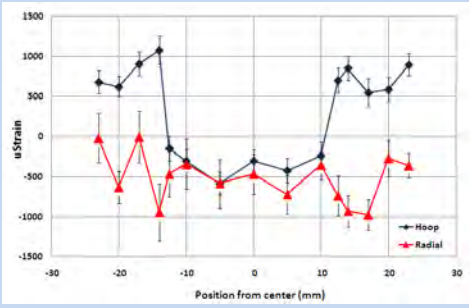
Residual stress measuremnent of crystalline materials.
(welded, pressed, bended metal and alloys)

Instrumental Parameters

Beam Source	: Thermal neutron
Location	: Reactor Experimental Hall
Beam collimation	: Parallel Collimator 40' before detector and monochromator
Monochromator	: doubly focused bent Si(311) monochromator.
Monochromator Take-off-Angle	: 0-90 deg.
Diffraction angle range (2θ)	: -10 – 120 deg.
Detector	: BF_3 Point detector
Counting system	: Canberra
Control system	: Labo + PC Windows
Acquisition software	: RESA (JAEA)
X-Y-X Goniometer	: X=140 ± 0.025 mm, Y=140 ± 0.025 mm, Z=50 ± 0.025 mm
DeltaTheta/Theta	: $5x10e^{-5}$
Texture evaluation	: Full circle goniometer
Tensile Rig	: 1 kN + strain gage reader
Cryostat	: 15 K

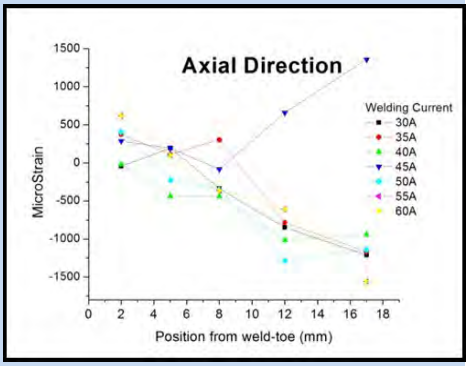
DN1 Selected example

Srink and Fit Sample (CRP-IAEA)



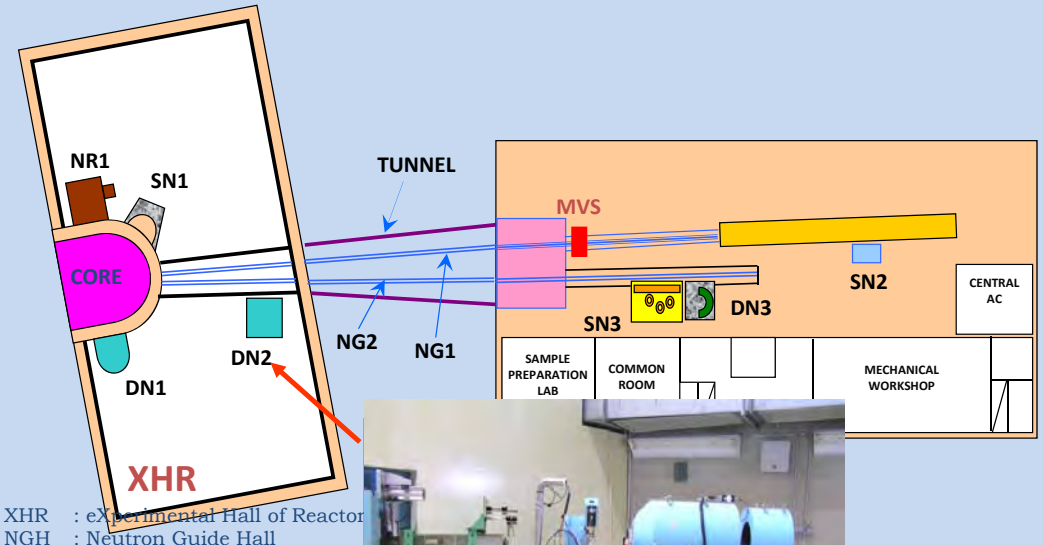
Strain of Srink and Fit Sample

Welded Steel

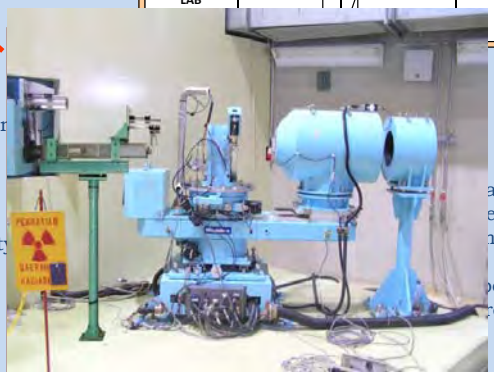


Strain of welded Sample

DN2 : FOUR-CIRCLE/TEXTURE DIFFRACTOMETER (FCD/TD)



XHR : eXperimental Hall of Reactor
NGH : Neutron Guide Hall
NG : Neutron Guide
NG1 : First Neutron Guide
NG2 : Second Neutron Guide
NR1 : Neutron Radiography Facility

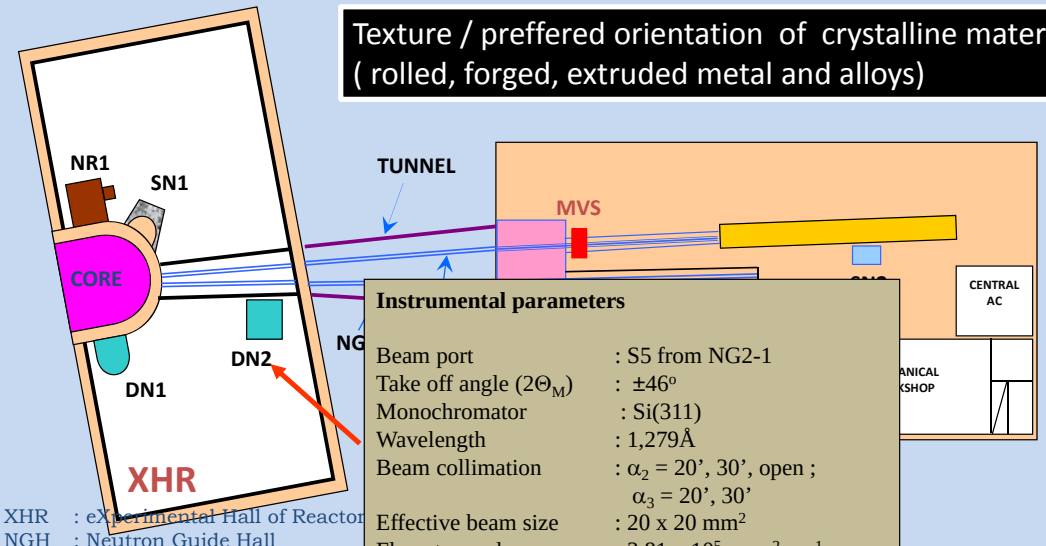


al Stress Measurement
e Diffractometer
neter

pectrometer
ron Scattering Spectrometer

DN2 : FOUR-CIRCLE/TEXTURE DIFFRACTOMETER (FCD/TD)

Texture / preffered orientation of crystalline materials (rolled, forged, extruded metal and alloys)



XHR : eXperimental Hall of Reactor
NGH : Neutron Guide Hall
NG : Neutron Guide
NG1 : First Neutron Guide
NG2 : Second Neutron Guide
NR1 : Neutron Radiography Facility

Instrumental parameters

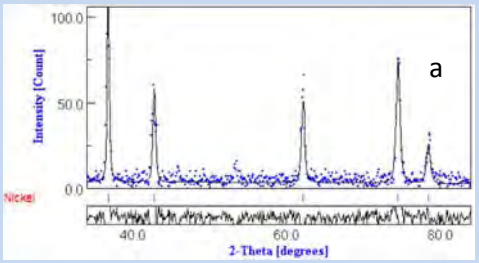
Beam port	: S5 from NG2-1
Take off angle ($2\Theta_M$)	: ±46º
Monochromator	: Si(311)
Wavelength	: 1,279Å
Beam collimation	: α_2 = 20', 30', open ; α_3 = 20', 30'
Effective beam size	: 20 x 20 mm^2
Flux at sample	: 3,81 x 10^5 ncm^{-2}sec^{-1} (α_2= open)
Detector	: BF_3 counter
Scanning mode	: $+5^o \leq 2\Theta \leq +120^o$ $-40^o \leq \omega \leq +90^o$
Angular ranges	: $-40^o \leq \chi \leq +100^o$ $-180^o \leq \phi \leq +180^o$

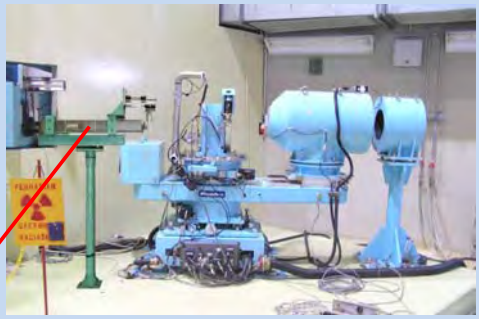
ess Measurement
ractometer

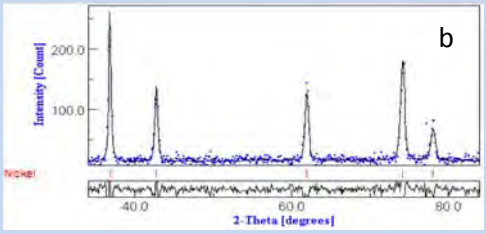
meter
cattering Spectrometer

DN2

Selected example

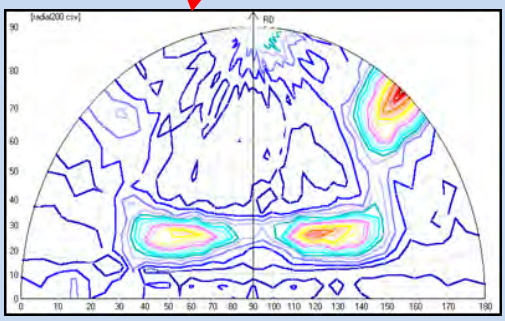






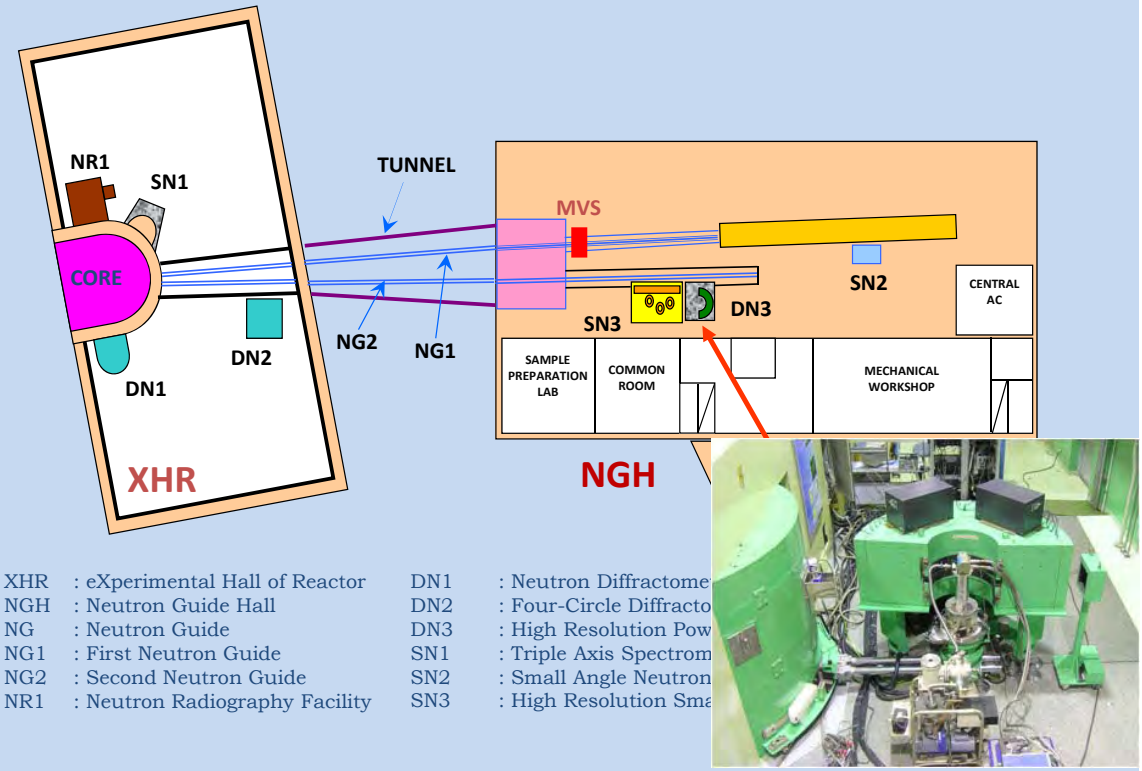
Neutron diffraction of Nickel samples (a) before and (b) after additon of flight tube.

Pole figure of A-7075 : <200> hoop direction



DN3

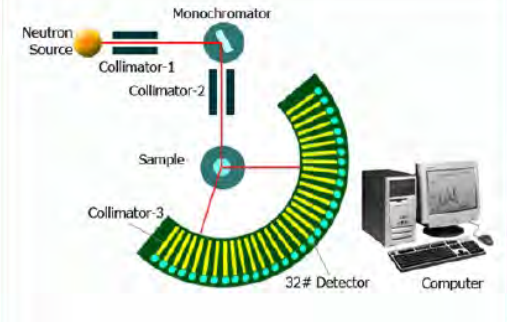
HIGH-RESOLUTION POWDER DIFFRACTOMETER (HRPD)

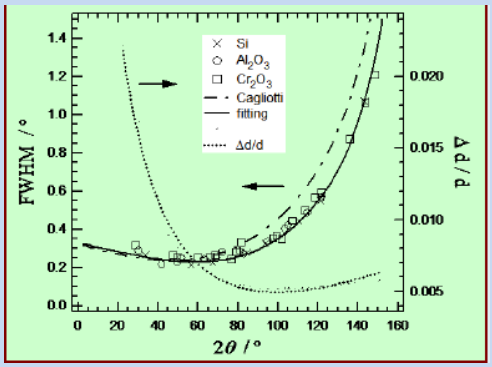


XHR	: eXperimental Hall of Reactor	DN1	: Neutron Diffractome
NGH	: Neutron Guide Hall	DN2	: Four-Circle Diffracto
NG	: Neutron Guide	DN3	: High Resolution Pow
NG1	: First Neutron Guide	SN1	: Triple Axis Spectrom
NG2	: Second Neutron Guide	SN2	: Small Angle Neutron
NR1	: Neutron Radiography Facility	SN3	: High Resolution Sma

DN3 HIGH-RESOLUTION POWDER DIFFRACTOMETER (HRPD)

Crystal structure of materials
(powder and bulk of metal, ceramic, magnetic material)

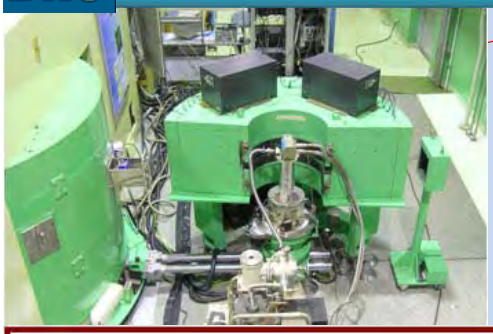




Instrumental Parameters

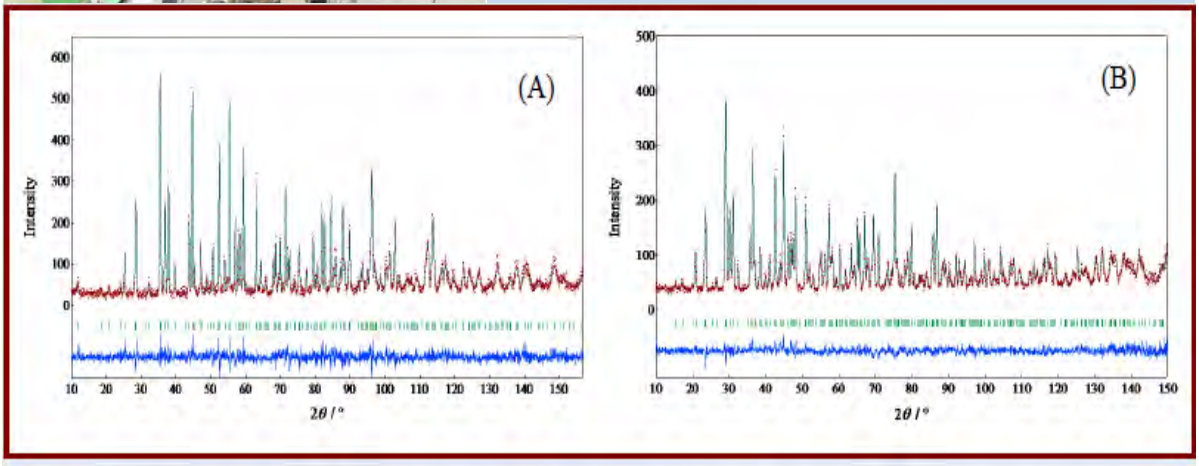
Beam port	: NG2-3
Take off angle	: 41.5°, 89° (now) and 130°
Monochromator	: hot-pressed Ge(331), (100mm x 45mm x 10mm) mosaicity FWHM β = 23.4' (0.39°)
Wavelength	: 2θM = 89°, λ = 1.8223 Å
Beam narrower	: Max. 40mm (horizontal) x 100 mm (vertical)
Collimators	: α1 (NG2) = ±16.2'
	α2 = 20', 40'
	α3 = 6', 10'
Scattering angle	: -170° < 2θs < +10°
Main detectors	: 32 units of ^{3}He detectors, XERAM 30NH15
Data acquisition	: PC compatible

DN3 Selected example

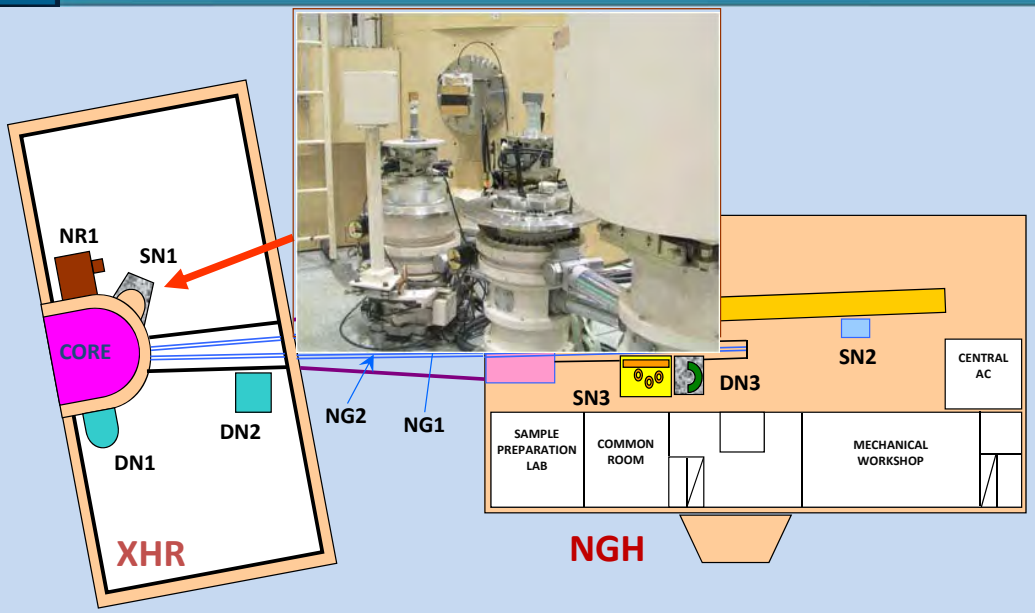


DN3

Comparison result of La8Sr2GeO4 neutron diffraction patterns
at BATAN (A) and ANSTO (B)



SN1 TRIPLE AXIS SPECTROMETER (TAS)



XHR	: eXperimental Hall of Reactor	DN1	: Neutron Diffractometer for Residual Stress Measurement
NGH	: Neutron Guide Hall	DN2	: Four-Circle Diffractometer/Texture Diffractometer
NG	: Neutron Guide	DN3	: High Resolution Powder Diffractometer
NG1	: First Neutron Guide	SN1	: Triple Axis Spectrometer
NG2	: Second Neutron Guide	SN2	: Small Angle Neutron Scattering Spectrometer
NR1	: Neutron Radiography Facility	SN3	: High Resolution Small Angle Neutron Scattering Spectrometer

SN1 TRIPLE AXIS SPECTROMETER (TAS)

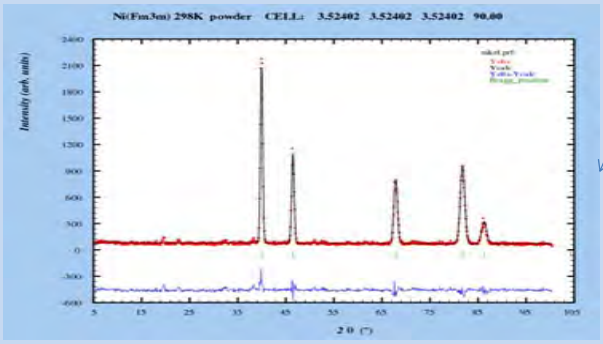
Inelastic measurement(phonons in cooper, silicon, etc.)

Instrumental parameters:

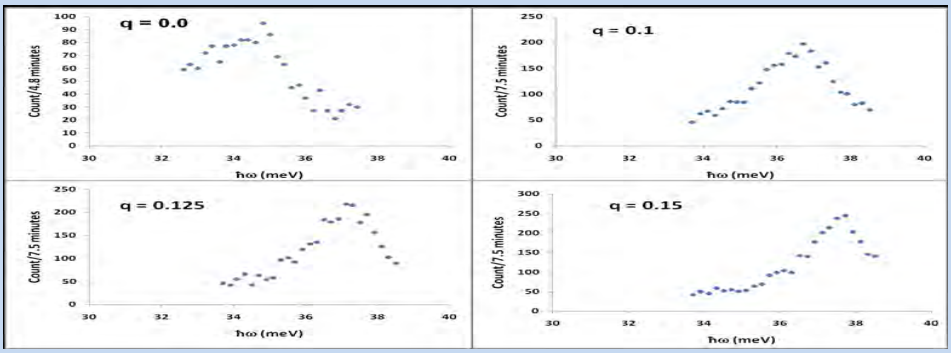
Neutron source	: Thermal neutron
Neutron beam port	: S4
Monochromator	: Unpolarized: Ge(220), PG(002) Polarized: Heusler
Range of monochromator angle	: $15° < 2Q_m < 75°$
Wavelength	: 1.392 Å (at fixed $2Q_m = 40.698°$)
Flux at specimen	: 2×10^5 neutron/cm²/sec
Collimation	: 20' and 40'
Filter:	: PG
Maximum beam size	: 40 mm (H) x 70 mm (V)
Range of scattering angle (2q)	: $-5° < 2F < 140°$
Range of crystal orientation:	: $0° < Q_s < 360°$
Angular resolution	: 0.01°
Sample goniometer	: X, Y: -10 mm to +10 mm, Rx, Ry: -10° to +10°
Monitor detector	: BF_3
Analyzer	: PG(002)
Range of analyzer (2q)	: $-5° < 2Q_A < 90°$
Main detector	: ^3He
Control and data collection	: PC compatible

SN1

Selected example



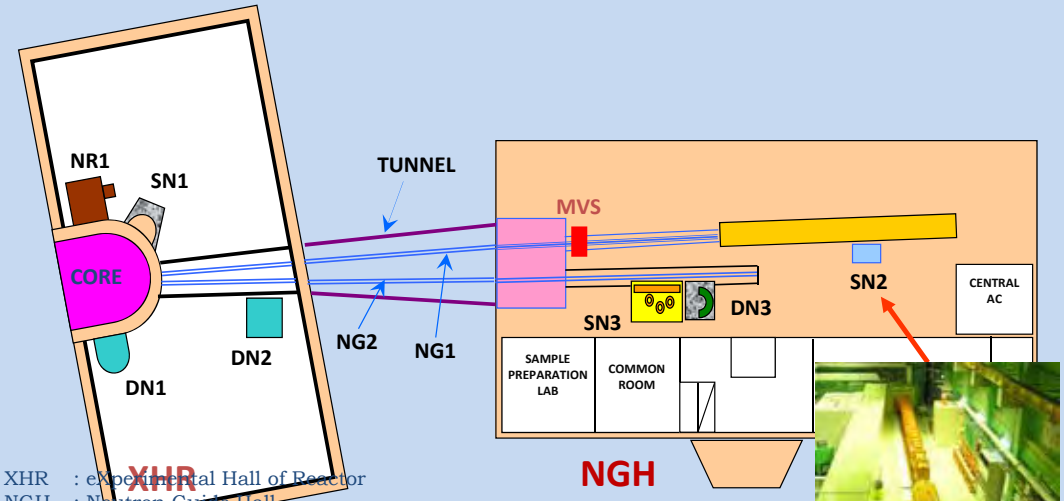
Wavelengt calibration using Ni powder

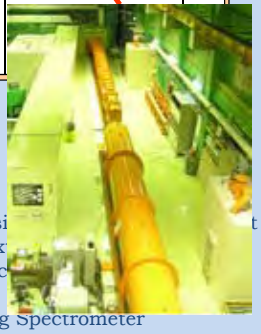


Results of inelastic scattering experiments for various q on Cu single crystal

SN2

SMALL ANGLE NEUTRON SCATTERING (SANS) SPECTROMETER/ SMARTer





XHR : eXperimental Hall of Reactor
NGH : Neutron Guide Hall
NG : Neutron Guide
NG1 : First Neutron Guide
NG2 : Second Neutron Guide
NR1 : Neutron Radiography Facility

DN1 : Neutron Diffractometer for Resi t
DN2 : Four-Circle Diffractometer/Tex
DN3 : High Resolution Powder Diffrac
SN1 : Triple Axis Spectrometer
SN2 : Small Angle Neutron Scattering Spectrometer
SN3 : High Resolution Small Angle Neutron Scattering Spectrometer

SN2 SMALL ANGLE NEUTRON SCATTERING (SANS) SPECTROMETER/ SMARTER

Observation of size, structure, conformation of molecules
(Micelles / microemulsions, Protein solution, virus structure, etc.)

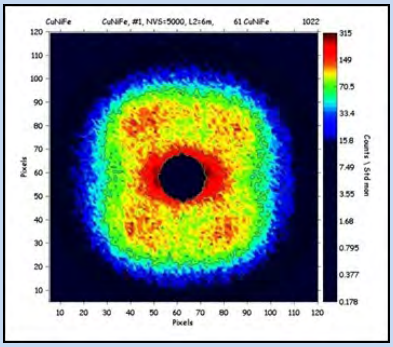
Instrumental Parameters

Neutron source	: Thermal Neutron
Beam port	: S5 (radial) & 50 m curved Ni-coated neutron guide
Monochromator	: multidisk mechanical velocity selector
Incident wavelength	: ~ 3 – 6 Å
Wavelength resolution	: ~10% – 20%
Effective Q-range	: 0.005 < Q < 0.5 $Å^{-1}$ (relevant to size of ~ 1 – 250 nm)
Max. flux at sample position	: 7 x 10^6 cm^{-1} s^{-1}
Beam size	: min. 5 mm in diameter
Sample to detector distance L1	: 1.3 -18 m
Collimator length L2	: 1.5, 4, 8, 13, 18 m
Pinholes	: 30, 20, 14, 10, 7, 5 mm (diameter)
Sample environment	: automatic sample changer(*) small furnace/heater up to 100°C external electromagnet up to 1 T refrigerated & heating circulating bath

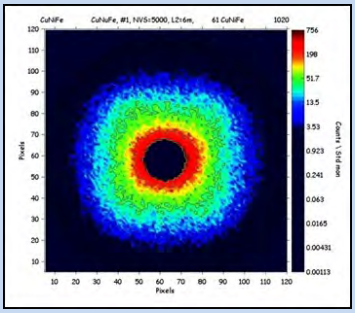
(*) will be developed

SN2 Selected example

SN2

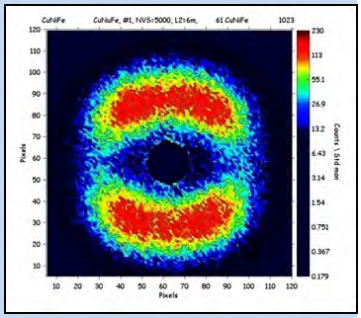


0 kOe



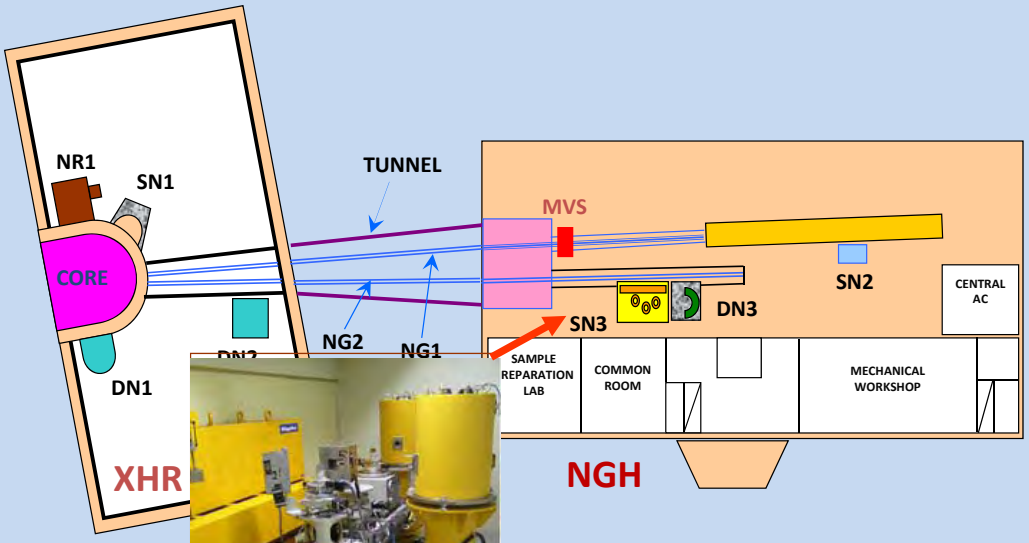
0.48 kOe

10 kOe



Sequence of two-dimensional corrected SANS pattern from magnetic sample of Cu(NiFe) metal-alloy in the external magnetic field

SN3 HIGH RESOLUTION SMALL ANGLE NEUTRON SCATTERING (HRSANS) SPECTROMETER/ SMARTER



XHR : eXperimenta... Neutron Diffractometer for Residual Stress Measurement
NGH : Neutron Gui... Four-Circle Diffractometer/Texture Diffractometer
NG : Neutron Gui... High Resolution Powder Diffractometer
NG1 : First Neutro... Triple Axis Spectrometer
NG2 : Second Neu... Small Angle Neutron Scattering Spectrometer
NR1 : Neutron Rad... High Resolution Small Angle Neutron Scattering Spectrometer

SN3 HIGH RESOLUTION SMALL ANGLE NEUTRON SCATTERING (HRSANS) SPECTROMETER/ SMARTER

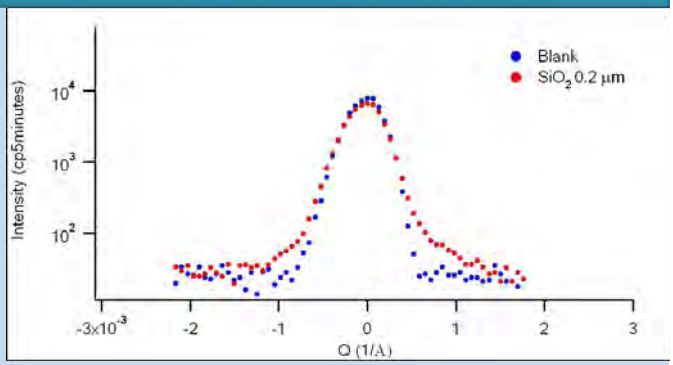
Observation of size, structure, conformation of molecules
(silica powder sample, etc.)

Instrumental parameters

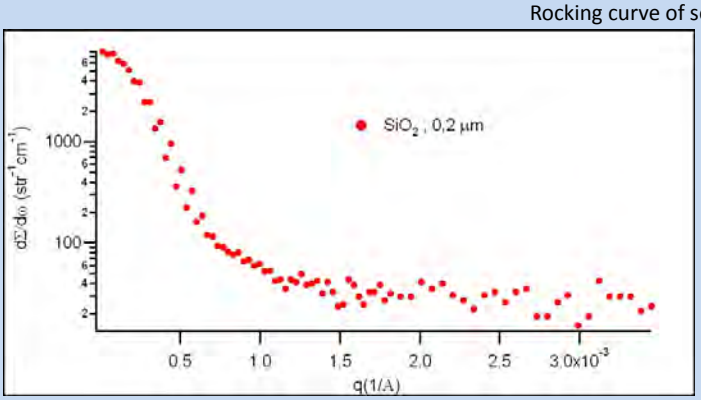
Beam tube	: S5 (radial) beam port; Neutron Guide 2 (NG2-2)
Monochromator	: PG(004); FWHM = 0.451° (1.677 Å)
Monochromator $(2Theta)_M$	: 50-100°
Crystal 1	: Si (311)
Crystal 2	: Si (311)
Smallest Steps	: 0.0001°
Wavelength	: 1.677 Å
Maximum neutron flux	: ~1 x 10^3 n cm^{-2} s^{-1} (at sample)
Main detectors	: 3 units of ^{3}He detectors, XERAM 30NH15
Data acquisition	: PC compatible

SN3

Selected example



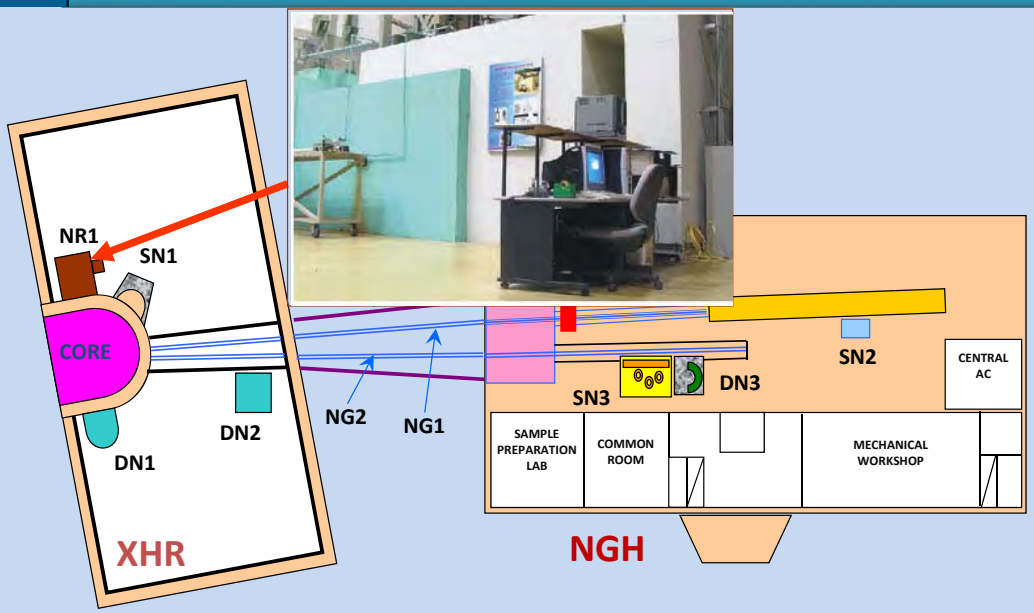
Rocking curve of second crystal Si (311) with and without sample



Small Angle Neutron Scattering of SiO2

RN1

NEUTRON RADIOGRAPHY FACILITY (RNF)



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NGH	: Neutron Guide Hall	DN2	: Four-Circle Diffractometer/Texture Diffractometer
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NR1	: Neutron Radiography Facility	SN3	: High Resolution Small Angle Neutron Scattering Spectrometer

RN1 NEUTRON RADIOGRAPHY FACILITY (RNF)

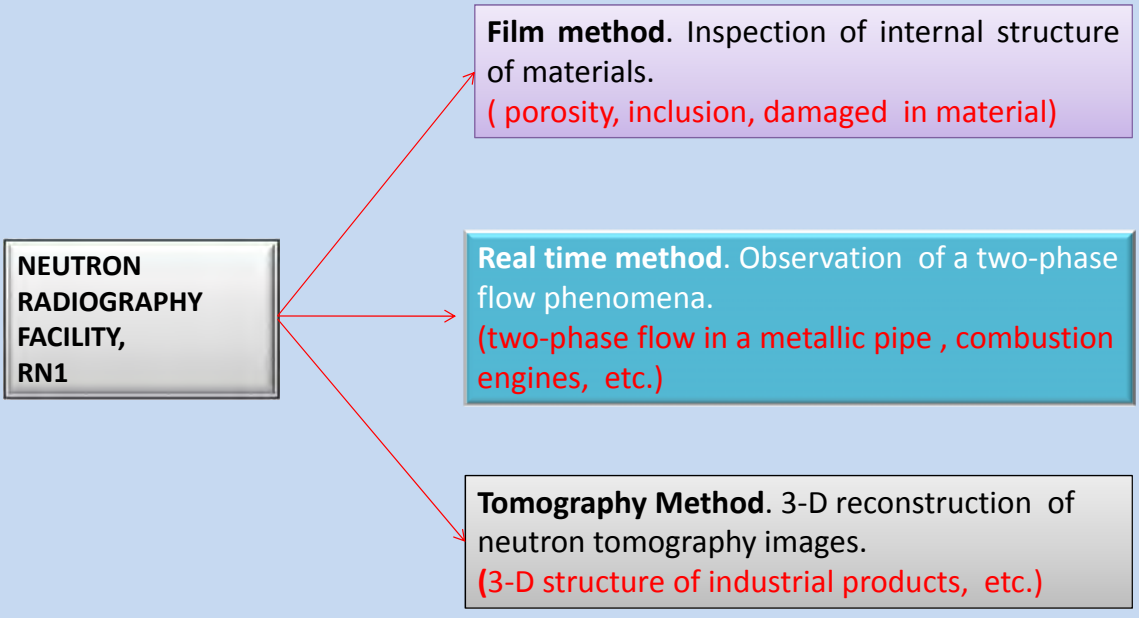
Neutron Radiography for materials inspections

Instrument Parameters

Neutron source	: RSG-GAS reactor beam port S-2
Neutron flux at sample position	: 10^6 to 10^7 n/cm^2 sec
Beam size at sample position	: 30 cm (dia)
Collimator L/D ratio	: 83
Cadmium ratio	: 6.4
Neutron/Gamma ratio	: >10^5 n/cm^2/mR
Radiography techniques	: Gd converter and X-ray film, Li^6-ZnS scintillator screen, CCD based electronic imaging system.

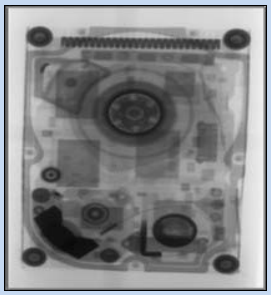
RN1 NEUTRON RADIOGRAPHY FACILITY (RNF)

INSTRUMENTS CAPABILITIES

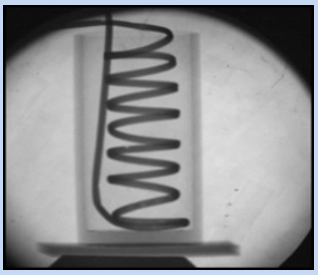


Selected example

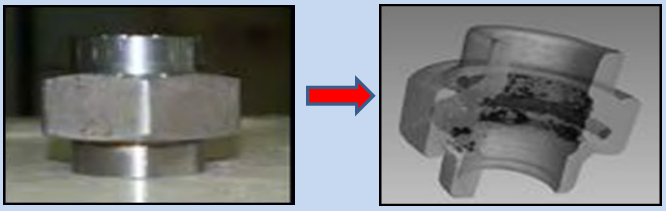
Neutron Radiography image of a hardisk



Film/Direct method



Real time method



Neutron tomography image reconstruction of pipe connector

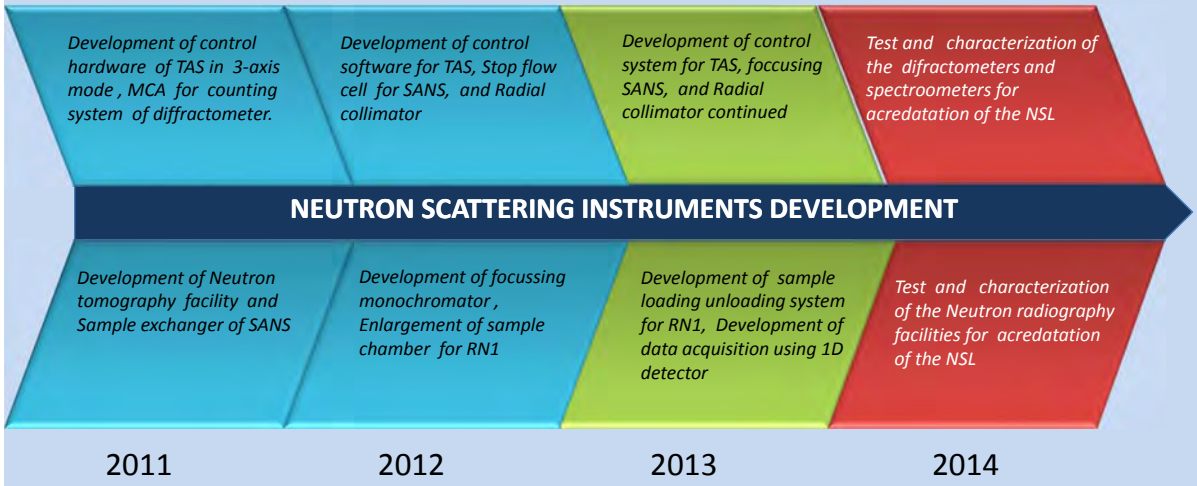
Neutron Radiography for materials inspections

3D Image Reconstruction of Aerozol Tube

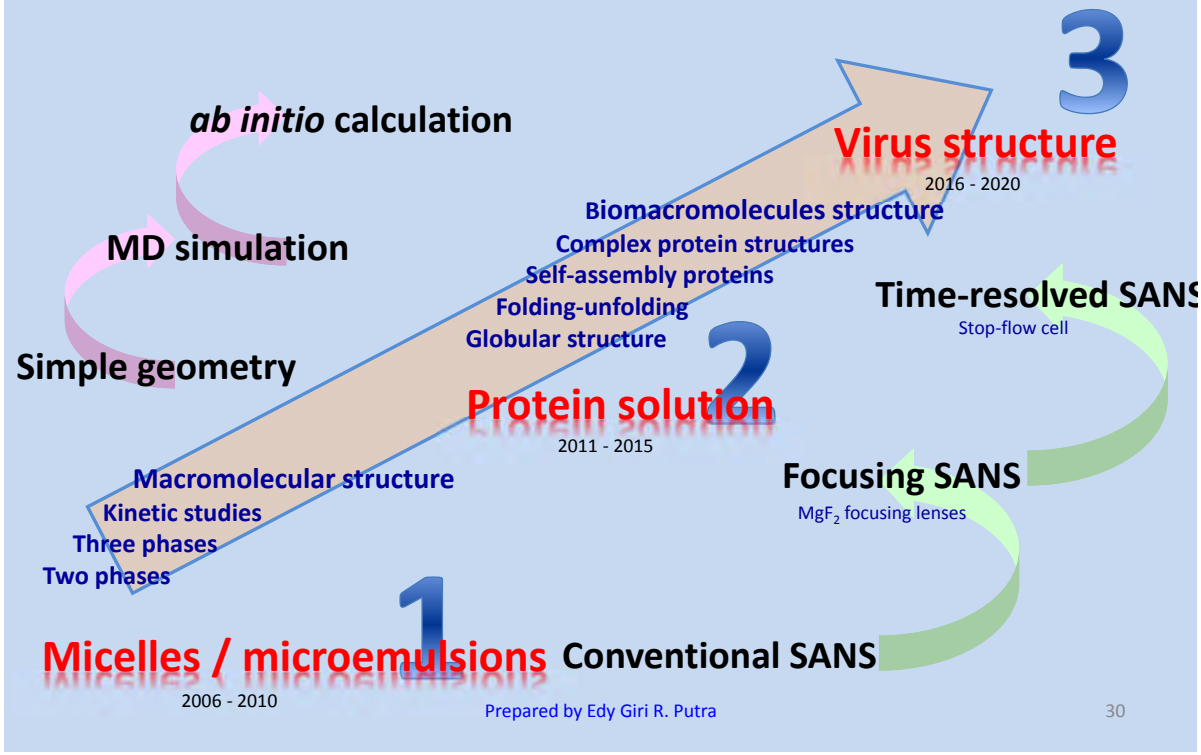
The selected example for the RN1 experiment

CURRENT AND FUTURE PROGRAMS

- **NEUTRON INSTR.** OPERATION AND MAINTENANCE
- NEUTRON INSTRUMENTS DEVELOPMENT
- NEUTRON INSTRUMENTS UTILIZATIONS



Road-map of biology research using SANS BATAN spectrometer



RESEARCH GRANT

TWAS > 2009 - 2010

Small-angle Neutron Scattering Studies on Biological Macromolecules

IAEA – Coordinated Research Project > 2007 - 2010

- SANS BATAN: Improvement the Neutron Intensity by Focusing Optics
- Optimization of Neutron Beam Techniques for Characterization of Structural Materials.

Indonesian Ministry of Research & Technology > 2011 – 2013(*)

- **Small-angle Neutron Scattering Application on Dengue Virus Ultrastructure and Self-assembly Mechanism for a Basic Targeted Drug and Vaccine Development.** (PI: Dr. Edy Giri R Putra)
- **Development of Neutron Radiography Technique for Rapid Detection of Plant Tolerant to Drought Stress.** (PI : Dr. Sutiarso).

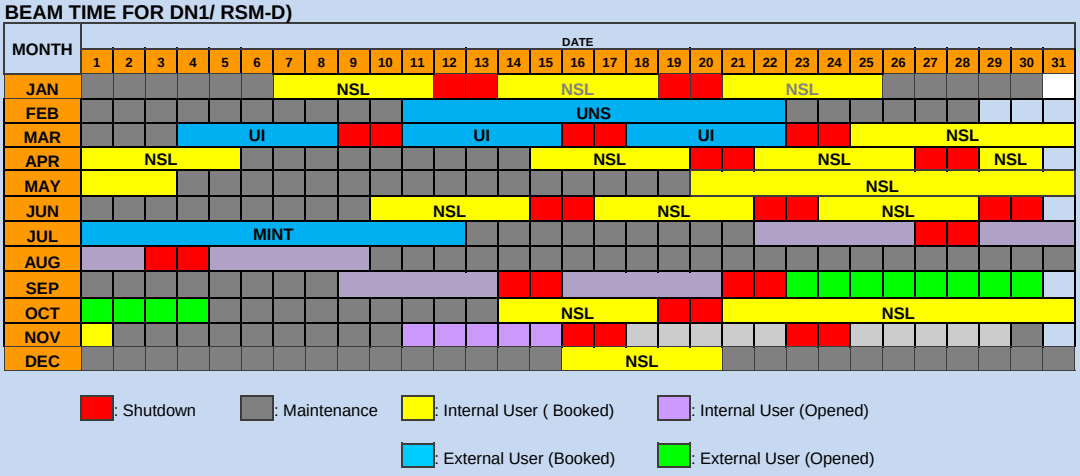
IAEA – National Technical Cooperation(*) > 2012 - 2015

Utilization of Research Reactor by Improved Performance of Neutron Irradiation Facility and Neutron Beam Instruments
(*Expert missions; Fellowship; Visiting scientists; Equipments*)

31

SCHEDULE OF OPERATION AND MAINTENANCE FOR RSG-GAS
FY 2011
OPERATION POWER 15 MW

BEAM TIME FOR DN1/ RSM-D)



The reactor has been running for 11 and 4 days on followed by 9 and 2 days off, respectively.

Neutron beams available for about 14 - 15 days monthly which is about 224 days yearly.

SCHEDULE OF OPERATION AND MAINTENANCE FOR RSG-GAS
FY 2011
OPERATION POWER 15 MW

BEAM TIME FOR DN3/HRPD

MONTH	DATE																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN							NSL							NSL							NSL										
FEB																															
MAR											NSL							NSL													
APR															NSL							NSL									
MAY		NSL																													
JUN											ITB							ITB						NSL							
JUL																						NSL						BBIN			
AUG																															
SEP																															
OCT															NSL																
NOV																															
DEC																NSL															

: Shutdown : Maintenance : Internal User (Booked) : Internal User (Opened)

: External User (Booked) : External User (Opened)

SCHEDULE OF OPERATION AND MAINTENANCE FOR RSG-GAS
FY 2011
OPERATION POWER 15 MW

BEAM TIME FOR SN2/ SANS

2011	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
January							Focusing SANS							Focusing SANS							Focusing SANS										
February											S. Gudjarat University - India																				
March				USER - LIPI							USER							USER							Workshop SANS						
April		USER - PTBIN													PROTEIN								PROTEIN								
May		PROTEIN																				Malaysia Nuclear Agency - Malaysia									
June										USER - PTBIN								USER - PTBIN					USER - PATIR								
July		PROTEIN																					USER - UGM						USER - ITS		
August					USER - LIPI																										
September									Focusing SANS							Focusing SANS										Overseas users - AONSA					
October		Overseas users													Calibration							Overseas users - AONSA									
November											PROTEIN							PROTEIN													
December									PROTEIN & VIRUS																						

Overseas users Local users Internal users Training Instr. works Not used

SCHEDULE OF OPERATION AND MAINTENANCE FOR RSG-GAS
FY 2011
OPERATION POWER 15 MW

BEAM TIME FOR RN1/NRF

MONTH	DATE																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
JAN							NSL							NSL								NSL									
FEB											IPB					IPB															
MAR				CRP-IAEA							NSL						NSL								CRP-IAEA						
APR		CRP- IAEA													NSL					NS:L											
MAY		NSL																	IPB												
JUN										IPB							IPB						NSL								
JUL																						NSL							NSL		
AUG																															
SEP																IPB															
OCT		CRP- IAEA													NSL										IPB						
NOV																															
DEC																NSL															

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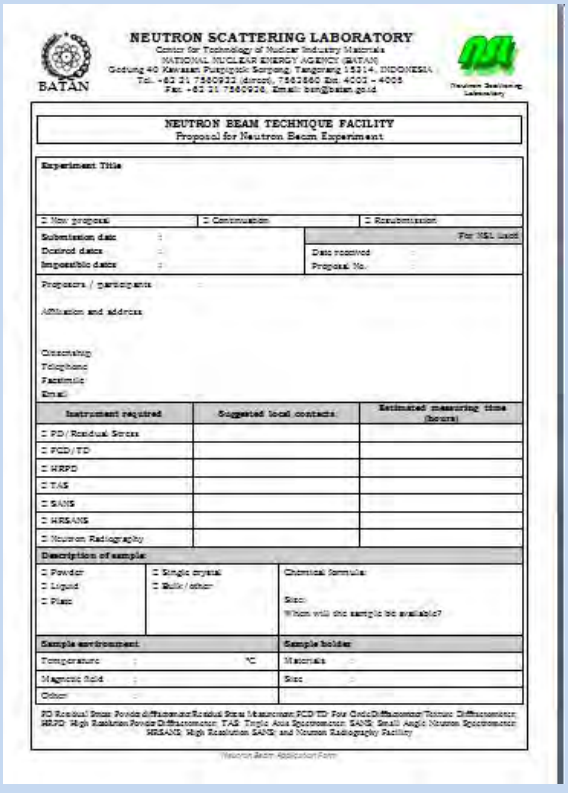
NEUTRON BEAM TIME PROPOSAL



NEUTRON SCATTERING LABORATORY
Center for Technology of Nuclear Industry Materials
NATIONAL NUCLEAR ENERGY AGENCY (BATAN)
Gedung 40 Kawasan Puspiptek Serpong, Tangerang 15314, INDONESIA
Tel. +62 21 7560922 (direct), 7562860 Ext. 4003 – 4005
Fax. +62 21 7560926, Email: ban@batan.go.id

BATAN

NEUTRON BEAM TECHNIQUE FACILITY
Proposal for Neutron Beam Experiment

Experiment Title

☐ New proposal ☐ Continuation ☐ Resubmission

Submission date :
Desired date :
Impossible date :

For NSL Used
Date received :
Proposal No. :

Proposers / participants :

Affiliation and address :

Citizenship :
Telephone :
Facsimile :
Email :

Instrument required	Suggested local contacts	Estimated measuring time (hours)
☐ PD / Residual Stress		
☐ PCD / TD		
☐ HRPD		
☐ TAS		
☐ SANS		
☐ HRSANS		
☐ Neutron Radiography		

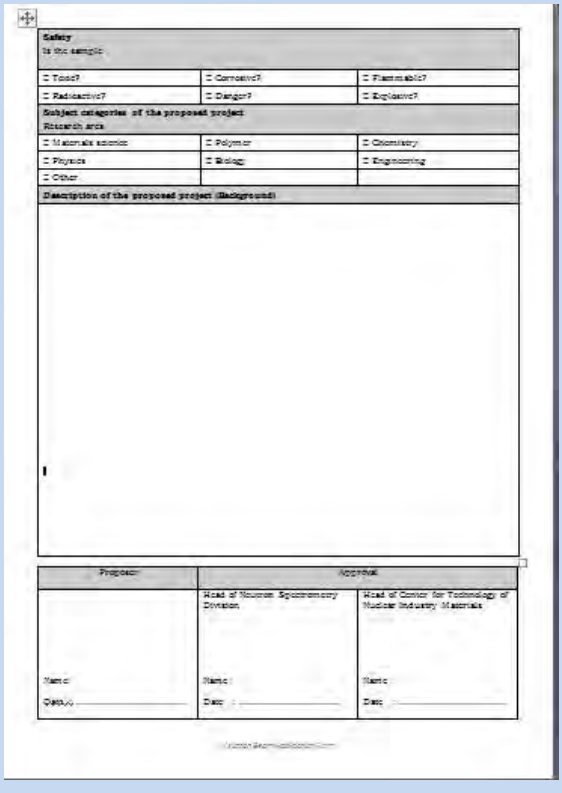
Description of sample:

☐ Powder ☐ Liquid ☐ Plate
☐ Single crystal ☐ Bulk / other
Chemical formula :
Size :
When will this sample be available?

Sample environment	Sample holder
Temperature : °C	Materials :
Magnetic field :	Size :
Other :	

PD: Residual Stress Powder Diffractometer/Residual Stress Measurement; PCD/TD: Four Circle Diffractometer/Texture Diffractometer; HRPD: High Resolution Powder Diffractometer; TAS: Triple Axis Spectrometer; SANS: Small Angle Neutron Spectrometer; HRSANS: High Resolution SANS; and Neutron Radiography Facility

Neutron Beam Application Form



Safety Is the sample :		
☐ Toxic?	☐ Corrosive?	☐ Flammable?
☐ Radioactive?	☐ Danger?	☐ Explosive?
Subject categories of the proposed project Research area		
☐ Materials science	☐ Polymer	☐ Chemistry
☐ Physics	☐ Biology	☐ Engineering
☐ Other :		
Description of the proposed project (Background)		

Proposer	Approval	
	Head of Neutron Spectrometry Division	Head of Center for Technology of Nuclear Industry Materials
Name :	Name :	Name :
Date :	Date :	Date :

NEUTRON USERS AND SELECTED PUBLICATIONS

NEUTRON USERS

1. PTBIN-BATAN
2. PTBN-BATAN
3. PTRKN-BATAN
4. PTKMR-BATAN
5. PATIR-BATAN
6. PTNBR-BATAN
7. INDONESIA UNIVERSITY (UI)
8. GADJAH MADA UNIVERSITY (UGM).
9. SEBELAS MARET UNIVERSITY (UNS)
10. DIPONEGORO UNIVERSITY (UNDIP)
11. BRAWIJAYA UNIVERSITY (UNBRA)
12. SRIWIJAYA UNIVERSITY (UNSRI)
13. PADANG STATE UNIVERSITY (UNP)
14. ANDALAS UNIVERSITY (UNAND)
15. LAMPUNG UNIVERSITY (UNILA)
16. BOGOR AGRICALTURE INSTITUTE (IPB)
17. SEPULUH NOPEMBER TECHNOLOGY INSTITUTE
18. KOBE CITY COLLEGE OF TECHNOLOGY, JAPAN.
19. TOKUSHIMA, UNIVERSITY, JAPAN.
20. MINT, MALAYSIA.
21. NATIONAL UNIVERSITY OF SINGAPORE
22. AUBURN UNIVERSITY, USA.

NEUTRON USERS AND SELECTED PUBLICATIONS

SELECTED PUBLICATIONS

1. Marsongkohadi, *AIP Conference Proceeding* 989, 2008, 4 – 9.
2. Edy Giri Rachman Putra, et al., Neutron News 19(4), 2008, 28-33
3. Edy Giri Rachman Putra, et al., J. Nucl. Related Tech. 5(2), 2008, 57-65
4. Edy Giri Rachman Putra, et al., J. Nucl. Related Tech. 5(1), 2008, 45-52
5. Edy Giri Rachman Putra, A. Ikram, J. Kohlbrecher, *PRAMANA J. Phys.* **75**(1), 2008, 1015 – 1020.
6. Edy Giri Rachman Putra, Bharoto, Eddy Santoso, Abarrul Ikram, *J. Nucl. Instr. Methods Phys. Res.* A600, 2009,198 – 202.
7. Edy Giri Rachman Putra, Abarrul Ikram, *J. Nucl. Instr. Methods Phys. Res.* **A600**, 2009, 288 – 290.
8. Edy Giri Rachman Putra, et al., J. Nucl. Instrum. Phys. Res. A 600, 2009, 291-293
9. M. Refai Muslih, I. Sumirat, Sairun, Purwanta, *AIP Conference Proceeding* 989, 2008, 92 – 95.
10. M. Nishida, T. Jing, M. R. Muslih and T. Hanabusa, *AIP Conference Proceeding* 989, 2008, 101 – 104.
11. S.S. Pramana, T.J. White, M.K. Schreyer, C. Ferraris, P.R. Slater, T.J. Bastow, S. Mangold, S. Doyle, L. Tao, A. Fajar, M. Srinivasan, and T. Baikie, *Dalton Transactions* **39**, 2009, 8280 – 8291.
12. Stevin S. Pramana, T. J. White, Martin K. Schreyer, Cristiano Ferraris, Peter R. Slater, Alodia Orera, T. J. Bastow, Stefan Mangold, Stephen Doyle, Tao Liu, Andika Fajar, Madhavi Srinivasana and Tom Baikiea, *Pseudomorphic 2A → 2M → 2H phase transitions in lanthanum strontium germanate electrolyte apatites*, Dalton Trans. (2009) 8280–8291
13. Widya Sari, Dian Fitriyani, Edy Giri Rachman Putra, Abdul Aziz bin Mohamed, Noorddin Ibrahim, *AIP Conference Proceeding* **1202**, 2009, 185 – 188.
14. Andika Fajar, Gunawan, Alan Maulana, Muhamad Refai Muslih, Tri Hardi Priyanto, Edy Giri
15. Rachman Putra, Iwan Sumirat, and Sutiarso, *Neutron Scattering in Indonesia: Facility, Activity and Research,* Hamon (2010), Volume 20, No.4, 292 – 301.

NEUTRON USERS AND SELECTED PUBLICATIONS

16. A. Fajar, Gunawan, E. Kartini, H. Mugirahardjo and M. Ihsan, *Crystallite size and microstrain measurement of cathode material after mechanical milling using neutron diffraction technique,* Atom Indonesia Vol. 36 No. 3 (2010) 111-115.
17. A. Purwanto, A. Fajar, H. Mugiraharjo, J.W. Fergus and K. Wang, *Cation distribution and spinel (Mn, Cr, Co)3O4 at room temperature,* J. Appl. Cryst. (2010) 43, 394-400.
18. Edy Giri Rachman Putra, Baek Seok Seong, Eunjoo Shin, Abarrul Ikram, Sistin Ari Ani, Darminto, *Fractal Structures on Fe_3O_4 Ferrofluid: A Small-Angle Neutron Scattering Study,* Journal of Physics: Conference Series Vol. 27 (2010) 012028.
19. Edy Giri Rachman Putra, Bharoto, Baek Seok Seong, *Recent Development of a 36 meter Small-*
20. *Angle Neutron Scattering BATAN Spectrometer (SMARTer) in Serpong Indonesia,* Journal of Physics: Conference Series Vol. 27 (2010) 012010.
21. Edy Giri Rachman Putra, Arum Patriati, *Structural Studies of Hard and Soft Matter using a 36-meter Small-Angle Neutron Scattering BATAN Spectrometer (SMARTer) in Serpong, Indonesia,* Hamon (2010), Volume 20, No.2, 128 – 132.
22. M Refai Muslih[1], Ridwan[2], Iman Kuntoro[2], Nobuaki Minakawa[3] , *Applied Stress on Silicon Perfect Single Crystal for Controlling the Extinction Layer,* Journal of Materials Science Forum, Vol. 652 (2010), p 255-259.
23. Triyono[1], Jamasri[2], M.N. Ilman[2], R. Soekrisno[2], M Rifai[3] , *Residual Stress Measurements in Interface of Dissimilar Metals Spot Welded between Mild Steel and Austenitic Stainless Steel,* Materials Science Forum, Vol. 652 (2010), p 255-259.
24. Triyono, Jamasri, M.N. Ilman, R. Soekrisno, Sutiarso , *Assesment of nugget size of spot weld using neutron radiography, journal atom of Indonesia , 2011*
25. Zulhadjri, B. Prijamboedi, A.A. Nugroho, N. Mufti, A. Fajar, T.T.M. Palstra, Ismunandar, *Aurivillius phases of PbBi4Ti4O15 doped with Mn3 þ synthesized by molten salt technique: Structure, dielectric, and magnetic properties* , Journal of Solid State Chemistry 184 (2011) 1318–1323

CONTACT ADDRESS

http://www.batan.go.id/puslitbin/info
http://www.batan.go.id/puslitbin/nsl

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THANK YOU

中国原子能科学研究院
中核集团

Chinese Neutron Community

May 20th, 2011 Bandung, Indonesia

中国原子能科学研究院
中核集团

- **CSNS (IHEP/CAS)user community**
  - 1000 users / 500 students
  - Neutron school from 2004/100 CAS institutes
- **CARR (CIAE/CNNC)user community**
  - Core/super/experienced users
- **Future China user community**
  - **Including CPHS**
    - (Training, education and new tech development)
    - Union for Compact Accelerator-Driven Neutron sources (CCANS)

轨道交通

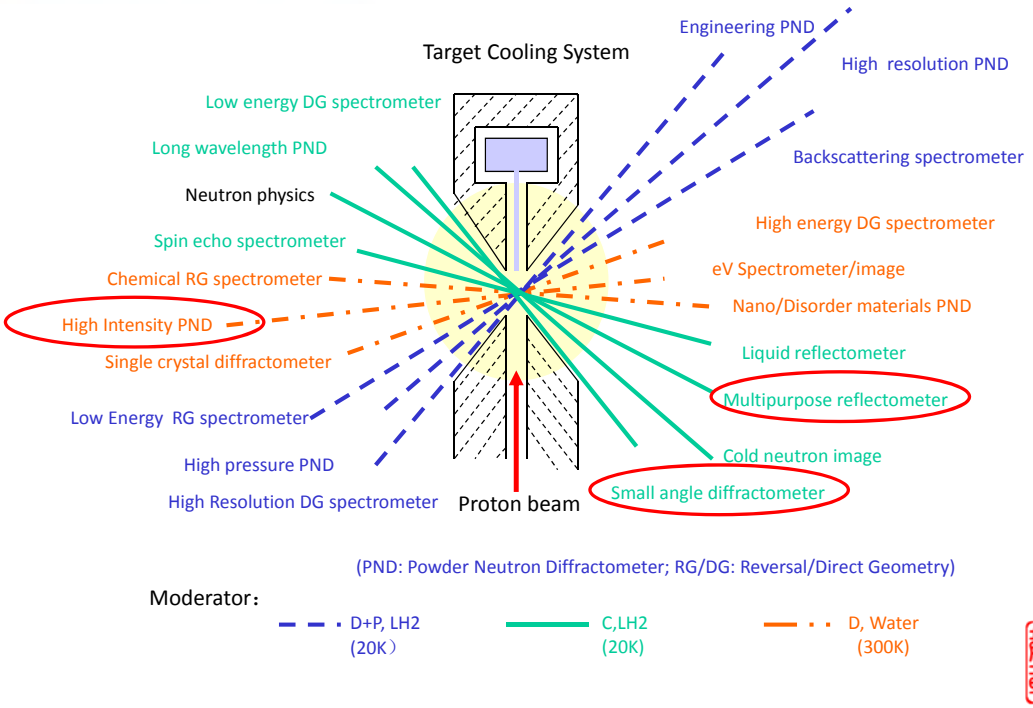
中国原子能科学研究院
中核集团

第四届散裂中子源多学科应用研讨会合影留念
2008.11.11 东莞 大朗

Users Development

- 6 CSNS User Meetings/Workshops on Application of Spallation Neutron Source have been held since 2004
  - User Committee has been set up
  - discuss and review the design of 3 instruments for CSNS phase-1 project
  - a better understanding of special needs from the potential users
- CSNS start to support some users for training at foreign neutron sources in 2005.

CSNS instrument layout



SHEN 沈文庆 （**CHAIR** 主任 中国科学院上海分院 **CAS**）
ZHAO 赵忠贤（中国科学院物理所 **CAS** ）
XIE 谢先德（中国科学院广州分院 **CAS** ）
SU 苏 锵（中山大学 **UNI**）
HAN 韩志超 （中国科学院化学所 **CAS** ）
CHEN 陈东风 （原子能研究院 **CIAE** ）
ZHANG 章 综（中科院物理研究所 **CAS** ）
WANG 王鼎盛（华南理工大学/中科院物理研究所 **UNI** ）
LOONG龙振强（中山大学/清华大学/香港中文大学 **UNI** ）
LIN 林 泉（中国科学技术部 **MOST**）
YE 叶沿林 （北京大学 **UNI** ）
ZHANG 张 杰 （上海交通大学 **UNI** ）

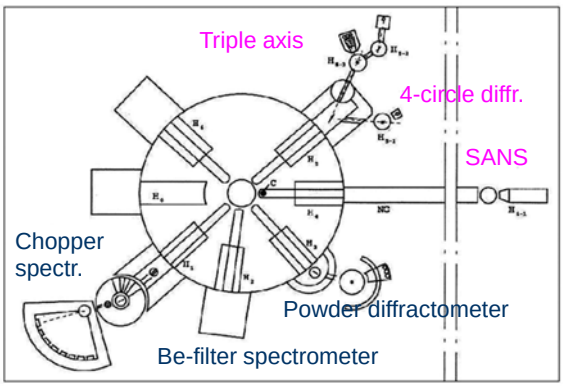
Ntl User Meeting 2009

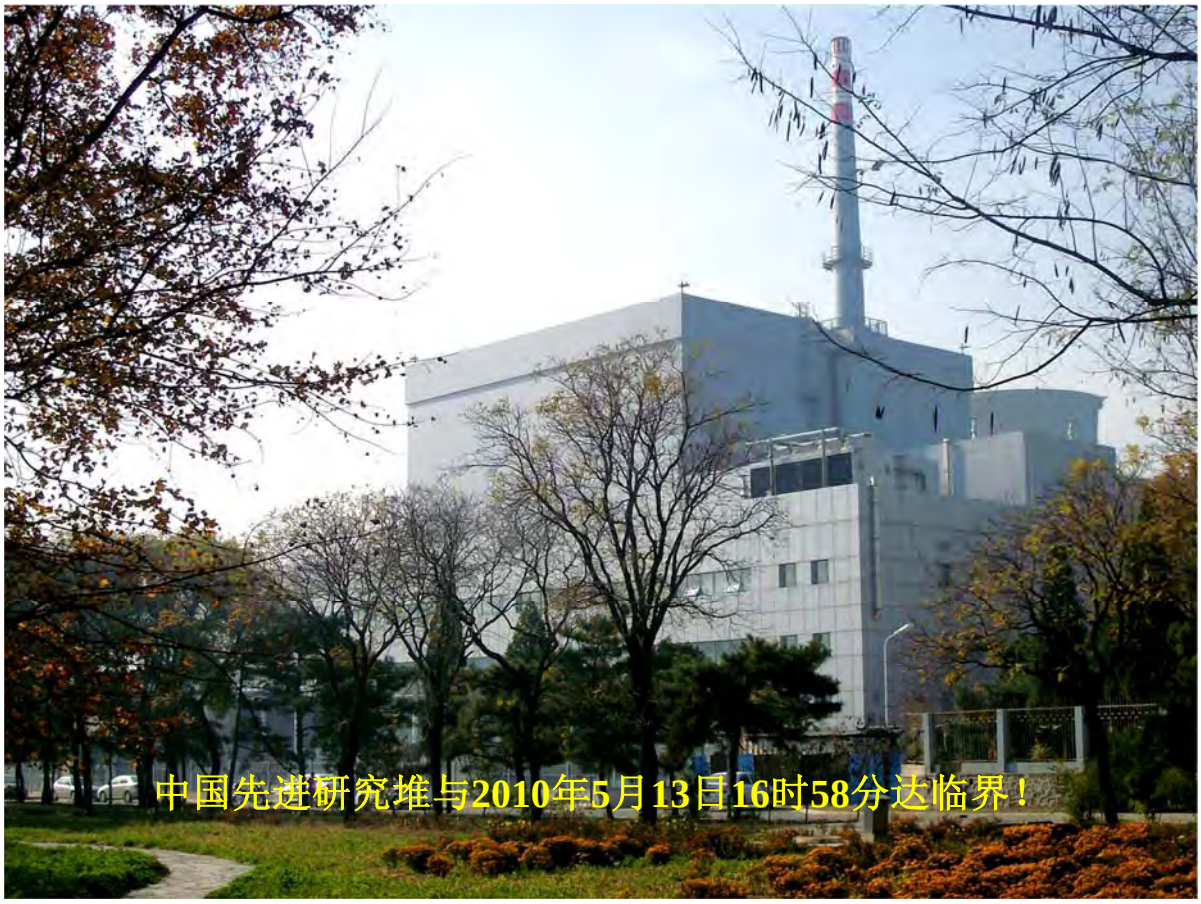
Since 2004, user meeting and neutron school were held every year

CIAE USERs from HWRR to CARR

Begun operation in 1958

- **Fuel enrichment : 2% ^{235}U**
- **Power: 7MW (maximum power: 10MW)**
- **Maximum thermal neutron flux in core: $1.2x10^{14}n/cm^2/s$**
- **Upgraded in 1979-1980 to 10 MW, $2.8x10^{14}n/cm^2/s$**
- **Jointly responsible to scientific programs with the neutron group from Institute of Physics, CAS**

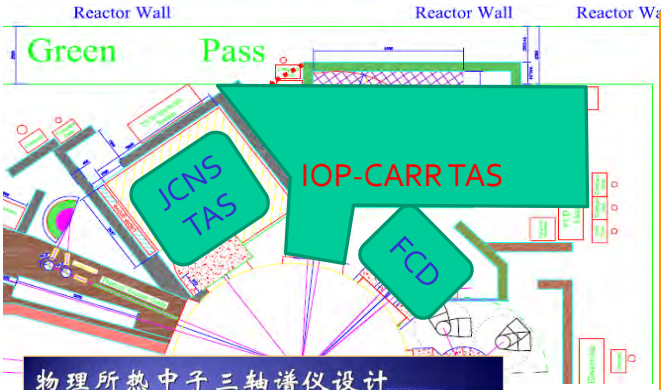


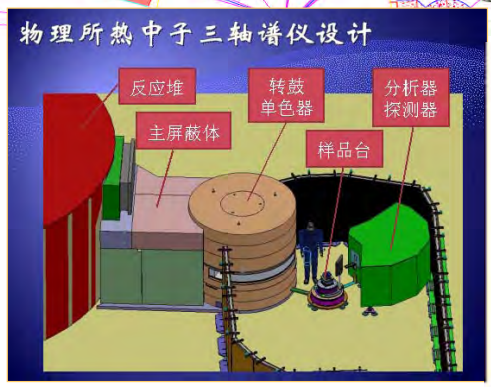


1st CAS Suite : IOC/IHEP/CIAE

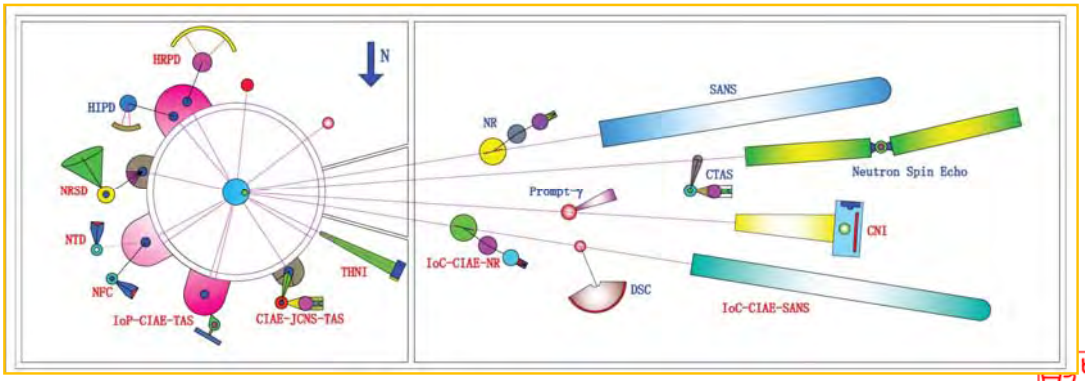
SV-30: CIAE-JCNS N science Center

2st CAS Suite : IOP/CIAE





Uni Suite : HIPD & 2 cold



CARR advisory Committee

International advisory
Chen(MIT), Fujii(JAEA), Herwig(ORNL), Hurd(LANL), Loong(ANL), Neumann(NIST), Petry(FRM-II), Pynn(ANSA), Steinburge(ISIS), Steiner(HMI) …
-international competitive
-cold source
-Funding application from local agency (MOST/NSFC)

Domestic advisory/user meeting
Lin (PKU Chair), Han(IOC), LOONG(HHU/PKU/ZSU/CIAE), Wang(JLU),Li (SZU), Wang(ZSU),ZHANG(JNU)…
- PRT NIST style – with CAS institute and Universities
- Funding agency (MOST-973/NSFC/IAEA)
- IOC/IOP, PKU/RMU?

15

National Basic Research Program of China (3MUS$)

依托单晶、多晶、非弹、应力、成像五种手段

设置六个课题

（1）反应堆中子束优化及特殊样品环境研究；
（2）原子与自旋动态的中子散射研究； ★
（3）单晶和多晶新材料的中子衍射研究； ♥
（4）磁性材料的中子散射研究； ♥
（5）中子应力三维无损深度测量技术研究；
（6）中子在物质中的衰减与中子成像研究。 ♥

中国原子能科学研究院 中核集团

Summary

- CSNS user community
  - Growing up rapidly in neutron science
- CARR user community
  - Working closely with CAS and Unversities
- Future China user community
  - More robust, diverse and complementary
  - Phys + Chem + Mater + Bio + Polymer + …
  - Benefit from ANOSA : next School?

中国原子能科学研究院
中核集团

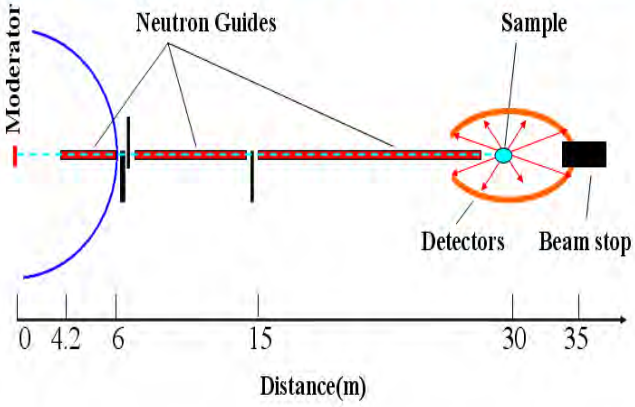
MANY Thanks

中国原子能科学研究院
中核集团

High Intensity PND

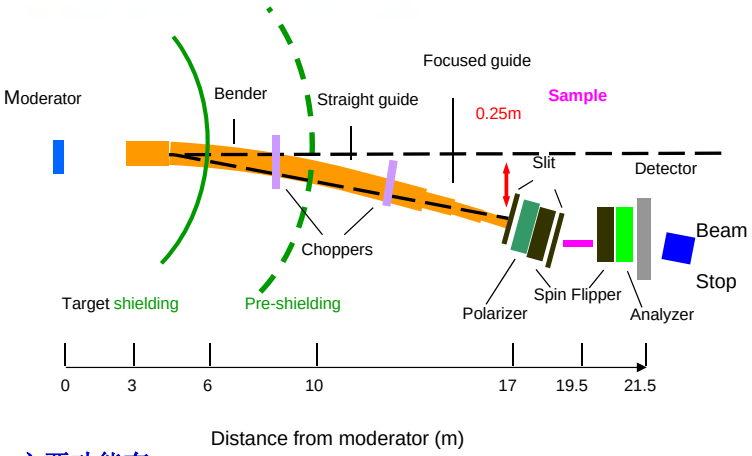
Schematic of the base line design for HIPD:

Moderator: Water; λ = 0.3~4.8 Å; L_1 = 30 m; L_2 = 1.5~3.8m



慢化器		水（300 K）
中子波长范围		0.3～4.8 Å
最大中子束宽		40(h)×40(w) mm
样品到慢化器距离L_1		30 m
中子导管		3θc *超镜*
样品到探测器组中心距离L_2	2θ=150° *背散射探测器组*	1.5 m
	2θ=90° *探测器组*	2.0 m
	2θ=15° *低角度探测器组*	3.8 m

Multipurpose reflectometer

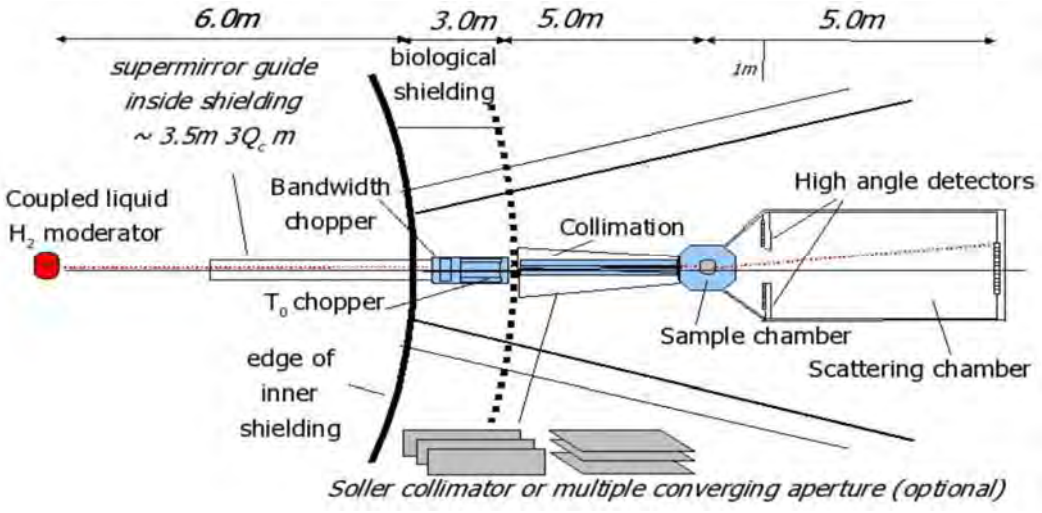


谱仪结构	参数设计值
慢化器	液氢，20K
中子带宽	6.2 Å (2 - 8.2 Å)
Q 范围	0.05 - 0.5 Å^{-1}
分辨率	<10%
样品台中心到慢化器距离	19.5 m
样品台中心到探测器距离	2 m

主要功能有：

1） 固体薄膜的中子反射率测量；
2） 磁性薄膜的极化中子测量；
3） 原位薄膜材料的生长及其中子反射率测量；
4） 非镜面反射特性研究；
5） 掠入射小角散射
6） 液体表面及有机功能材料的反射率测量
7） 中子超镜薄膜测量。

Small angle diffractometer



1. 为用户提供Q > 0.01 Å^{-1}范围内可靠的小角中子散射数据；
2. 在此范围内的谱仪分辨率达到～30%的水平；
3. 具有极大的动态范围，提供低温、高温和高压等环境，便于进行实验测量；
4. 样品量可变，以满足不同科研领域的研究需求。

Appendix 22

Facility Reports

The 6th Executive Committee Meeting of AONSA
(ITB, Bandung, Indonesia; May 19-20, 2011)

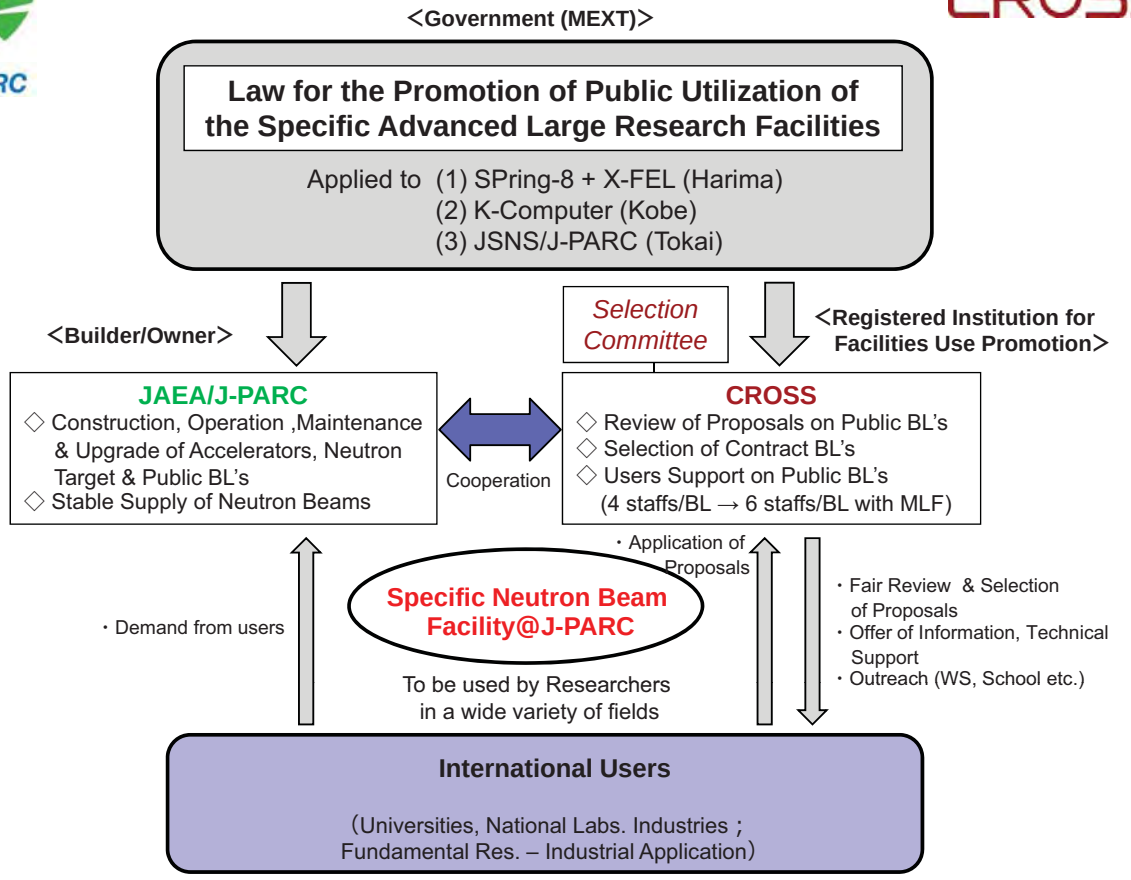
Status of J-PARC

- Status Report on Facilities being Recovered
- Registered Institution for Facilities Use Promotion

Yasuhiko FUJII & Masatoshi ARAI*

Research Center for Neutron Science & Technology,
Comprehensive Research Organization for Science & Society (CROSS)

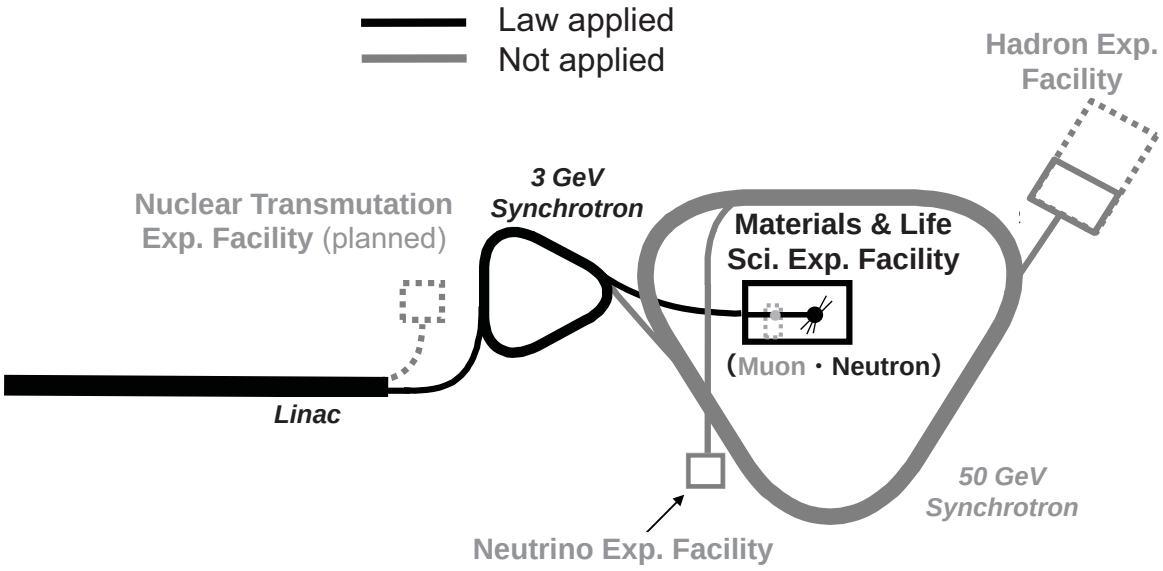
* J-PARC Center, Japan Atomic Energy Agency (JAEA)



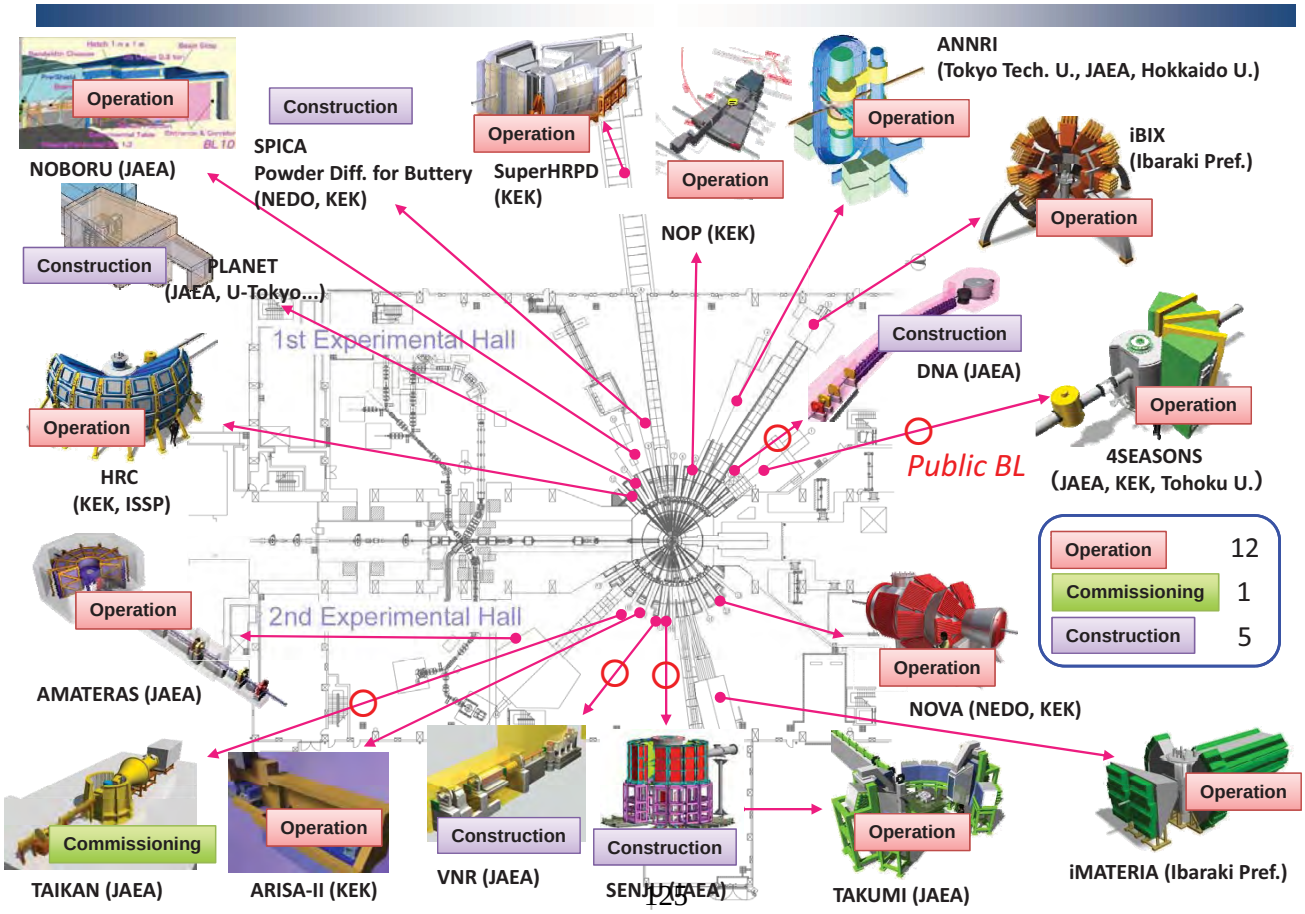
J-PARC

CROSS

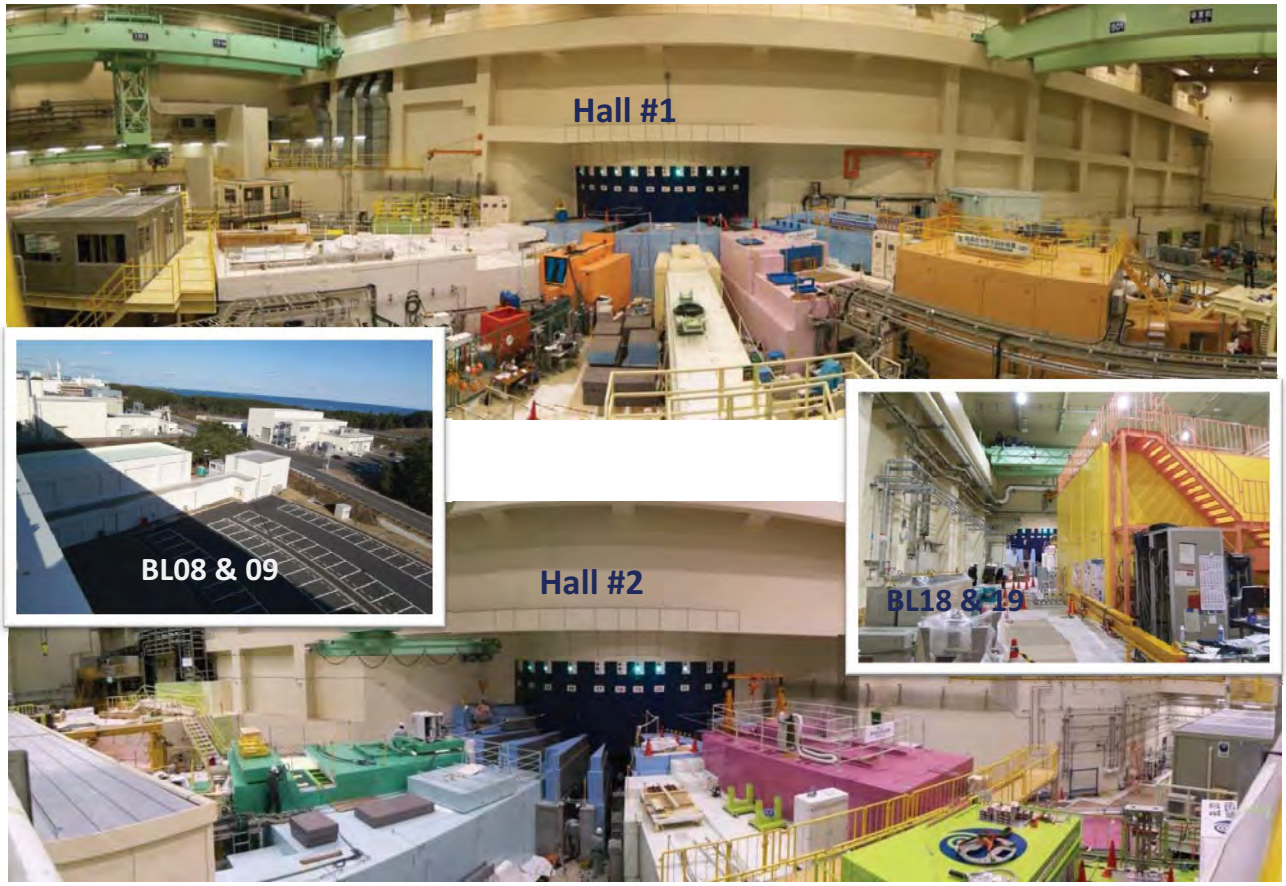
Law for the Promotion of Public Utilization of the Specific Advanced Large Research Facilities



Neutron Instruments in MLF

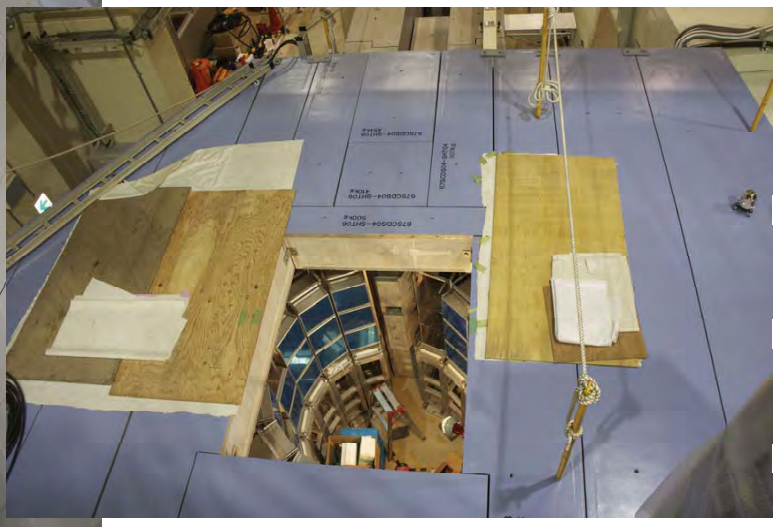


View in MLF (Jan. 7, 2011)



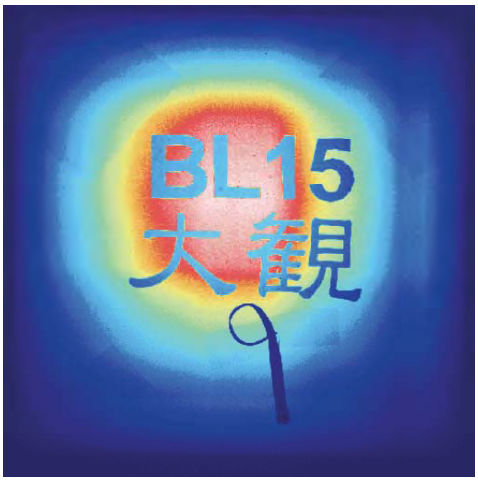
Reflectometer VNR, BL17 and Single crystal diffractometer SENJU, BL18 (Mar., 2011)

BL17



BL18

First day of the SANS instrument TAIKAN, BL15 (Mar. 8, 2011)



First neutron image of a direct beam with Gd masks (大観) and a Cd piece obtained with an imaging plate. Exposure time: 10 sec.

Group photo of beamline staffs with a research fellow Vinod Aswal (Bhabha Institute) and a student Yuhua Su (Ibaraki Univ.).

Current status of the university instruments and research

Mitsuhiro SHIBAYAMA
Institute for Solid State Physics, The University of Tokyo,
Kashiwanoha, Kashiwa, Chiba 277-0882, Japan

Contents

- General Use Program of Neutron Scattering at ISSP-NSL
- History
- Neutron Science Lab (NSL)
- Instruments
- Statistics
- Upgrades
- Science Highlights
- Education, Community
- Summary

History of General Use Program at NSL

THE UNIVERSITY OF TOKYO

	ISSP	JAEA (JAERI)
1956		Foundation of JAERI
1957	Foundation of ISSP	JRR-1 criticality
1960	General use of neutron scattering	JRR-2 criticality
1962		JRR-3 criticality (1st reactor)
1969	Div. of neutron diffraction	
1980	Div. of Neutron diffraction and Solid state physics	
1990	1st NSPAC	JRR-3M criticality
1993	Neutron Scattering Laboratory (NSL)	
1994	Guest house "Hamon"	
2003	Neutron Science Laboratory (NSL)	
2005		Foundation of JAEA

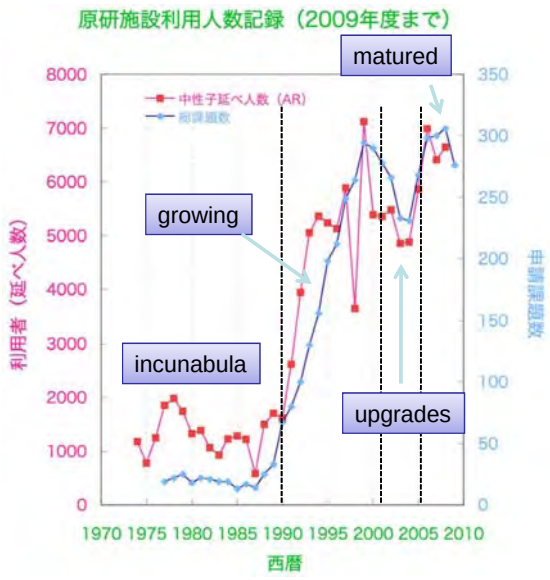
Research Reactor JRR-3 (1990 -) ISSP-NSL Guest House "Hamon" (1994-)

Neutron Science Lab., ISSP

THE UNIVERSITY OF TOKYO

Mission (until 2003)

(1) Promotion of neutron scattering research
(2) US-Japan Program on Neutron Scattering (MEXT)
(3) Maintenance of instruments by Instrument Maintenance Team (IMT)



Achievement:
(1)Remarkable increase of the numbers of cooperative research and users
(2) Playing a central role in neutron scattering community

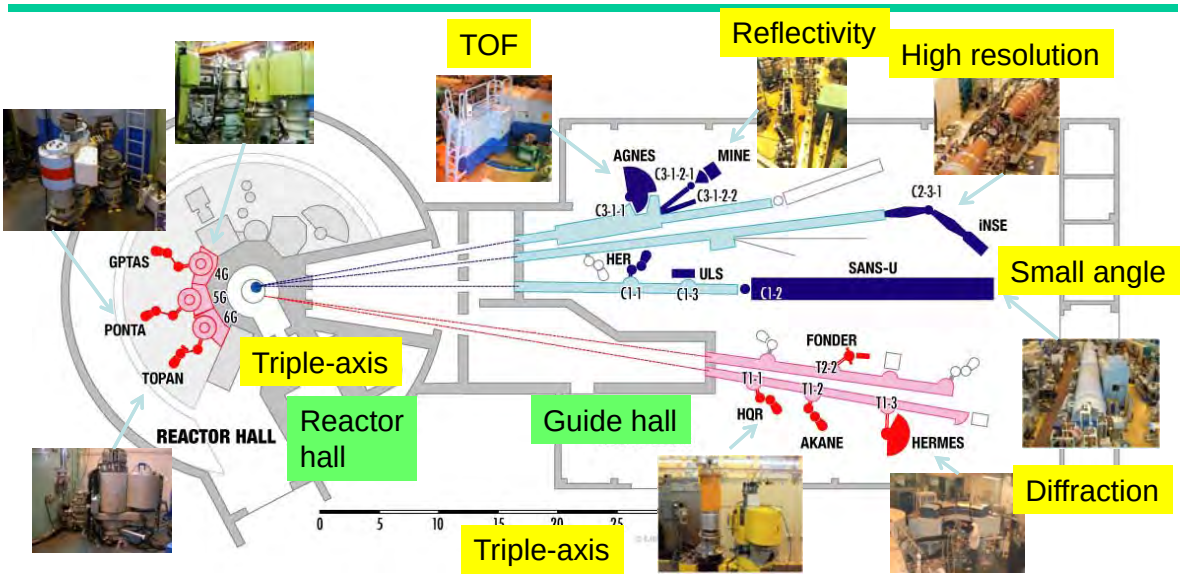
Unique features:
maintenance, guest house, safety, travel expense, etc.

Mission (from 2003)

(4) Promotion of general-use
(5) Effective use of neutron resource by upgrading of instruments
(6) cutting-edge science by Instrument & Research Team (IRT)

THE UNIVERSITY OF TOKYO

University-owned Instruments at JRR-3



University-owned instruments: 14, ISSP 9, Tohoku U. 3, Kyoto U. 2
No. proposals: ~300
No. users (man.day): in-house 2000, outside 5000, **total 7000**
No. papers: ~100 /y

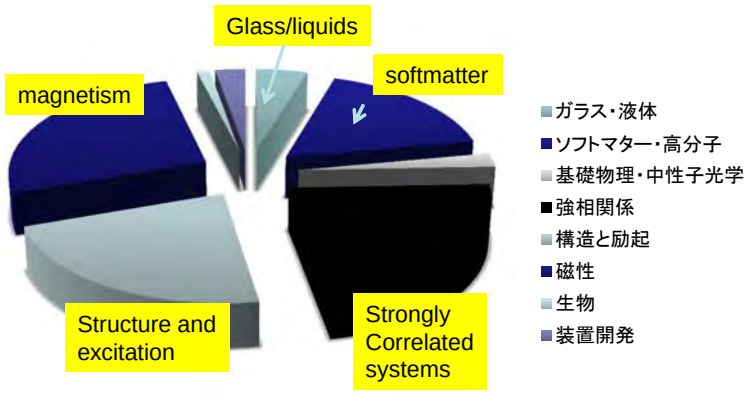
THE UNIVERSITY OF TOKYO

NSPAC (2009)

Instrument	General Use							IRT				Comments
	No. App.	Accpt.	Waiting	Non-accpt.	Accpt.Rate	Days Appl.	Days Assgn.	No. Appl.	Days Appl	Days Assgn.	p(%)	
GPTAS (4G)	38	21	17	0	0.6	260	104	1	55	46	26.3	3.83/
PONTA (5G)	37	23	14	0	0.6	202	98	1	55	52	29.7	3.83/
TOPAN (6G)	20	16	4	0	0.8	146	93	1	70	57	32.6	3.67/
HER (C1-1)	35	24	11	0	0.7	313	98	1	52	52	29.7	3.67
SANS-U (C1-2)	47	30	17	0	0.6	197	98	1	55	52	29.7	4.00
ULS (C1-3)											0.0	
iNSE (C2-3-1)											28.6	4.0/
AGNES (C3-1-1)											34.3	3.67/
MINE-1 (C3-1-2)											44.6	3.83/
MINE-2 (C3-1-2)											14.3	3.75/
HQR (T1-1)											25.7	3.0/
AKANE (T1-2)	12	11	0	1	0.9	101	76	1	87	74	42.3	3.5/
HERMES (T1-3)	48	25	17	6	0.5	195	81	1	87	69	39.4	3.5/
FONDER (T2-2)	15	15	0	-	1.0	118	100	1	55	50	28.6	2.83/
Accessory												
total	348	250	90	8	0.7	2320		14				

No. instruments: 14
No. of appl.: 348 (accepd. 250)
Acc. ratio: 60~100%
Days of appl.: 2320d
Days of assgn.: 30~70%

Distribution of science fields



7

chronological table of the upgrades

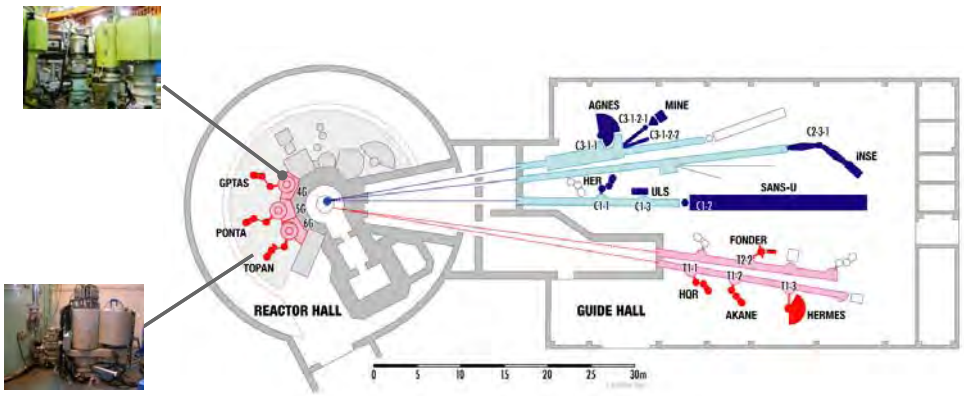
	2006	2007	2008	2009	2010	2011
4G:GPTAS		Focusing analyzer and monochromator			High-pressure device development	
5G:PONTA		SPICE (WASABI) installation			Cu monochromator and Spin echo	
6G:TOPAN					Multi-analyzer spectrometer	
T11:HQR	Supermirror focusing		Secondary diffractometer		High-pressure device development	
T12:AKANE		Secondary diffractometer		Pulse high-magnetic field, PG monochromator, polarization etc…		
T13:HERMES				Ge monochromator	Secondary diffractometer, PSD etc…	
T22:FONDER	Focusing monochromator			Ge Monochromator 2D PSD		
C11:HER						

Now we are here!

Upgrade 2: triple axis machines

4G (PGTAS), 6G(TOPAN),T1-2 (AKANE):

Focusing systems in monochromator, analyzer



GPTAS with focusing devices


Monochromator


Analyzer

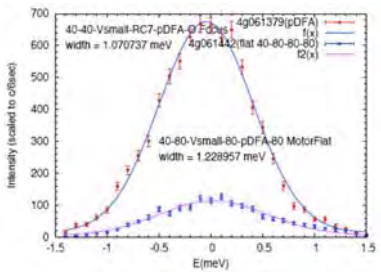
Focusing monochromator and analyzer are installed at GPTAS(4G)

6 times higher counting rate was achieved by the focusing analyzer

Additional 2 times higher intensity is expected for the monochromator (under testing just now!)

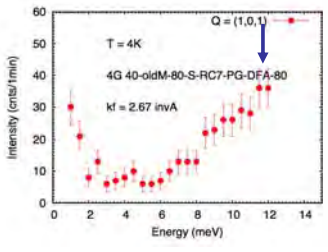
GPTAS achieves comparable intensity as those at the high flux reactors!

Vanadium standard comparison
w and w/o focusing analyzer

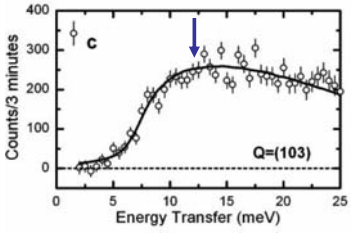


Achieving 6 time higher counting rate only with focusing analyzer

Comparison of intensity with ORNL spectrometers



40cnts/1min/0.4g = 100cnts/min/g
ISSP-GPTAS (BaFe2As2)
Matan et al., unpublished.



300cnts/3min/1g = 100cnts/min/g
ORNL HB-1 or HB-3 (CaFe2As2)
McQueeney et al.,
PRL 101 (2008) 227205

chronological table of the upgrades

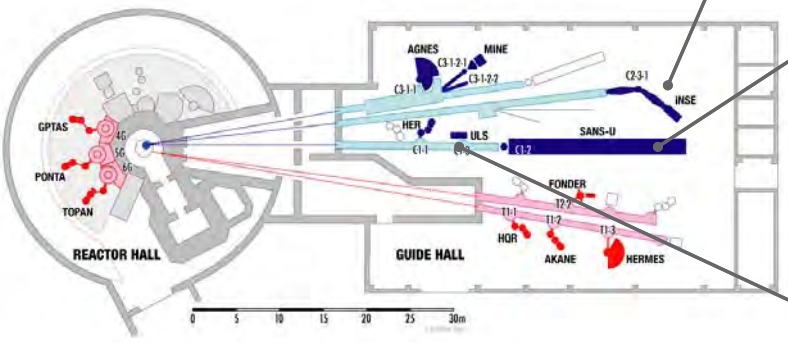
	2000	2003	2006	2009	2012	2015
C12:SANS-U		VAX to WINDOWS, etc.		Focusing, larger flux		
C13:ULS				mfSANS		
C231:NSE		From C22 to C231(guide end)		Spin flipper, etc		
C311:AGNES	~1994	upgrades		Super mirror		
C312:MINE 1				Super mirror		
C312:MINE 2		Top loading Shielding Detectors Automation Monitor counter				

Now we are here!

Upgrade 1: SANS machines

A MEXT program
"Atomic Energy Initiative"

SANS-U: larger flux, focusing
iNSE: homogenization of magnetic field,
white spin flipper
mf-SANS: compact machine



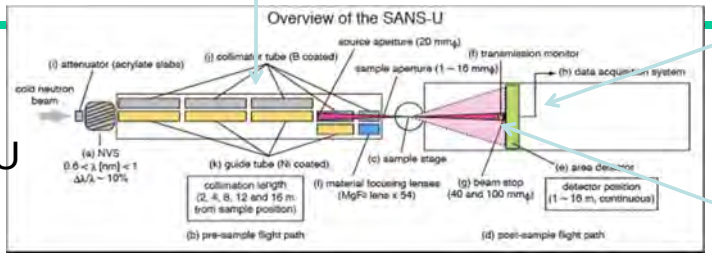
iNSE (spin echo)

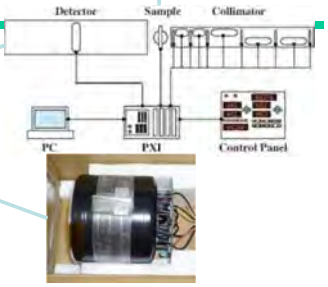
SANS-U(small-angle)

mf-SANS (small angle)

12

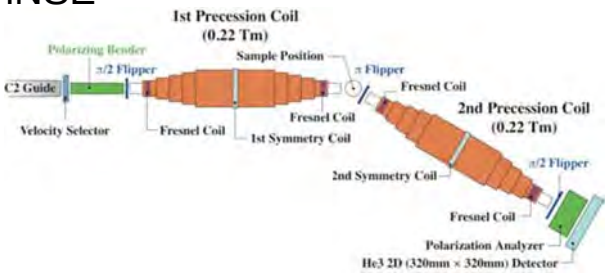
SANS-U

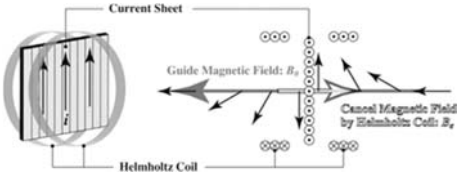




ZnS/LiF scintillator + photomultiplier

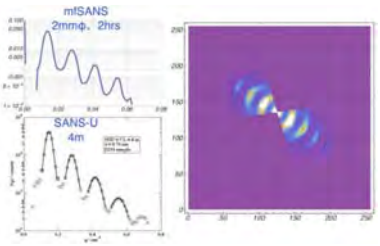
iNSE





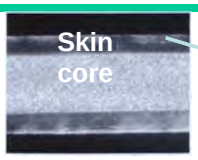
Takeda spin flipper (π flipper)

mfSANS



13

Shish-Kebab Structure in PP



Shish-kebab str.

Science Vol. 316 (2007)

Collaboration with Sumitomo Co. and CALTECH

Molecular Basis of the Shish-Kebab Morphology in Polymer Crystallization

Shuichi Kimata,[1,2] Takashi Sakurai,[1] Yoshinobu Nozue,[1]* Tatsuya Kasahara,[1] Noboru Yamaguchi,[1] Tal

tropic, spherulitic morphology to a highly oriented, shish-kebab morphology, which markedly increases stiffness (*2*) and decreases permeability (*1*). This morphological transition is induced by flow and is very sensitive to the molecular attributes of the polymer—particularly those of

In the rich and long-stan
polymer crystallization, it
molecular species in the
examination of this wide
lengths within an overall
labeled materials showed
concentration in the mat
recruiting other chains a

New model for explaining shish-kebab structure

Accepted hypothesis: shish consists of high MW chains

With their low cost and wide diversity in polymer chain structures, polyolefins are the most widely used family of synthetic polymers today. As with many polymers, in their solid form they are neither fully crystalline nor amorphous; instead they are considered semicrystalline with a crystal fraction strongly dependent on processing conditions. The morphologies of semicrysta materials strongly affect their physical prop (*1*), and control of the structural hierarchy subnanometer- to micrometer-length scal thus important technologically and fasc ing scientifically. The most notable cha in structure and properties are associated the flow-induced transition from a relatively

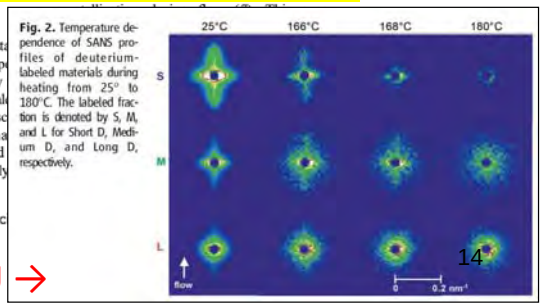
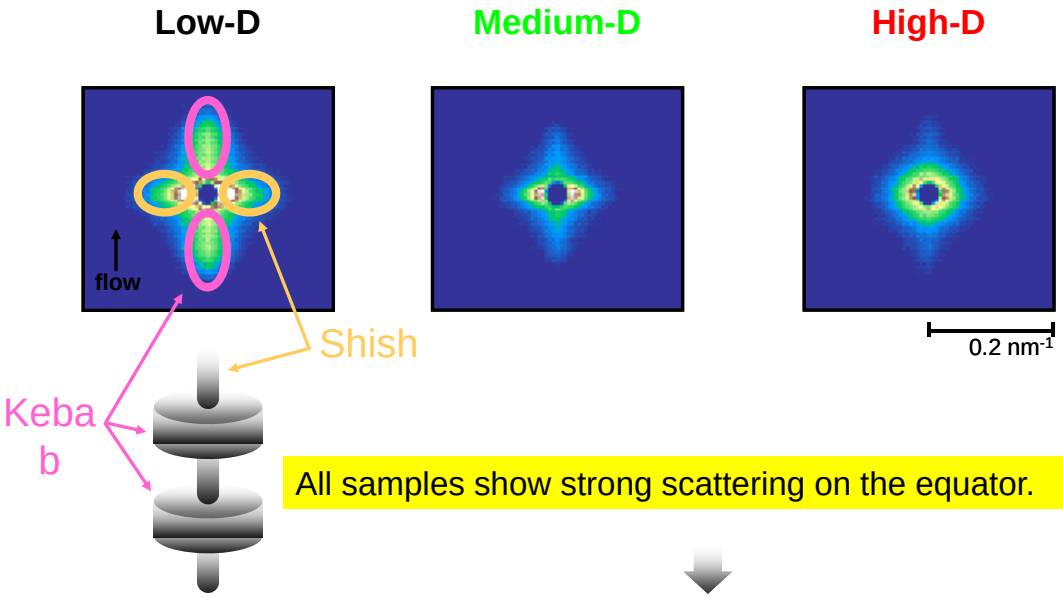


Fig. 2. Temperature dependence of SANS profiles of deuterium-labeled materials during heating from 25° to 180°C. The labeled fraction is denoted by S, M, and L for Short D, Medium D, and Long D, respectively.

SANS-U →

14

SANS pattern



All samples show strong scattering on the equator.

Middle and low MW chains also contribute to form the shish structure.

Science Vol. 316 (2007)

Molecular motion of bilayer (SANS)

Physical Review Letters Vol. 98 (2007)

Collaboration with

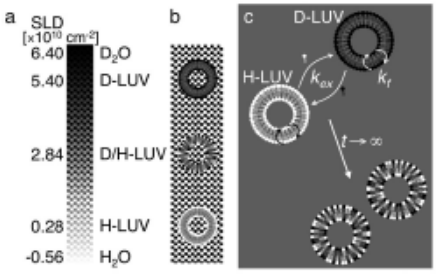
Fac. of pharmaceutical sciences, Kyoto U.

PRL 98, 238101 (2007) PHYSICAL REVIEW LETTERS week ending 8 JUNE 2007

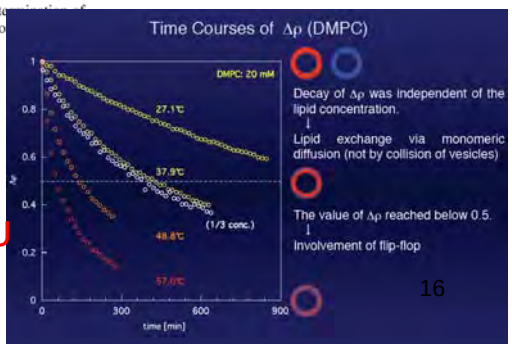
Determination of Interbilayer and Transbilayer Lipid Transfers by Time-Resolved Small-Angle Neutron Scattering

Minoru Nakano,[1,*] Masakazu Fukuda,[1] Takayuki Kudo,[1] Hitoshi Endo,[2] and Tetsurou Handa[1]
[1]*Graduate School of Pharmaceutical Sciences, Kyoto University, Kyoto 606-8501, Japan*
[2]*Institute for Solid State Physics, The University of Tokyo, Tokai, 319-1106, Japan*
(Received 9 February 2007; published 7 June 2007)

We applied a time-resolved small-angle neutron scattering technique to the vesicle system of dimyristoylphosphatidylcholine for the first time to determine lipid kinetics. The observed kinetics could be explicitly represented by a simple model that includes two independent kinetic parameters, i.e., the rates of transbilayer and interbilayer exchange. This technique is perfectly suited for the dete... lipid exchange kinetics in equilibrium and applicable to evaluation of the activity of the facto... lipid migration, such as translocase and lipid transfer proteins.



SANS-U →



Australian Government

ansto

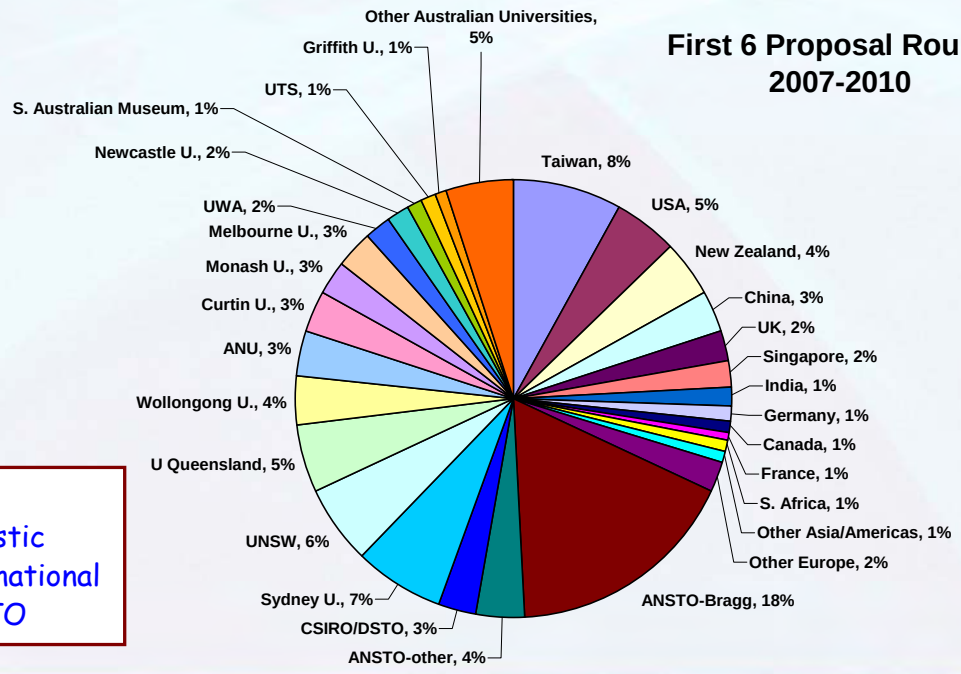
Nuclear-based science benefiting all Australians

Bragg Institute update report

Shane Kennedy

Report for AONSA-EC; 20 May 2011

OPAL Scientific usage figures: 2007-2010



Summary:

46 % Domestic

32 % International

22 % ANSTO

ansto

Nuclear-based science benefiting all Australians

Opal's current suite of neutron beam instruments

Diffraction

Echidna
high resolution powder

Wombat
high intensity powder

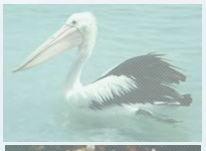
Kowari
residual stress

Koala
single crystals

Inelastic scattering

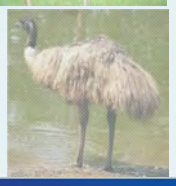
Taipan
thermal triple axis

Pelican
Cold time-of-flight



Sika
cold triple axis

Emu
backscattering



Large scale structures

Quokka
Pinhole SANS

Platypus
reflectometry

Kookaburra
ultra-SANS

Bilby
2nd pinholeSANS

Imaging

Dingo
radiography

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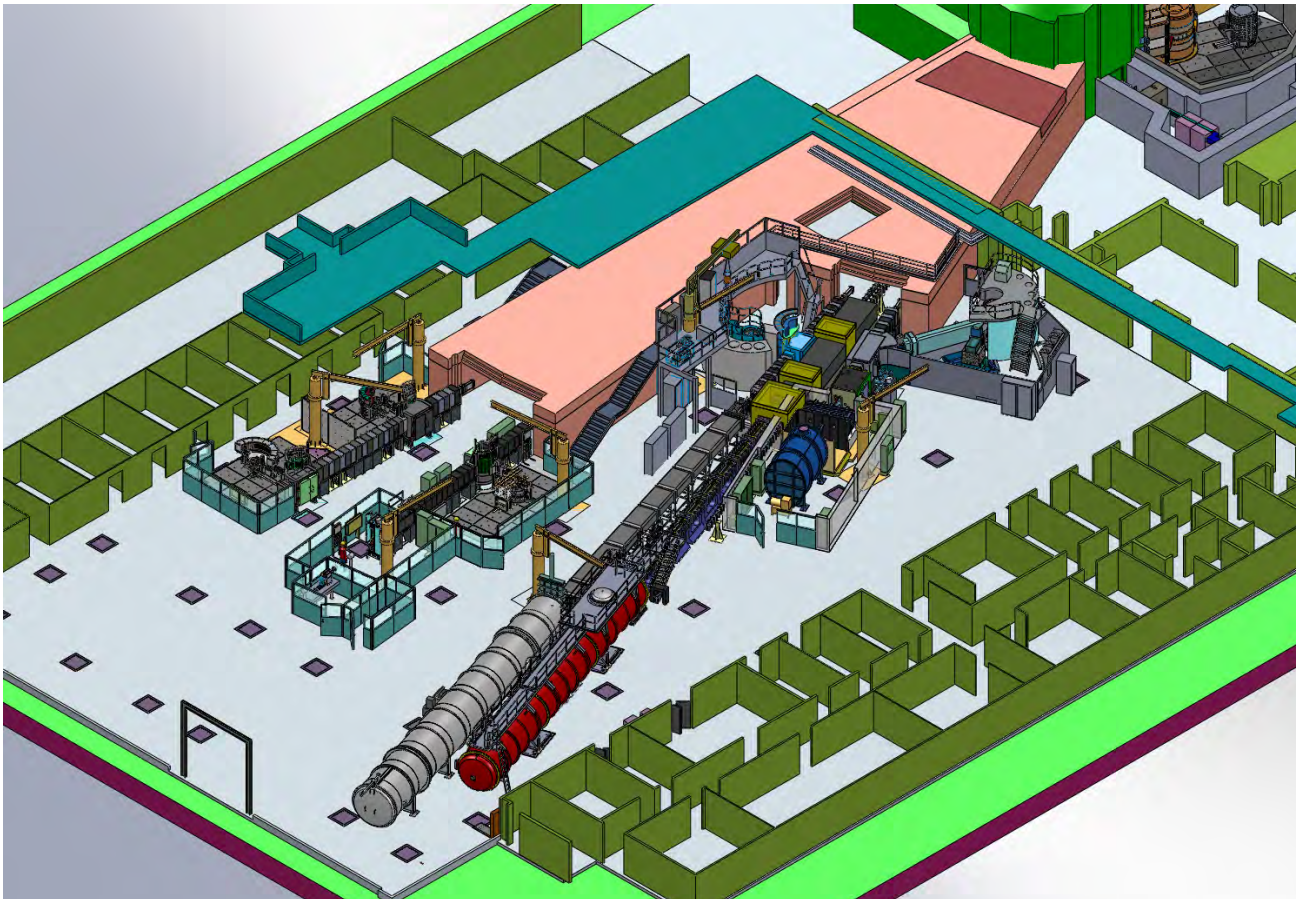

Bragg Institute building extension: approved

ansto
Nuclear-based science benefiting all Australians

Report on recent activities in the Bragg Institute, ANSTO to the AONSA Executive Committee; Bandung 20 May 2011

Shane Kennedy, Technical Director, Bragg Institute

1. OPAL reactor

•In 2010 OPAL was available for 279 days:
•But Cold source was out of action for 43 of those days due to technical problems.
•CNS out of action since Xmas 2010, but restarted on 14 May.
•There are large backlogs of experiments on Reflectometer & SANS. (~6 months)

2. Bragg User program

•There are seven neutron beam instruments & National Deuteration Facility in operation.
•In 2010 approximately 200 beam days were used (~160 in cold instruments).
•OPAL is in its sixth proposal round for usage, seventh closes on 22nd May). We have now moved to regular 6 month calls (May & Nov)
•Proposal success rate is around 60% -70%
•Statistics for users are:
47% Australian community,
31% overseas, and
22% ANSTO.

3. Current Instrument developments

•There are 6 nbi's under development (including the three that were funded in the 2009 Federal Govt, economic stimulus package).
•2 more NBI's will be commissioned this year (TOF-INS & cold-TAS (Taiwan))
•The other 4 are due for completion in 2013

4. Future Instrument developments

•We have funding for building extensions to the Bragg Institute (> 120 people + co-location of NDF labs)
•We have capacity for 4-5 more instruments in current ngh & rbh
•We see a challenge in growing the Australian community rapidly to match the projected growth in instrument capabilities.
•We are working on a strategy for development of 2nd guide hall (with further 14 instruments).

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Nuclear-based science benefiting all Australians

AONSA EC at Bandung

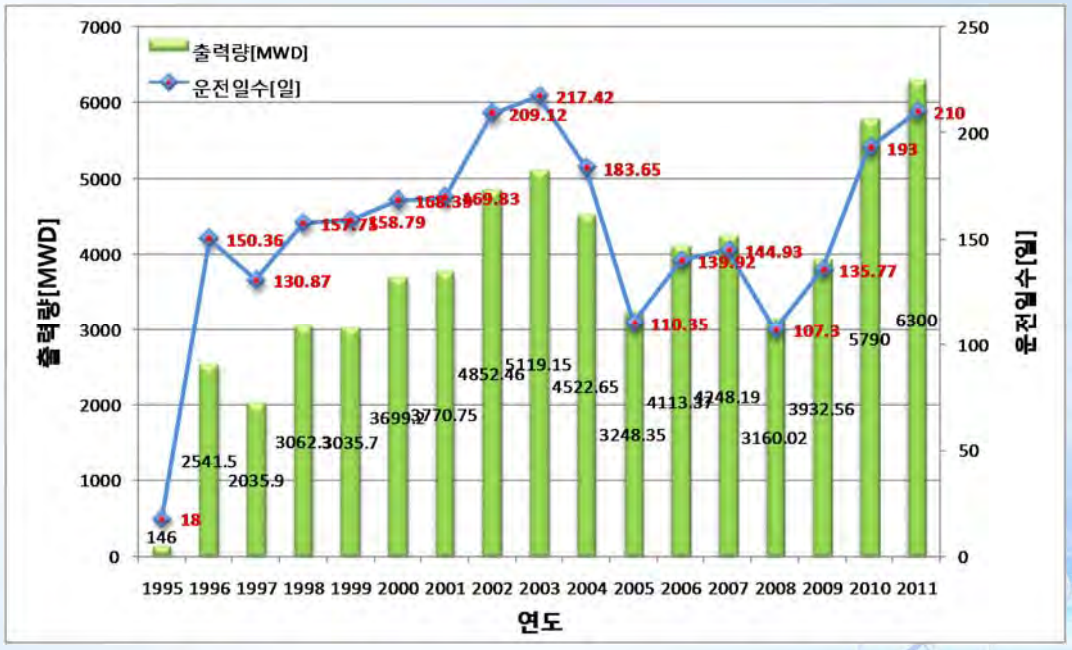
Current Status of KAERI Neutron Science

2011. 5. 19

Kye Hong LEE
Neutron Science Div., KAERI

KAERI Korea Atomic Energy Research Institute

Reactor Operation Days



http://www.kaeri.re.kr

Annual Number of users

http://www.kaeri.re.kr

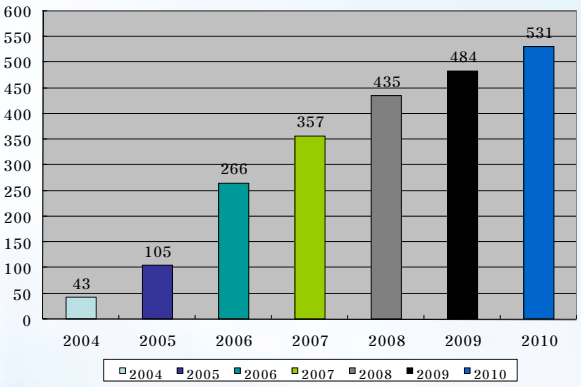
4

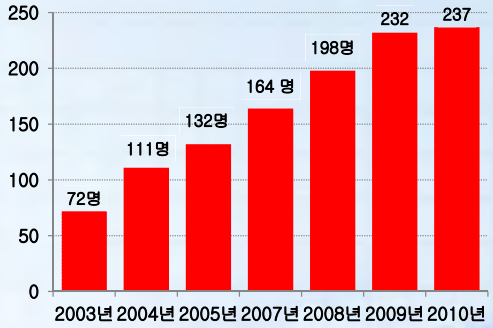
HANARO4U and KNBUA

HANARO4U

Number of members

KNBUA





English version web open on June 20 !!

http://www.kaeri.re.kr

HANARO Beam time sharing with Japan and ANSTO

- 56 days for Japanese users from Aug 16, 2011 to Jan 9, 2012
- 10 days for 2 SANS in May and June

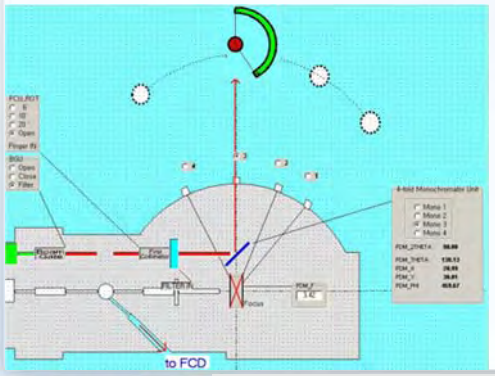
- Also individual request is possible through HANARO4u from June 20, 2011

KAERI Korea Atomic Energy Research Institute

Facility Overview

Korea Atomic Energy Research Institute

High Resolution Powder Diffractometer (HRPD)



Instrument Characteristics

Part	Characteristic
Monochromator Wavelength Resolution Neutron Flux at sample	Ge(331),Ge(335) 1.836 Å ⊿d/d > 2.0% ~ 3.5 x 10^6 n/cm^2/sec
Multi-detectors PSD (position sensitive detectors) Take off angle	32 He-3 proportional counters (tube: dia. 50mm) 1-D (100mm 200mm and 200mm 100mm), 2-D (200mm 200mm) 90°
Collimators	In-pile RSC (rotating shutter collimator) : 20' , 30' , open(~50') FCU (first collimator unit) : 6', 10', 20', open(~50') Second collimator : 30' , open

Applications

-Crystal &magnetic structure as a function of temperature
-Li-battery studies
-Hydrogen storage studies
-Phase transition
-micro structural movement of atoms

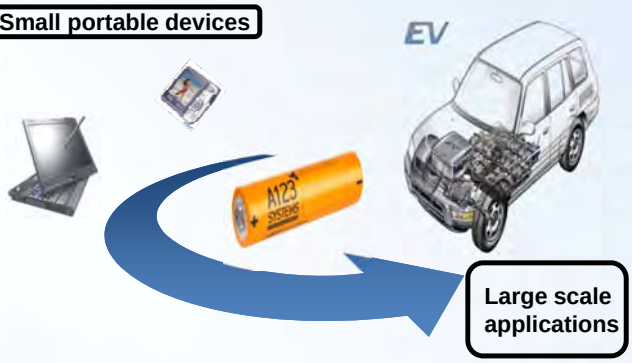
Sample Environment

-High Temp. vacuum chamber : up to 950 K
-Low Temp. CCR : RT to 4.5 K
-Magnetic Field : Max. 0.8 T, Electromagnet
Max. 500G, Helmholtz Coil
-Dilution refrigerator & Super conducting magnet : coming soon

http://www.kaeri.re.kr

Introduction of Li-ion battery research

Small portable devices



Large scale applications

Requirements for battery materials

High safety | High energy | High power

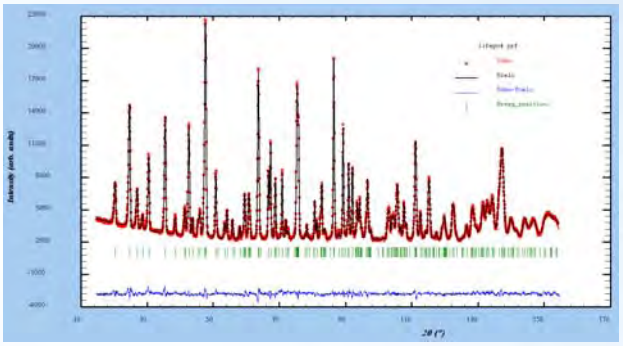
Layered (ex. $LiCoO_2$, $LiNi_{0.5}Mn_{0.5}O_2$, etc...)

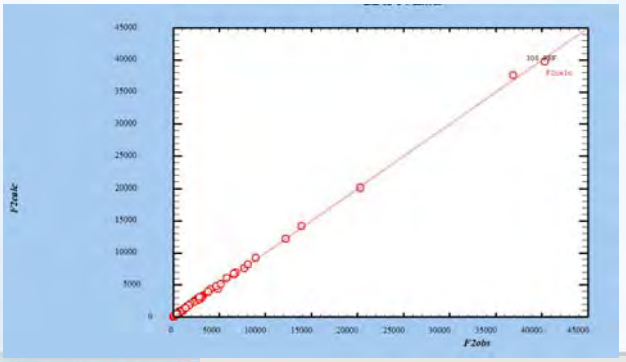
Issue of Li-ion battery research

1. New materials for safe Li ion batteries
   Ex) $LiFePO_4$, NASICON, Fluorinated phosphate, Fluorinated sulfate, polyanion-based materials
2. Increasing the number of active Li ions in phase
   Ex) to find the possible Li-ion conduction path
3. It is very important to understand the exact structure of battery materials as functions of external parameters such as temperature, charging/discharging and synthesis condition.

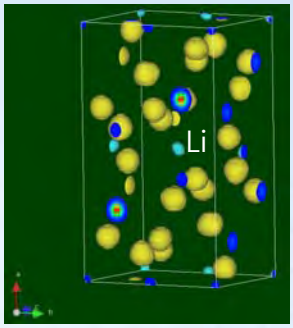
Li-ion battery research using HRPD

Rietveld refinement of LiFePO4

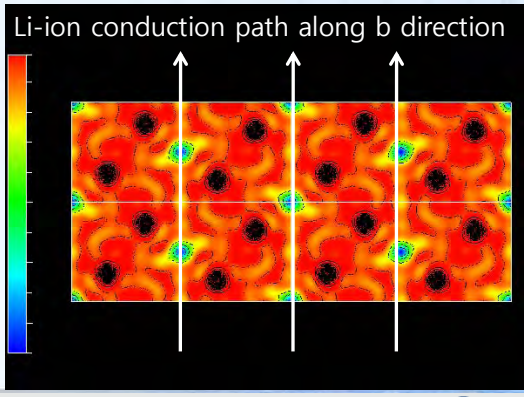




Nuclear density of LiFePO4



Li-ion conduction path along b direction



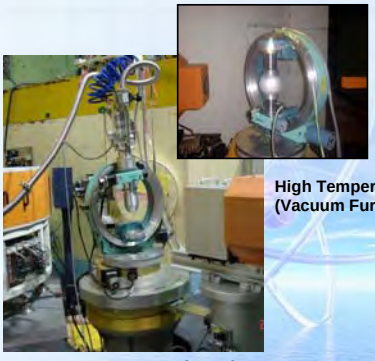
Four Circle Diffractometer (FCD)

FCD Characteristics

- $2\theta_M$ -45°
- Monochromator Ge(311), λ =1.3143Å
- Beam Collimation α_1=20', 30', open(52'), α_2=55', α_3=20', 40', open(60')
- Neutron Flux 2x10^6/cm^2/sec at Sample
- Detector He-3 proportional counter 2-D PSD (200x200mm)
- ICP Linux based SPEC

- Installed @ST2 port in 1999
- 1st Upgrade 2005-2006
  - complete refurbishment & alignment
  - 2-D PSD of flat & curved shape
- Sample environments
  - CCR (10K~320K)
  - Vacuum Furnace (300K~1300K)

2-D PSD



Low Temperature (CCR)

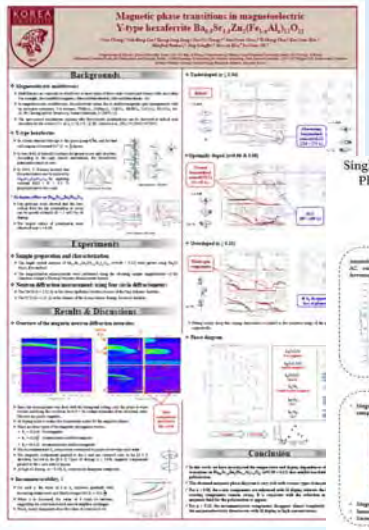
High Temperature (Vacuum Furnace)

❖ Instrument Scientist: Shin Ae Kim
(+82-42-868-4401, sakim@kaeri.re.kr)

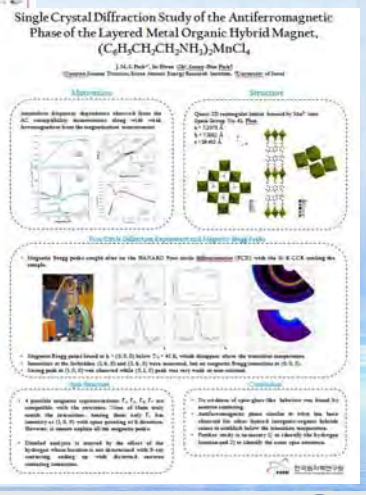
Recent research results on FCD

- ✓ Lee H.-B. *et al.* Physical Review B 83 (2011) 144425
- ✓ Chang h. *et al.* KPS(The Korean Physical Society) Conference 2011
- ✓ Park J.M.S. *et al.* HANARO Symposium 2011

Field-induced incommensurate-to-commensurate phase transition in the magnetoelectric hexaferrite $Ba_{0.5}Sr_{1.5}Zn_2(Fe_{12-x}Al_x)O_{22}$



Magnetic phase transitions in magnetoelectric Y-type hexaferrite $Ba_{0.5}Sr_{1.5}Zn_2(Fe_{12-x}Al_x)O_{22}$



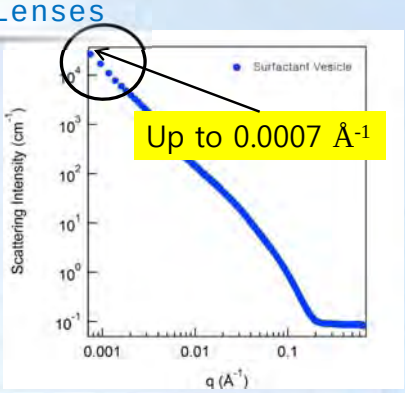
Single Crystal Diffraction Study of the Antiferromagnetic Phase of the Layered Metal Organic Hybrid Magnet, $(C_6H_5CH_2CH_2NH_3)_2MnCl_4$

40m SANS Instrument

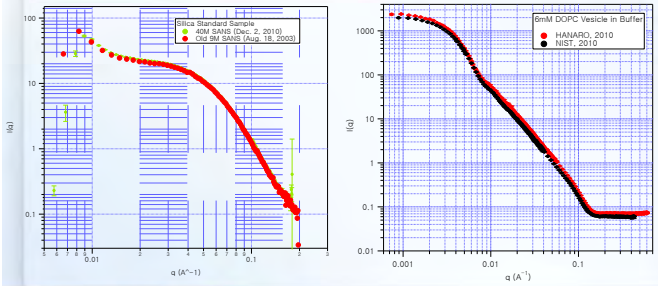
40m SANS Photo

Focusing Lenses

– Low q range is extended using focusing lenses



Performance Test Results

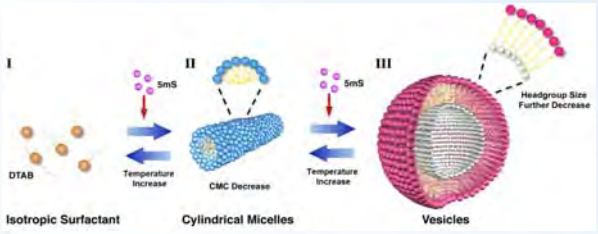


Current Status

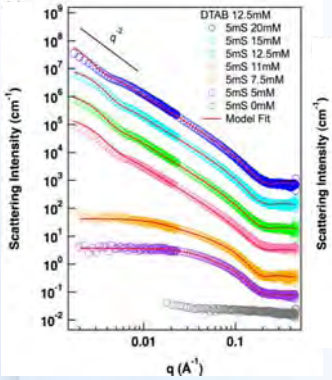
- Oct. 2010 : Beam test completed
- Nov. 2010 : Open to external users
- Have been successfully operating without problem since Nov. 2010.
- Polarization option is to be installed this summer

Researches in 40m SANS

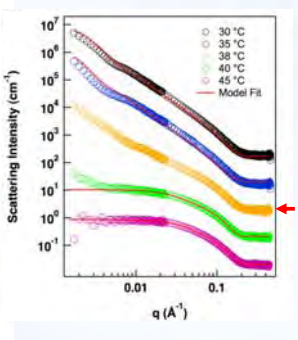
◆ Thermally Responsive Surfactant Vesicle for Drug Delivery



- SANS Intensities of Surfactant Vesicles



DTAB (12.5mM) + 5mS(11mM)



Phase Transition at 38 °C

◆ Dispersion of Carbon Based Materials using Polymer

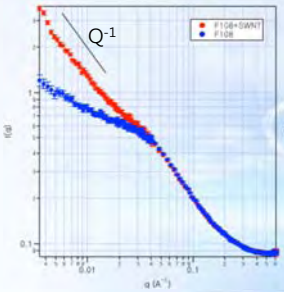
- Carbon based materials
  - Carbon Nanotube
  - Graphene
  - C60

Hydrophobic Surface → **Strong van der Waals Interaction**

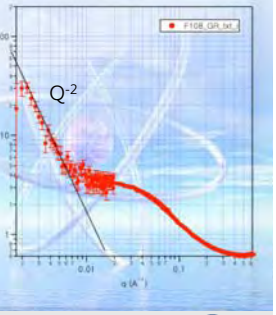
- Hard to disperse in solution
- Bundled or Stacked

- SANS Intensities of Carbon Based Materials in Water

CNT+Polymer



Graphene+Polymer



18m SANS (I)

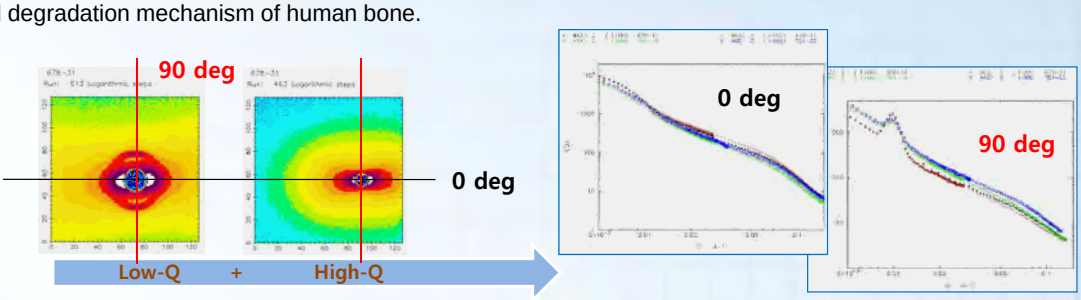
Specification

- Neutron Velocity Selector : DORNIER/now AUSTRIUM
  . Transmission : ~ 90% . Resolution (FWHM) : 10 ~ 15 %
- Wavelength : 5 - 10 Å
- Sample to Detector distance : 1.5 - 9 m
- Measurable Q range : 0.005 – 0.5 $Å^{-1}$
- Two dimensional Position Sensitive Detector
  . Model : Ordela 2600N . Active area : 64 cm x 64 cm . Special resolution: 0.5 cm

18m SANS (II)

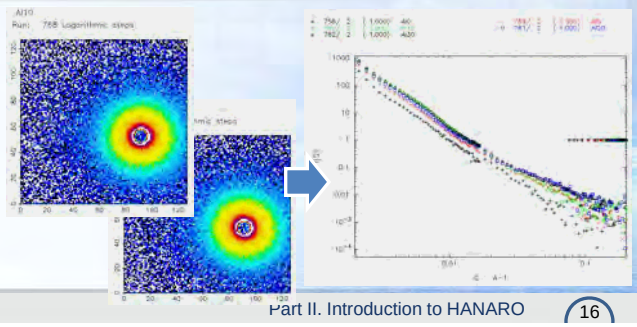
Analysis of Bony Canliculi in compact Bone of Human body

● The canliculi in compact bone was quantitatively analyzed to give more precise information of growth and degradation mechanism of human bone.



Microstructure in an Ultrasonic Fatigued Aluminum Alloy

● The ultrasonic fatigue test has big benefits on the evaluation of the materials life by reducing the testing time from a few years (for the giga cycle fatigue testing) to a few days.
● The variation of the microstructure in aluminum samples during the ultrasonic fatigue test was investigated to study on the mechanism of the crack initiation and fracture cause by the fatigue.



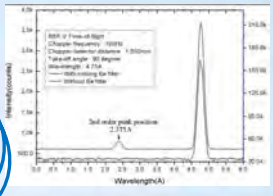
CN REF-V Current Status

Compleation of Instrument Relocation & Performance Test


TN REF-V at Rx Site


CN REF-V at CG1A

Wavelength Distribution



Main Application Field

- **Solid Thin Film**
  Polymer Films, Dielectric Thin Film, Multilayer Mirror, Metal Thin Film, Hard Carbon Film,
- **Surface Magnetism**
  Ferromagnetic Film, Magnetic Multilayer, Spin Valve Structure

Sample Environment Facility

High Temp Chamber : ~650 K
Magnetic Field : 0.8 T, EM
500 G, H coli
Low Temp. CCR : < 10 K(plan)
Other : Cryo-Furnace (plan)

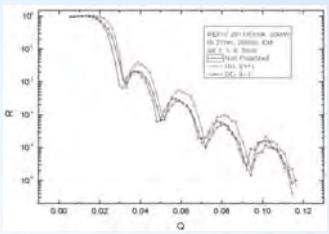
Instrument Characteristic & Performance

Item	Characteristics
Monochromator Wavelength Resolution Filter system Flux(sample)	Vertical focused PG(002) 4.75 Å, $2\theta_M$=90° $\Delta\lambda/\lambda$ < 1.0% LN_2 Cooled Be ~6.0 x 10^5 n/cm^2 /sec
Single detector 1-D PSD (plan)	He3.6 atm. 8x12cm^2, efficiency 90% at 4 Å
Polarizer, Analyzer Spin flipper Polarization	Fe/Si SM(m=3) Mezei type, FR > 95% P = > 95%
Q Region Min. reflectivity	0.003 ~ 0.4 Å^{-1} 10^{-7}

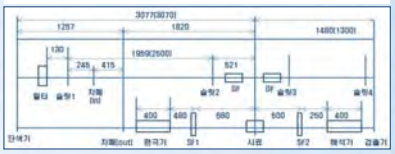
CN REF-V Current Status

The Performance Test of PNR Tool

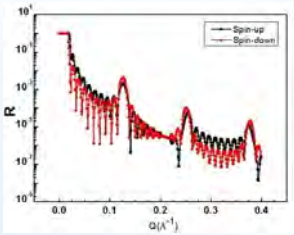

PNR Measurement with CN REF-V

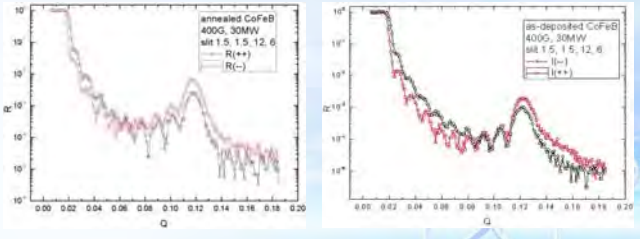

PNR Pattern of Ni Thin Film

Instrument Polarization Ratio : P>95%
Minimum Sample Size : 10x10mm^2
Maximum B Field : 0.8T
ICP : GUI mode, Labview


Instrument Beam Geometry

PNR Measurement of $(CoFeB/MgO)_{10}$ & $(CoFe/MgO)_{10}$ Thin Film
Under Analysing of Measurement PNR Pattern : Magnetic Structure of Thin Film


PNR Simulation Pattern of CoFeB Thin Film

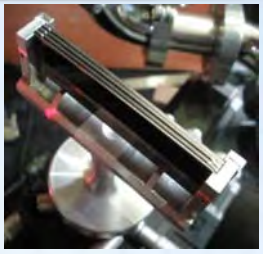

PNR Pattern of CoFeB Thin Film : Measurement
As-deposited & Annealed State, B=400G, I(++), I(--)

Bio-REF Current Status

Instrument Installation Completed

Bio-REF at CNLB site

Inner Side of Bio-REF

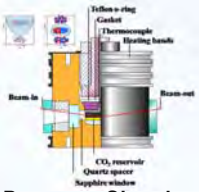


Monochromator

Bio-Sample Preparation Room

Sample Envitonment Facility

Temp. Chamber



Pressure Chamber

Neutron Cell

LB-Trough

Instrument Characteristic & Performance

Item	Characteristics
Monochromator Wavelength Resolution Filter system	Pyrolytic graphite (002); 0.4°mosaic 4.75 Å $\Delta\lambda/\lambda$ < 2.0% LN_2 Cooled Be
Single detector Count rate	^{3}He-detector < 3MHz
Sample-to-detector distance	2m
Q Region	0.005 to 0.23Å^{-1} (Liquid surface) 0.005 to 0.6Å^{-1} (Solid surface)

Thermal TAS

Design & Fabrication (2004.3-2010.2)

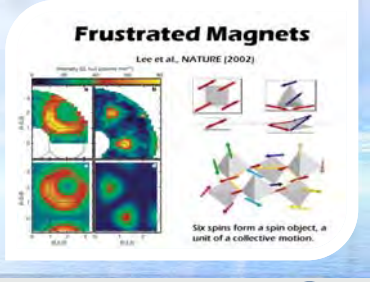
- Design & simulation : '04-'06
- Civil eng. works (instr. floor)
- Monochr. shield unit : '06-'08
- Mech. components : '07-'09
- Electric & electronic comps. : '09-'10

Commissioning (2010.3-2011.8)

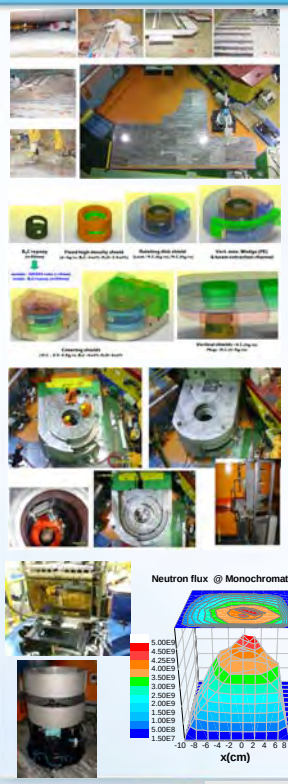
- Assembling and mech. test
- Performance test, trouble shooting and optimization
- Meas. of characteristic data of the instrument

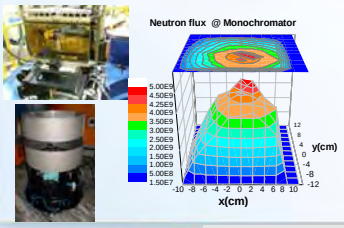
Future Plan

- Data acquisition starts from Sep. 2011
- Fab. & commissioning of 4K-CCR till Sep. 2011
- Experiments with core users start from Dec. 2011
- Open to the general user (Mid. of 2012)



Thermal TAS



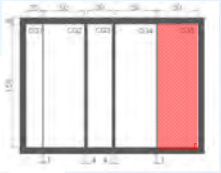


Specifications

Parts	Description(2010)
Monochromators (doubly focusing)	Take-off angle : $2\Theta_M$=10~80deg. **1st choice :** PG(002) , E_i= 4.4~240meV, Φ_{max} **(@sample)≥ ~4x10⁸n/cm²/s (unfiltered)** **2nd choice :** Cu(200), E_i= ≥15meV **3rd choice**(future option) : Heusler(111), **polari**
Filters	**Sapphire**, optical grade(90mm x 120mm x 100mmt) **PG(002)**, ZYH(75mm x 110mm x 50mmt)
Sample Table	Heavy Load, 5-axes (3 rot. & 2 tilts.) (-100<$2\Theta_S$ <+100)
Analyzer (doubly focusing)	**1st choice** : PG(002) **2nd choice**(future option) : Heusler(111) (-105<$2\Theta_A$ <+105)
Analyzer-Detector Shielding	Dual shielded components within the cylindrical main shield : **[** [detector] + [analyzer] **]**
Detectors	**Diffraction mode** : tube D **TAS mode** : tube D & 1-D PSD
Collimators, Soller (automatic changer)	C1: in-pile collimator (RSC) (auto), close/20'/open/40' C2~C4: 20'/30'/40'/60'/90'/120'/open
Sample Environments	4K-CCR (top loading type) (2011.9) Supercond-Mag.(11T) with Dilution Refrig.(50mK) (2012, share)

Cold Neutron Triple-Axis

- The m=2 guide covers the 51 m distance from the source and the monochromator.
  - Radius of curvature of the curved section = 1500 m.
  - Guide is 15 cm tall, 5 cm wide.



- A neutron velocity selector is used as the higher-order-filter.

- Vertically Focusing PG monochromator and horizontally focusing PG analyzer are used for maximal use of neutrons

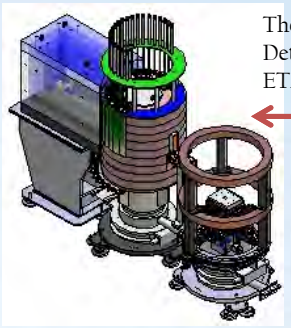
- Solid performance expected:

Location	Simulated Flux	Measured Flux
After the Primary Shutter	5.57×10^9	
Front of the 2nd Shutter	2.84×10^9	3.00×10^9
Front of the Higher-Order-Filter	2.58×10^9	2.00×10^9
Front of the Monochromator Chamber (w/ HOF operating)	2.30×10^9	1.37×10^9 (1.9×10^8 @ 4 Å)

Cold Neutron Triple-Axis

Current Status

- All initial optical devices has arrived and are ready for installation.
- Fabrication of the remaining mechanical components is mostly finished except the 2nd spectrometer.



The Sample / Analyzer / Detector Tables ETA May 2011

The Cold-TAS in early May

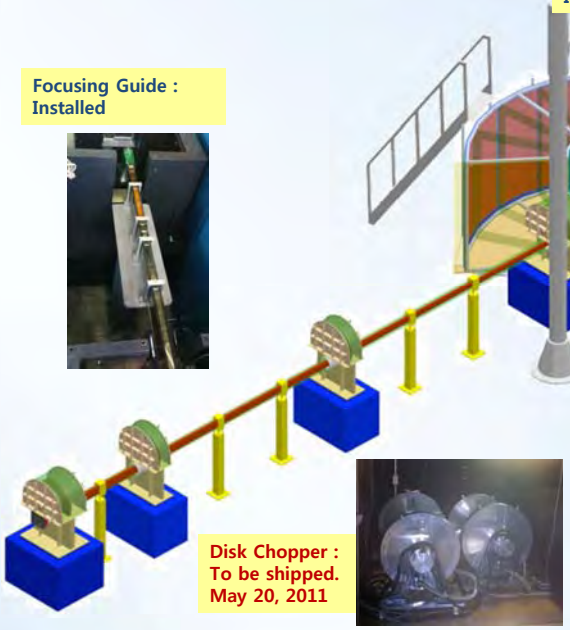
Future Prospect

- Commissioning of the instrument begins in July 2011.
- Bug fixes are expected during the next couple of years.
- Meanwhile, power users will be invited to try the instrument.
- Funding for normal user operation is being sought after.

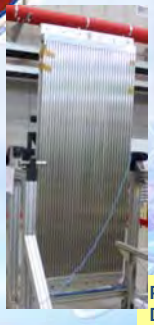
DC-TOF

Detector Tank : Installed

Focusing Guide : Installed



Detector Panel : Installed



Disk Chopper : To be shipped. May 20, 2011

Position Sensitive Detector(PSD) : 57 PSDs are equipped.

Current Status & Future Plan

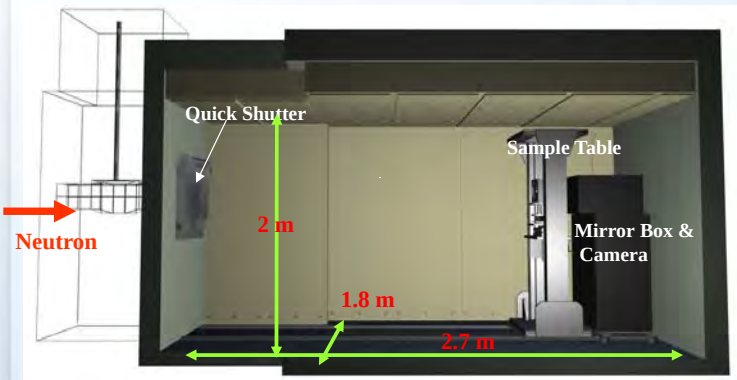
- Development & Installation History
  - 2009.08 : Detector Tank Installation
  - 2009.11 : CG3 Guide Installation
  - 2010.02 : Chopper Shielding Installation
  - 2011.01 : Focusing Guide Installation
- Future Plan
  - 2011.06 : Disk Chopper Installation
  - 2011.08 ~ 2011.12 : Beam test
  - 2012.01 ~ 2012.12 : Commissioning.

Neutron Radiography Facility(NRF) I

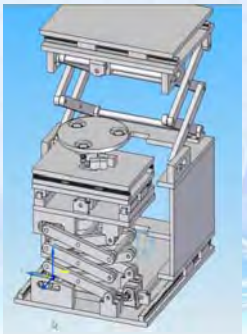
Beam Characteristics

Neutron Flux [n/cm²s]	6*10⁶ ~ 2*10⁷
L/D ratio	190 ~ 270
Beam Size [mm²]	340 * 450

3 CCD Cameras and Image Intensifier system.
➔ Various Researches are possible.



Schematic Diagram of NRF



Sample Table for 3D Tomography: 3 samples

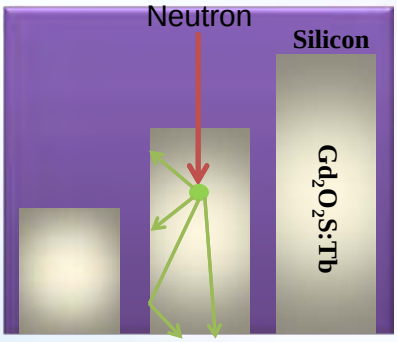
Neutron Radiography Facility(NRF) II

Research for Next Generation Energy

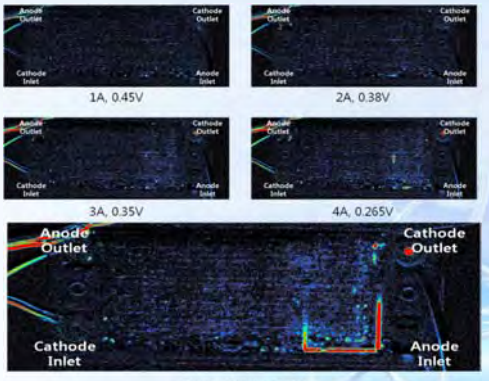
- PEM Fuel Cell with Hyundai Motors from 2004.
- DMFC with POSTECH and Tsinghua Univ. from 2010.
- Li-Ion Battery with LG Chem. from 2010

Research for High Performance Detector

- Pixelated Scintillator with KAIST from 2009



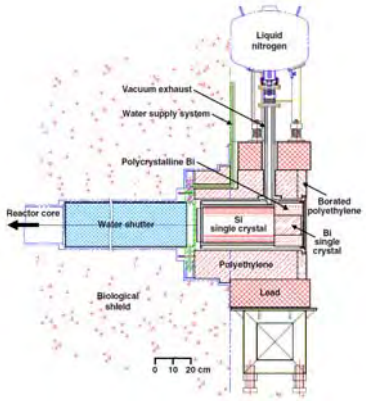
Schematic Diagram of Pixelated Scintillator



Neutron Images of DMFC

Ex-core Neutron-irradiation Facility(ENF)

Seung Wook LEE, +82-42-868-8744, sw@kaeri.re.kr



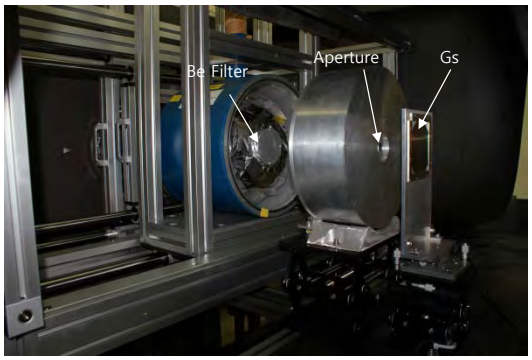
Instrument Characteristics

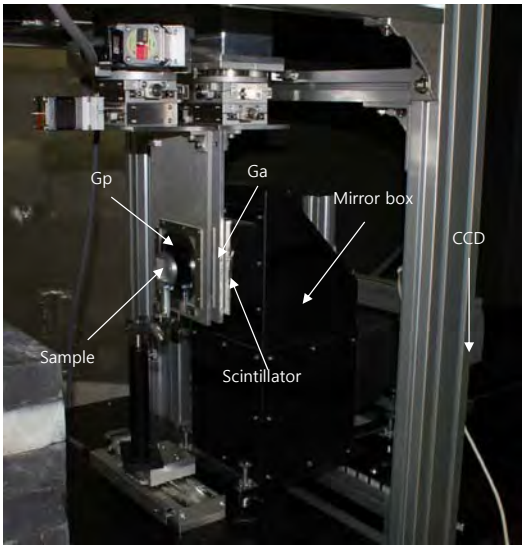
Part	Characteristic
Beam Filter	Si(D20cm, L40cm), Bi(D10cm, L15cm)
Thermal Flux(Max)	1.49×10^9 n/cm^2.s
Gamma Dose	80cGy/h
Cadmium Ratio	152
Internal Bunker Space	5.5m(length)x3.5m(height)x 4m(width)
Detectors	Scientific grade CCD (Andor DW936N-BV) Image Plate Intensified CCD
Options	Beryllium Filter for Cold Neutrons Double Crystal Monochromator Rotating Aperture for High L/D Silicon Gratings for Phase Imaging Polarizer

Applications

- Preclinical study for Boron Neutron Capture Therapy
- Autoradiography for Boron Distributions
- Phase Contrast Imaging
- Grating-based Neutron Interferometer
- Dark Field Imaging(Neutron Decoherence Imaging)
- High Resolution Neutron Imaging
- Dynamic Neutron Imaging
- Neutron Detector Development Test Station

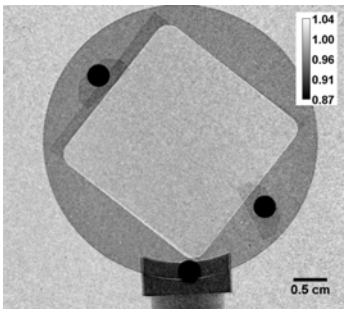
Grating-based Imaging System



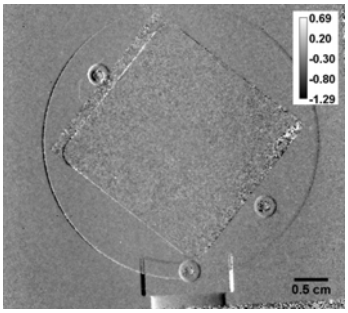


Seung Wook Lee, Young Kwon Jun, Oh Yeoul Kwon, "A Neutron Dark-field imaging experiment with a neutron grating interferometer at a thermal neutron beam line at HANARO", Journal of Korean Physical Society, , Vol. 58, No. 4, April 2011, pp. 730734

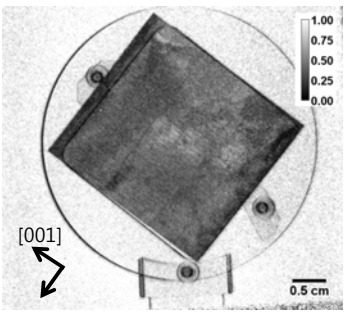
Grating-based Imaging System



Absorption



Differential Phase



Dark-field

Seung Wook Lee, Young Kwon Jun, Oh Yeoul Kwon, "A Neutron Dark-field imaging experiment with a neutron grating interferometer at a thermal neutron beam line at HANARO", Journal of Korean Physical Society, Vol. 58, No. 4, April 2011, pp. 730734


KAERI : Technology Partner
Thank You!
KAERI
Korea Atomic Energy
Research Institute

行政院國家科學委員會 National Science Council

國立中央大學 National Central University

Current status of SIKA-project (May 20, 2011 AONSA EC meeting)

Wen-Hsien Li
Center for Neutron Beam Applications
National Central University, Taiwan

whli@phy.ncu.edu.tw

國立中央大學 NCU

奈米物性實驗室

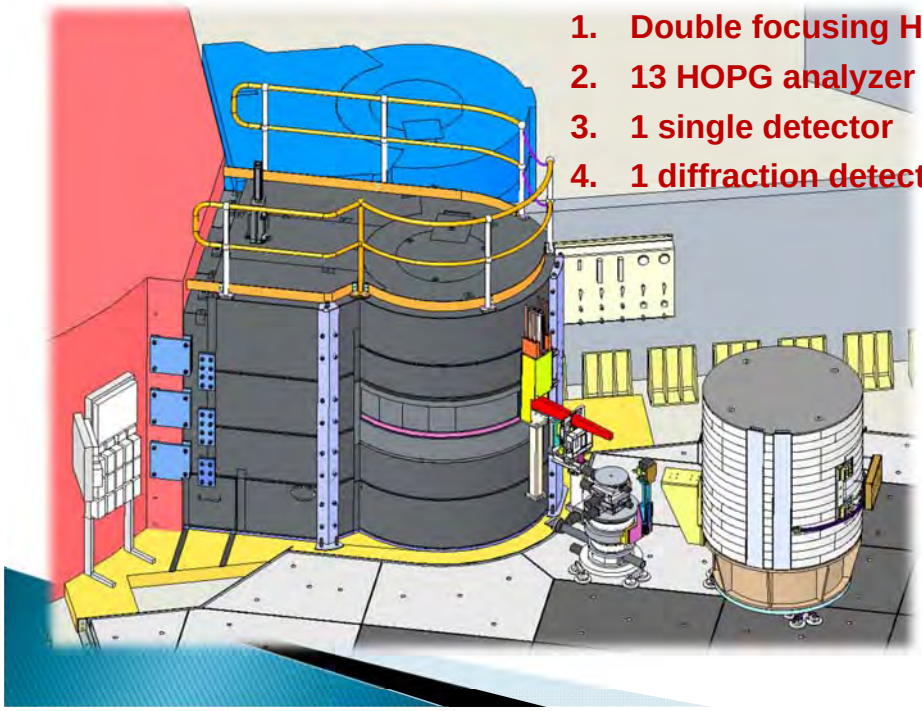
國立中央大學中子束應用研究中心
Center for Neutron Beam Applications
National Central University

The Sika project

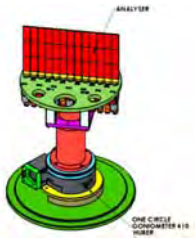
SIKA overview

SIKA

Spin-polarized Inelastic K-space Analyzer

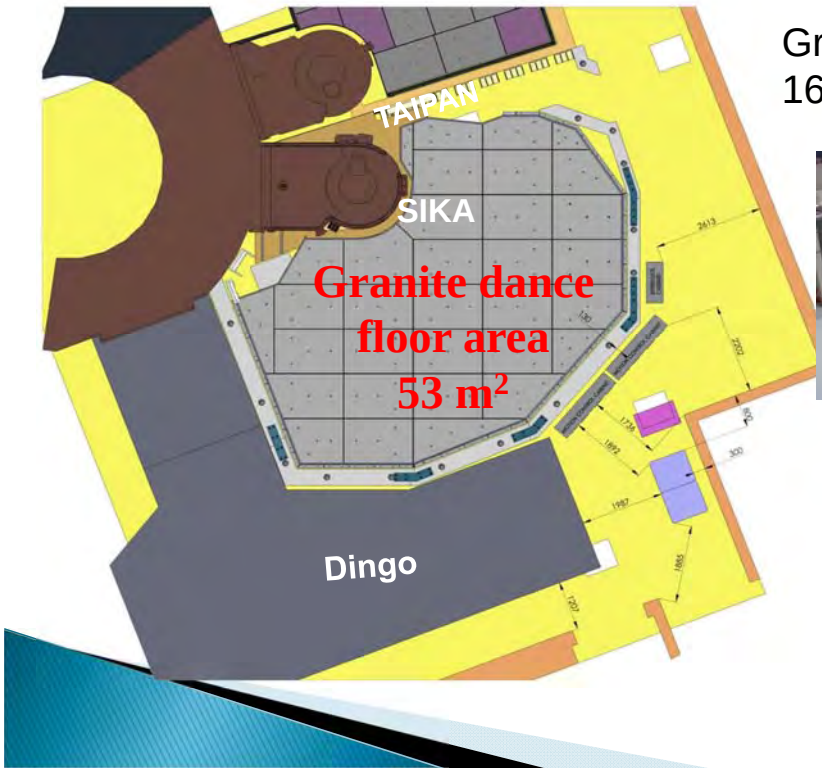


1. **Double focusing HOPG mono.**
2. **13 HOPG analyzer + 1 PSD bank**
3. **1 single detector**
4. **1 diffraction detector**



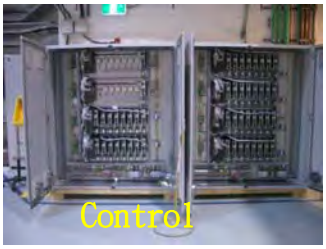
Operation area

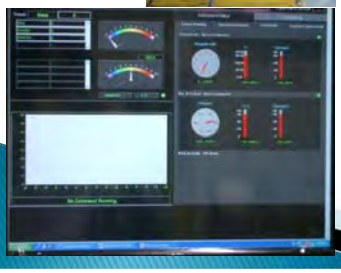
SIKA

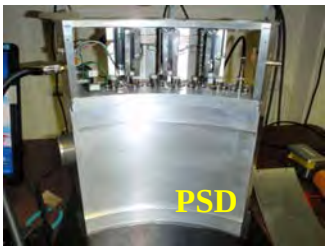


Granite:
1600x1000x200 mm^3

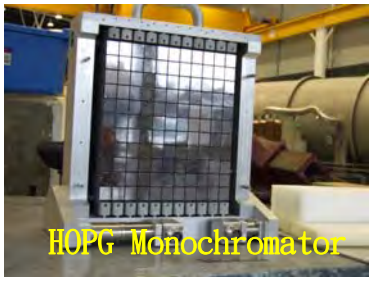
Parts

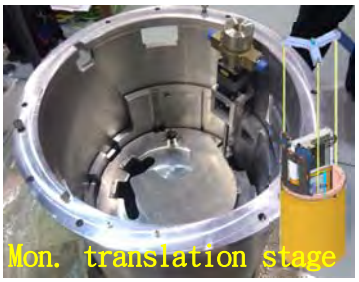


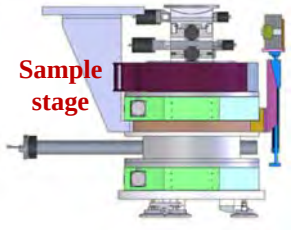




Installation

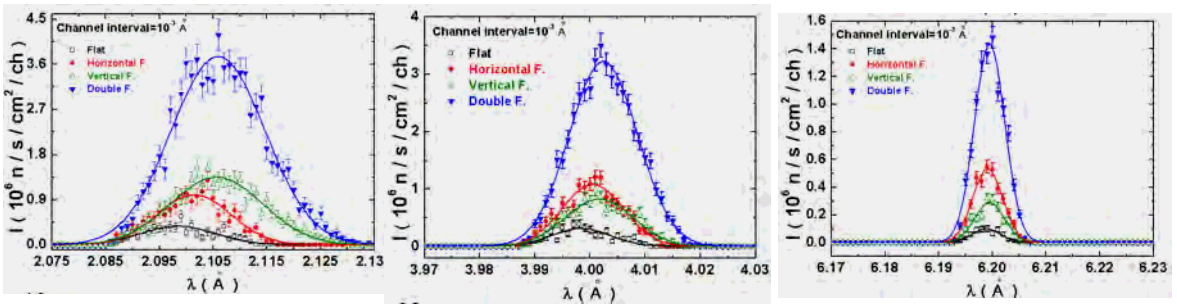




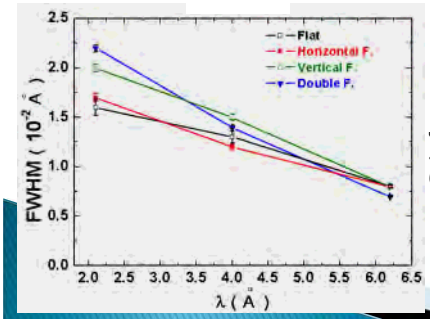


Intensity at sample position: McStas calculation

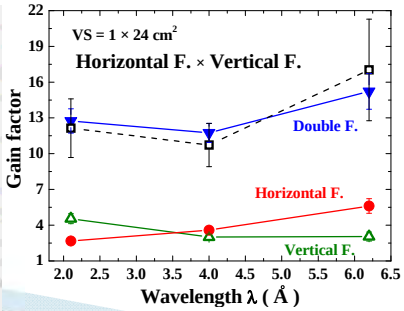
Wavelength distribution for virtual source width 1 cm



Peak widths



Focusing gain factors: 13~16



Absolute flux values in double-focusing mode

λ (Å)	Φ (n/cm²s)
2.1	8.3 x 10⁷
4.0	5.1 x 10⁷
6.2	1.0 x 10⁷

Summary of Project Positions

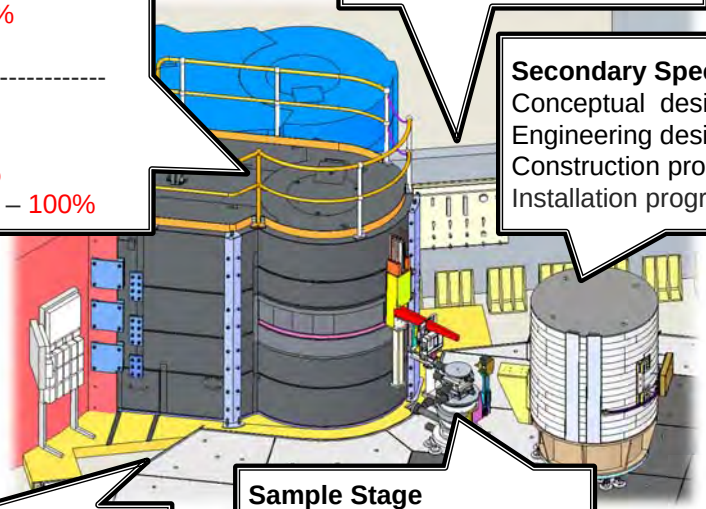
SIKA

Primary Shielding
Construction progress – 100%
Shielding built progress– 100%
Input optics – 90%
M/C installation – 70%
Software – 30%

PG Mono. – 100%
Mono. Stack – 30%
Mono. Pre-Slit – 70%
Mono. Stack Support – 100%

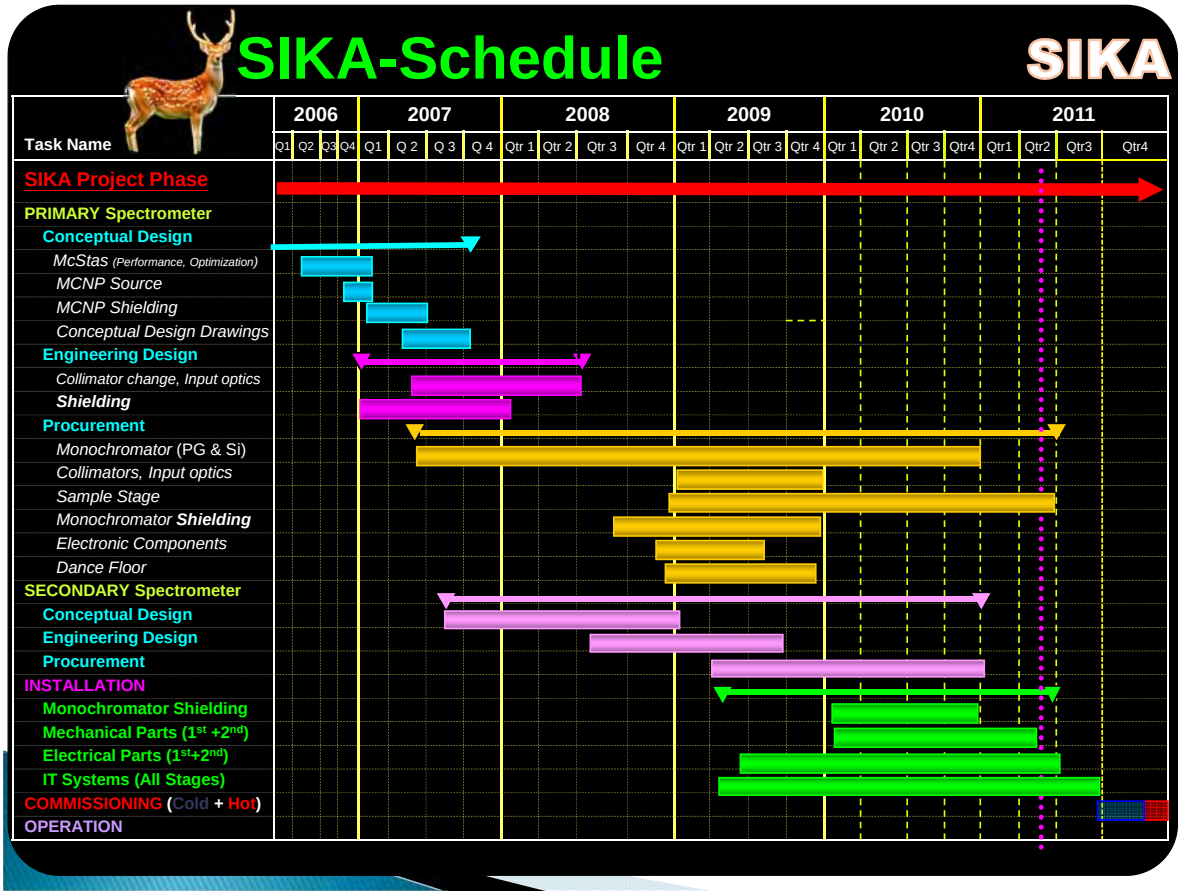
Perimeter wall
Conceptual design – 100%
Calculation – 100%
Engineering design – 100%
Fabrication progress – 30%
Installation progress

Secondary Spectrometer
Conceptual design – 100%
Engineering design – 100%
Construction progress – 90%
Installation progress –



Dance Floor
Construction progress – 100%

Sample Stage
Evaluation – 75%
Fabrication progress -10%
Installation-0%



~Thank you~

- Add:S4-613, No. 300, Jhongda Road, Jhongli 32001, Taiwan
- Tel: +886-3-4227151 ext. 65385
- E-mail: ncu65385@gmail.com
- Homepage: www.neutron.ncu.edu.tw

Appendix 2

Report on the Damages and Recovery of J-PARC

Appendix 3

Report on the Damages and Recovery of JRR-3

The 6th Executive Committee Meeting of AONSA
(ITB, Bandung, Indonesia; May 19-20, 2011)

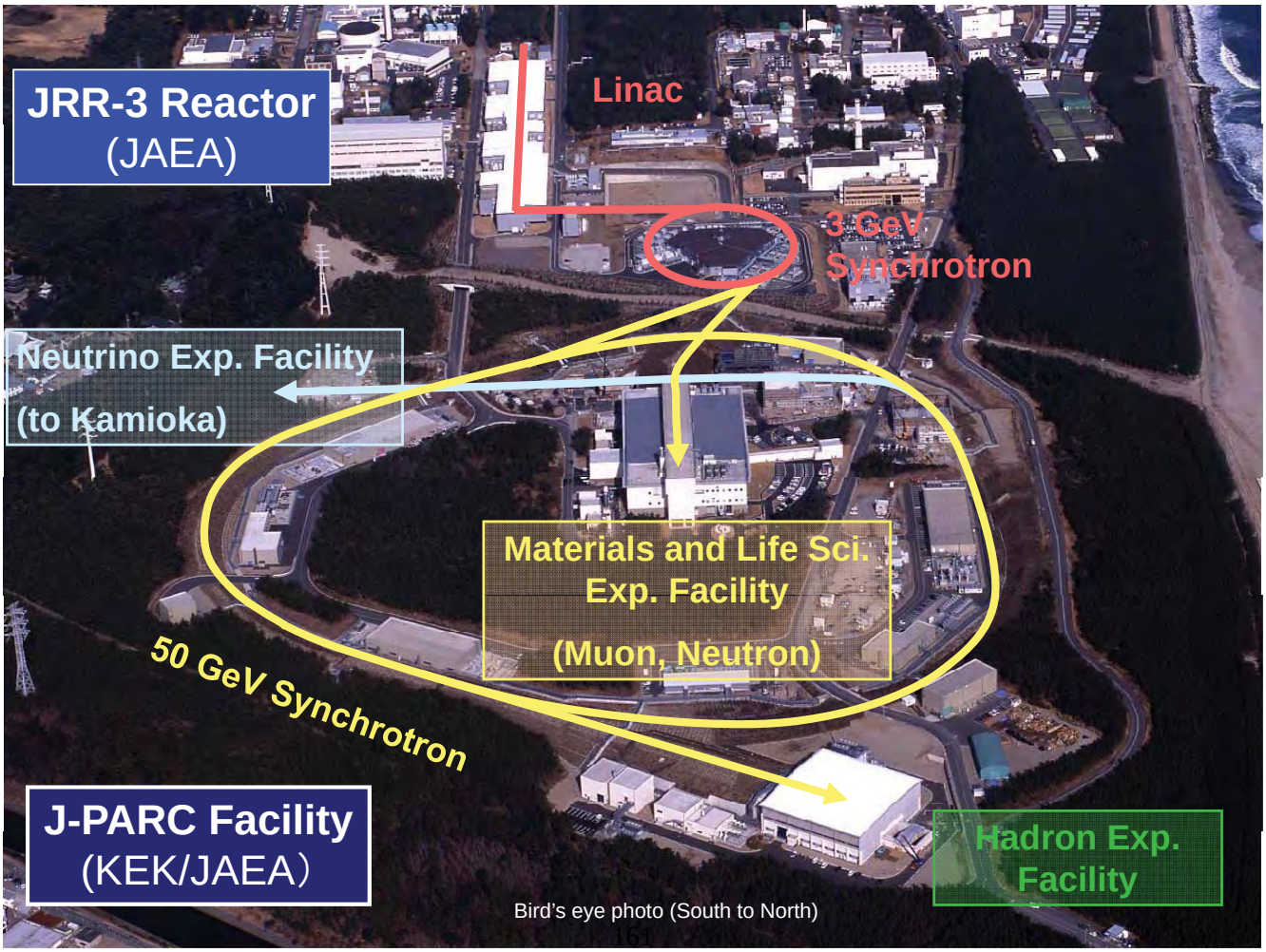
Status of J-PARC

- Status Report on Facilities being Recovered
- Registered Institution for Facilities Use Promotion

Yasuhiko FUJII & Masatoshi ARAI*

Research Center for Neutron Science & Technology,
Comprehensive Research Organization for Science & Society (CROSS)

* J-PARC Center, Japan Atomic Energy Agency (JAEA)



Bird's eye photo (South to North)

Status Report

April 1, 2011

Prof. S. Nagamiya
(Director, J-PARC Center)

Status #1 (2011.4.1.)

- March 11 (Fri): Earthquake arrived. No injured persons for J-PARC.
  - In the middle of lecture to 41 visitors, the entire ceiling fell down. Visitors were instructed to hide under the table immediately. No injures to anyone.
- March 12 (Sat): Brief glance
  - No Tsunami effects (8 meter Tsunami was protected by our design).
  - No obvious structural damages due to many underpins underneath the buildings.
  - However, all roads around the buildings and the utilities had severe damages.
- March 13 (Sun): All non-Japanese users were sent to safe places.
  - Uses Office worked coherently. KEK Bus, etc. were used to send users to Tsukuba, Narita, etc.
- March 17 (Thu): Inspection of all buildings, utilities, and facilities for J-PARC
  - Photos are displayed in a separate file. No electricity. Very limited inspection.
- March 22 (Tue): JLAN for network restarted its operation.
- March 23 (Wed): Discussion of Electric Utilities
  - Out of two major transformers, one for Linac and 3 GeV was inclined, whereas other for MR was OK. On March 23 it turned out that Linac transformer is recoverable, though.
  - In order to avoid Secondary Damages, a quick recovery for electricity is important for lights, pumping water, etc. Motor-driven generators were purchased.

Status #2 (2011.4.1.)

- March 24 (Thu): Water level for Linac increased.
  - 10 cm deep water in Linac tunnel was detected.
  - Water utility became available for office. No air conditions for the office yet.
- March 25 (Fri): Electricity started to recover.
  - Pumping water for Linac with motor-driven generator. Due that water is highly alkalescent (PH11), anti-alkali acid has to be prepared to dump water.
  - Electricity for central control room for PHS telephone connection succeeded.
  - Explanation to MEXT. Also, proposed the 1st suppl. budget.
- March 28 (Mon): Electricity recovery accelerated.
  - All the water was removed from Linac. Lights on for MR, Neutrino, Hadron and MLF.

Status for Linac on March 24.

Crack observed on March 28 after pumping water.

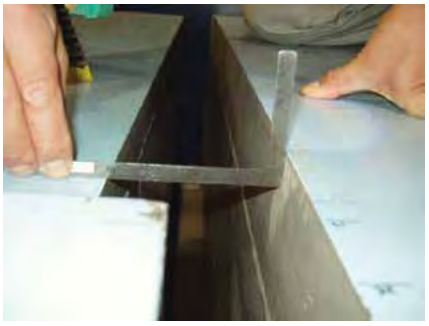
Status #3 (2011.4.1.)

- March 28 (Mon): Inspection for MR, Neutrino and Hadron initiated.
  - Lights for MR, Neutrino and Hadron were recovered using the main transformer.
- March 29 (Tue):
  - Water for MR, neutrino and hadron came from cracks at walls inside MR tunnel. The PH is 8, so that no acids are needed. From 3/29 the full pumping started.
  - Linac and 3 GeV: Using still motor-driven generators for electricity.
- March 31 (Thu): J-PARC Center Meeting
  - RCS (3 GeV), a big worry is a sharply bent electric wires (shown below).
  - Neutron Source: Shielding walls were displaced significantly (see, next page).

Sharply bent electric wires.

Normal wires.

Status #4 (2011.4.1.)



Displacement of shielding wall in MLF.

The 2nd Hall: BL20 Area (upper)

The 1st Hall: BL04 Area (left)

Remote maintenance guide cell for Neutrino Horn.
Very dangerous situation.

Status #5 (2011.4.1.)

After lights are on, healthy looking areas.
Detailed check will be performed soon.

1) 3 GeV Main Ring (upper left).
2) Beam line from switch yard to Hadron Hall (upper right).
3) Superconducting primary beam line for Neutrino (left).

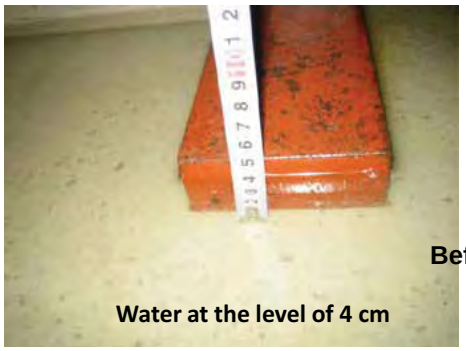
Status #6 (2011.4.1.)

- April 1 (Fri):
  - Pumping water continued. Next stage are 1) vacuum and 2) reduction of humidity.
  - Electric power for half a year = 14MW. Can increase to the normal at any time.
  - Setting of GPS for all the elements has to be arranged.
  - Over a few 1000 tons of shielding walls have to be removed for Hadron and MLF.
  - So far, no fatal damages for accelerators were found, though detailed checks are needed. Linac: the following damages were discovered.

Ceramic Vacuum Current Transformers located between the cavities (upper and upper right). Over 20 of them were destroyed.
Sharply bent joint bellows (right).

Status #7 (2011.4.1.)

- April 1 (Fri): (continued)
  - Results of pumping water for Neutrino and Hadron (below), No water for 3 GeV.



On-Site Neutrino Detector

Before **After**

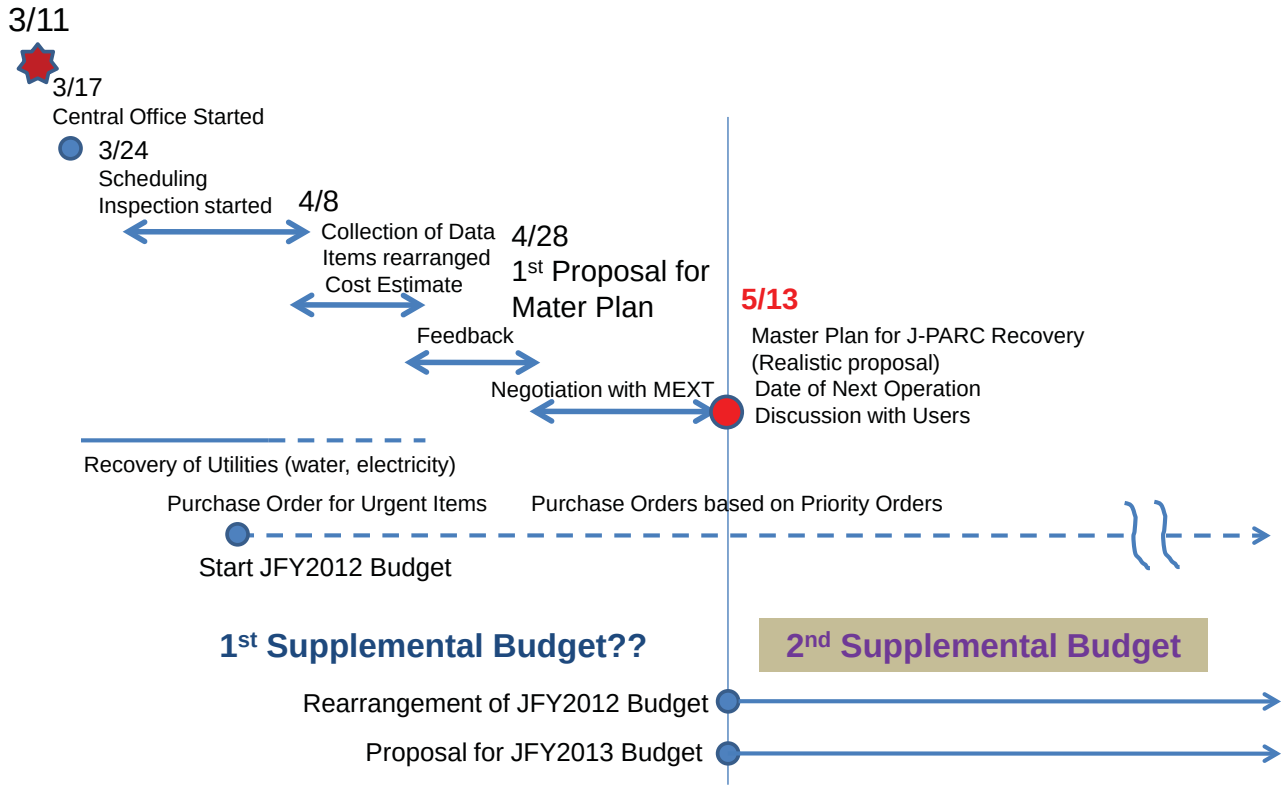
Hadron Switch Yard

Before **After**

2011.3.24.
2011.4.1.(revised)

Recovery Plan for J-PARC（proposed）

J-PARC Center



Photos primarily on 2011.3.17

2011.3.17.

Entrance for Linac

About 1.5 m drop as seen above, over a wide area.
Electric wires and water pipes were all damaged.

3

2011.3.17.

Electric Wiring Room

Cable Rack (upper) and many bundles were scattered
on the floor below the cable rack (lower).

6

2011.3.24.

Linac Tunnel as of March 24

On March 17 the water level was only 1 cm, whereas it was 10 cm on March 24. With motor driven electric generator a pumping started on March 25.

2011.3.17.

3 GeV Electric Device

Leaning is observed as shown in the figure.

2011.3.17.

Road around 3 GeV

Wavy road. Bump in the middle means that beam pipe is underneath it. Both sides of the bump were sinking.

11

2011.3.17.

Materials and Science Area (MLF) (1)

Sinking caused a sharp bend in the piping system though the building (upper).
Helium tank is leaning toward left (right). Front is nitrogen tank.

22

2011.3.17.

Materials and Science Area (MLF) (2)

West side road from MLF. About 1.5 m sinking was observed.

23

2011.3.17.

Materials and Science Area (MLF) (3)

Many pipes were disconnected (upper).

South side toward west. (right)

24

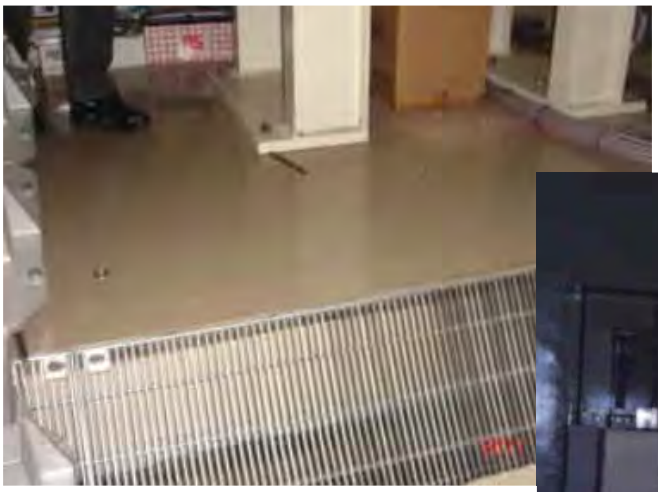
2011.3.17.

MLF West-side Added Building

30 cm dropped for the west-side added building (left). BL18,BL19 and BL20 were damaged. Vertical parallel lines are now leaning toward the left (right).

2011.3.17.

MLF East-side Added Building



30 cm dropped for the east-side added building (left). BL08 and BL09 were damaged. For BL08 all mirrors for the optical guide were broken (right).

2011.3.17.

Neutrino: Beam Dump Area

South side (viewed from upstream to downstream)

32

2011.3.17.

Tsunami on the near-by River

The river at a normal time (left) and the river when Tsunami came (right).
At J-PARC the level of Tsunami was about 3 meters,
while the level for the nearby areas was about 5 meters.
(This is consistent with the previous study for the 17th century Tsunami.
In this case, the estimate was also by 2 meters lower at our site
as compared with other adjacent areas.)

42

Status Report

April 22, 2011

Prof. S. Nagamiya
(Director, J-PARC Center)

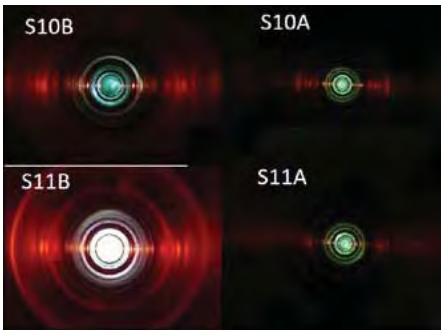
Status after April 4th (Linac #1)

Investigation for the interior of cavity

- Setting camera to measure interior
- In so far, no serious problems were found

← Measurement

Camera view →



Damage for Monitors

- About 15 current monitors had problems.

Examination of all monitors is not a trivial task. Removal together with quadruple magnet.

Status after April 4th (Linac #2)

- Temporarily installed dryer (Humidity still 70% because of water leak from the floor).

- Vacuum pumps with waters were tested and installed

Vacuum pumps after inspection →

← Pumps with waters inside.

bolts that were dropped.

- Many bolts were dropped from the crane at the top.

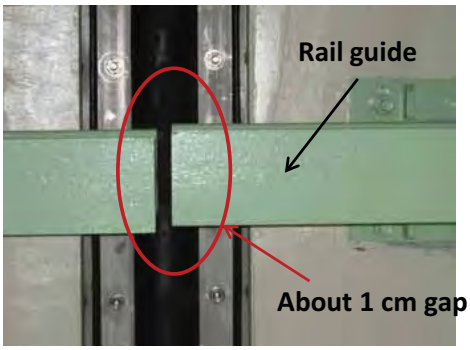
→

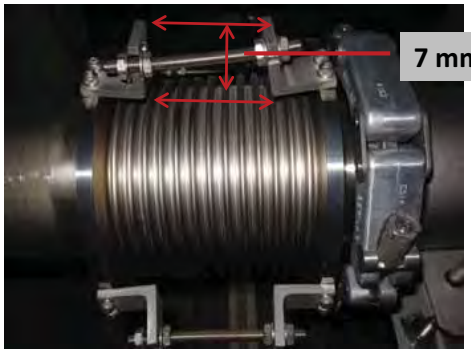
- If this problem remains, the recovery work will be delayed.

Cracks seen on the neck position for the crane →

Status after April 4th (RCS #1)

Main tunnel and sub tunnel at RCS (no serious damage).



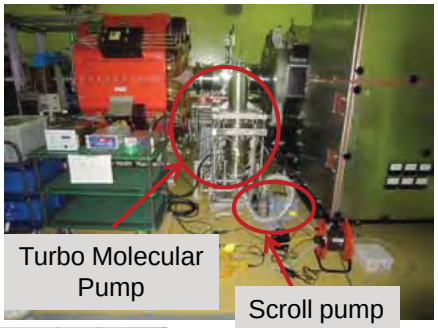


Connection point between RCS and Linac (about 1 cm gap).

Status after April 4th (RCS #2)

- Vacuum test started.
- Impedance measurements.
- Vacuum tube test started.

In so far, no serious problems were found.



↑Examination of Cable Racks

Drain work initiated →

To open the door, some hard work had to be done, like above.

Status after April 4th (Main Ring)

Magnets

- No serious damage.
- Slight movement as seen below.

↑ supporting plate with slight movement.

RF

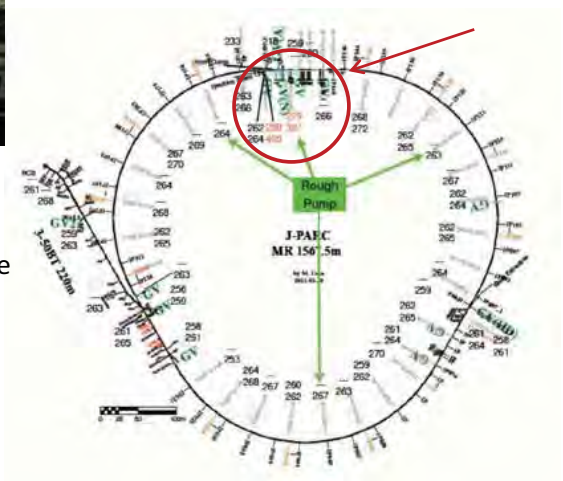
- Humidity level was decreased. Stated to measure RF impedance.
- Impedance level was decreased. Will examine in more details.

Power, Cooling Walter, Buildings

- Walter pumping completed. Currently more humidity control.
- High voltage supplies: Need substantial effort.
- Cooling water will be available in May.

Vacuum

- At the fast extraction there was a small leakage of vacuum in the septum magnets (〜1E-12).
- Using ion pump we continue to study it.
- No other vacuum leakages.



Examination for Monitors

- All BPM monitors were examined.
- 60% of loss monitors were examined.

Alignment and Measurements

① Linac
- Inclined toward west direction.
- in the middle, the maximum inclination is about 3 mrad.
- Floor in the middle was approximately 4 cm smooth drop.
- Using laser tracker, we measure again.

② RCS (3 GeV Synchrotron)
- Measurement was done using floor gauge.
- RCS floor is inclined toward the center of the RF (the maximum of 0.3mm/m)
- From extraction point to RF area, the is slight drop.

③ MR (50 GeV Synchrotron)
- Using MAR096 point as a standard zero, measurements were performed.
- There is a tendency that inclination toward the center of MR is observed.
- Between SDA61 and QFX61 there is a crack. The maximum of 0.3 mm drop was observed.
- From injection to extraction, there is small drop.

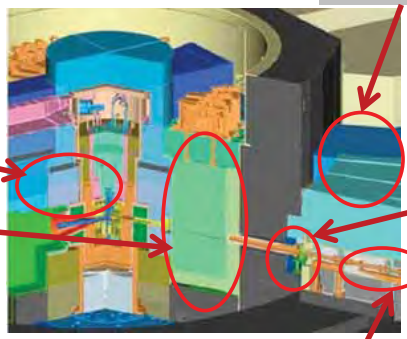
Status after April 4th (MLF #1)

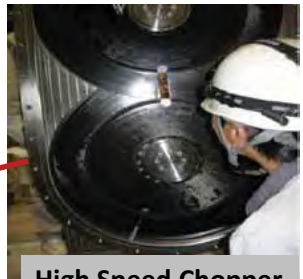
- Mercury Target: Movement of 30 cm. Confirmed after detailed examination.

- Shield walls were moved significantly.

Shield Wall

Neutron Source





High Speed Chopper

- This part is healthy.

Neutron Shutter

- Vacuum leakage is observed.
- Bolts were either removed or unfastened.

Muon Facility

- Vacuum system is OK
- Small damage for cables.

Beam Line Alignment

- Partially destroyed but recoverable.

Status after April 4th (MLF #2)

↑ Started to work for Shield wall. →

↑ Disk chopper was examined.

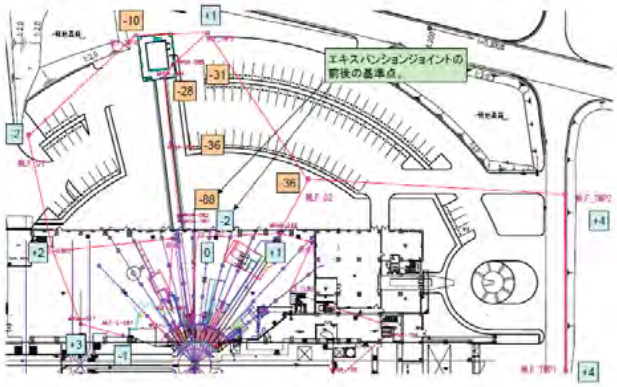
↑ Removal of Pb shield wall.

← Guide Mirrors.

BL-08: Guide Mirrors were partially damaged, in particular, near the joint region between buildings.

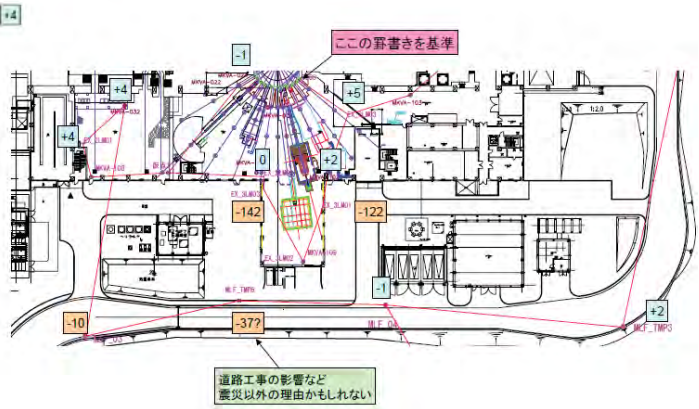
Extended Buildings for MLF

The First Experimental Hall



- For an extended part, like BL-08 a large gap is observed vertically. At this joint position about 9 cm drop is observed and the guide mirrors were damaged.

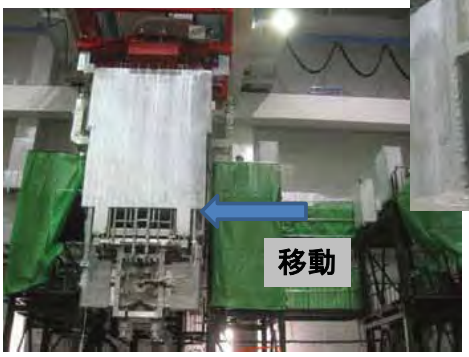
The Second Experimental Hall



- A large drop (say , BL-19) for about 14 cm for the extended part.
- Discussion on how to repair the entire extended halls.

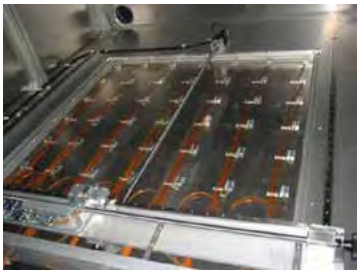
Status after April 4th (Neutrino)

・Reasonably healthy.
・Humidity is now decreased.



With crane many elements are now returned back to normal.

Superconducting beam line.
Will return to normal temperature and test it.



Muon monitor looks OK.

Status after April 4th (Hadron)

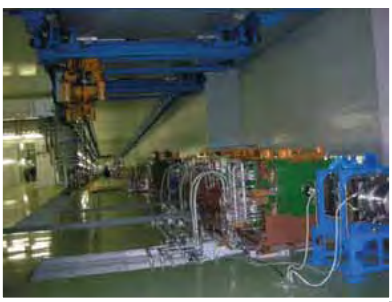
・Cooling water has significant problem.

← Entrance for the Hall. About 1 m gap.

↑ Disconnected pipes
Distortion of bellows →

・Experimental Halls are reasonably OK.

・No serious leakage for vacuum.



← Switch Yard

Beam dump area.

Slight displacement is observed for experimental apparatus.

Crack observed on the floor. Water leakage is observed.

Alignment Work

・For the entire J-PARC
① Measurement of GPS
② Standard point
③ Detailed measurement with Laser trackers
All measurements will be completed by the summer.

・After that, further detailed measurement will be planned.

GPS Measurement

Electric Power and Cooling Water

・Electric Power: Except 3 GeV powers are now recovered (some Linac is not yet available.).
・Cooling Water: Not yet available for the entire facilities.

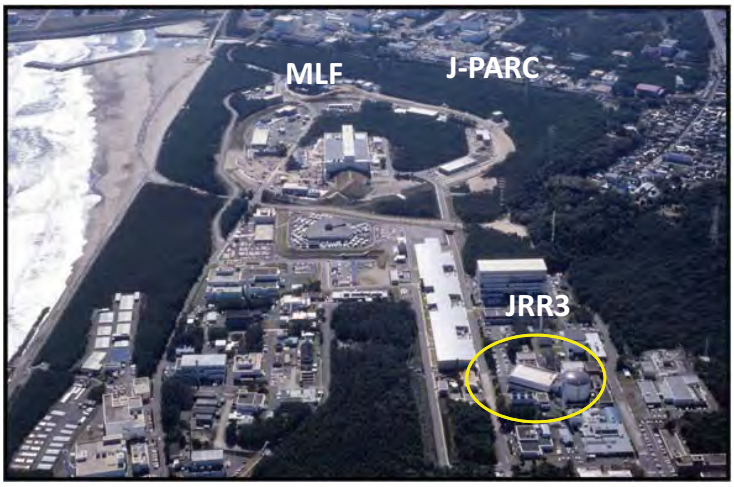
Future Plans

・For MR, Neutrino and Hadron: We try to complete the job by October. Due to the delay of electric power for Linac and 3 GeV, we aim at starting beam tuning by December.
・Within JFY2011 we set a goal to have 2 cycle operation for users.
・Based on this, both KEK and JAEA submitted the supplemental budget on April 22.
・Scheduling, in particular, for construction and repairs for buildings and roads are currently being negotiated both within JAEA and KEK.

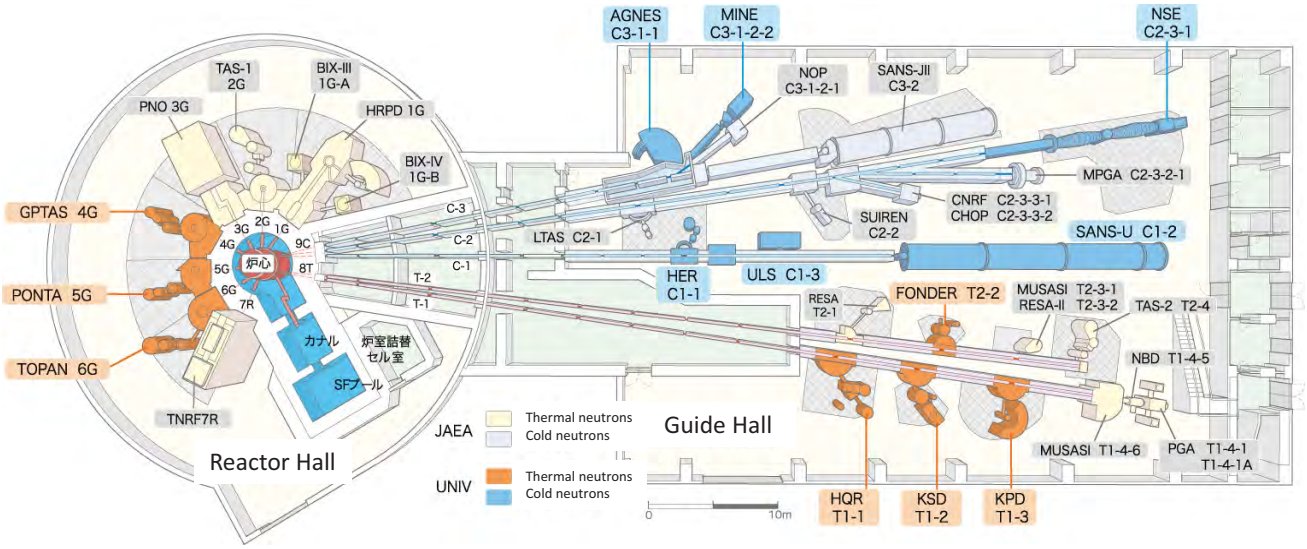
Facility Report: JRR-3

Mitsuhiro SHIBAYAMA
Institute for Solid State Physics, The University of Tokyo,
Tokai, Ibaraki, Japan

With Prof. Kazu Kakurai, JAEA



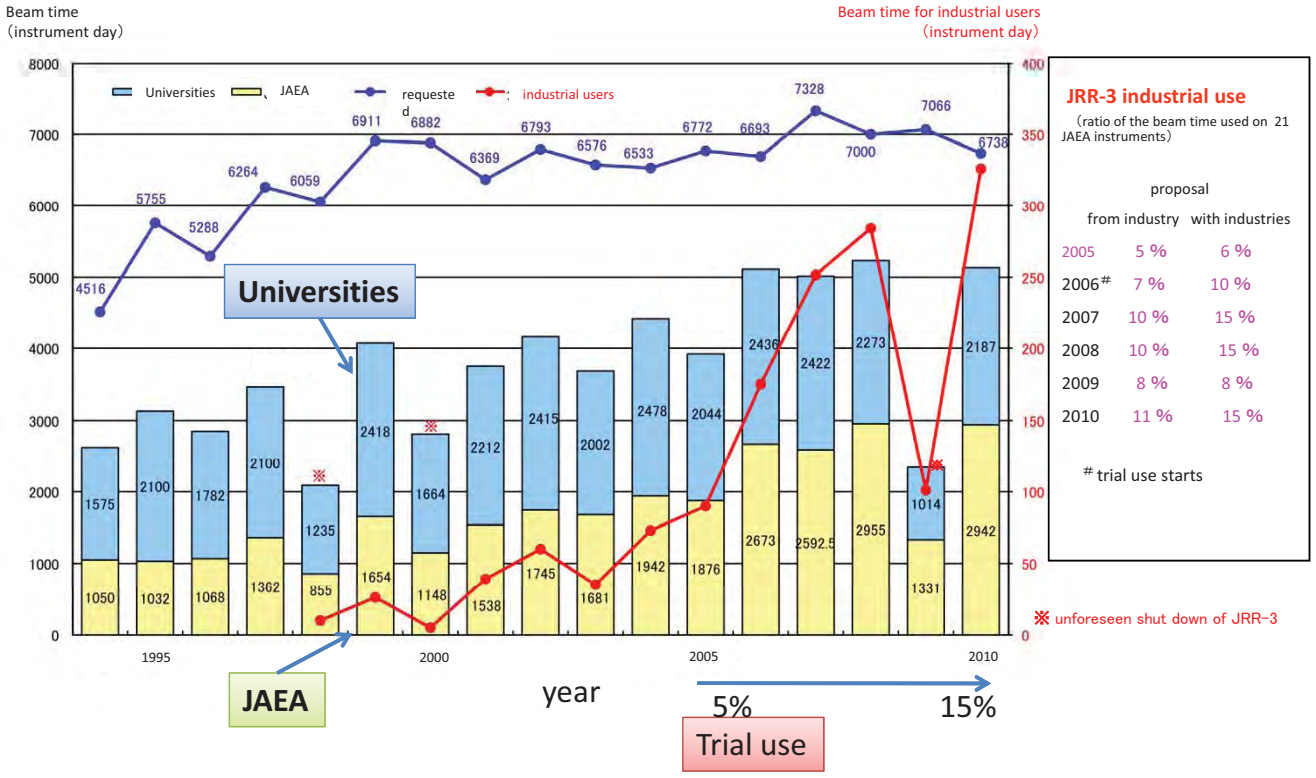
J R R - 3 Neutron Beam Lines and Instruments

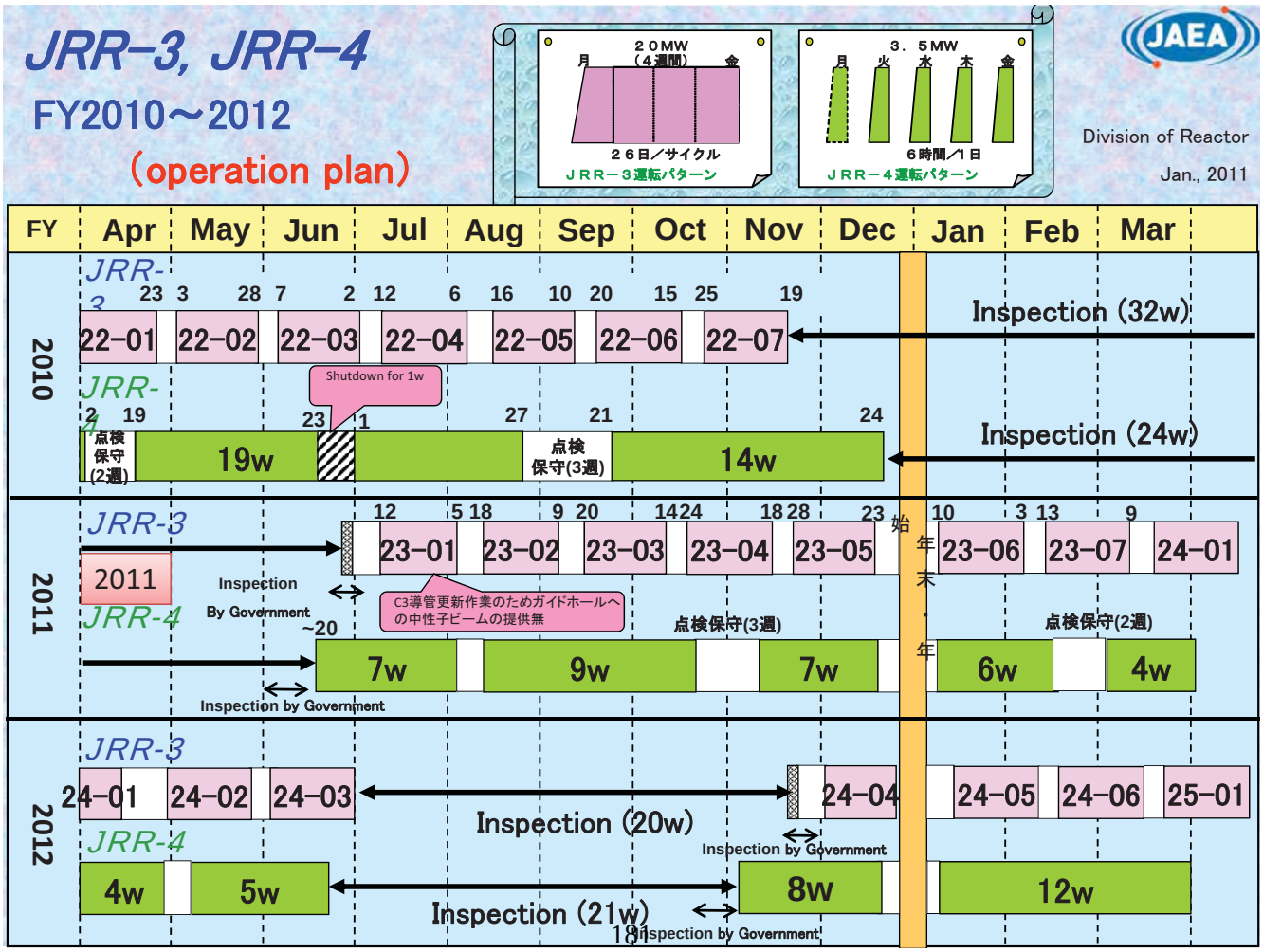


Neutron Beam Instruments

- Diffractometer and Spectrometer : 28 (Universities 13 + JAEA 15)
- Radiography : 2 (JAEA)
- Prompt gamma analysis : 2 (JAEA)

JRR-3 Neutron Beam Time





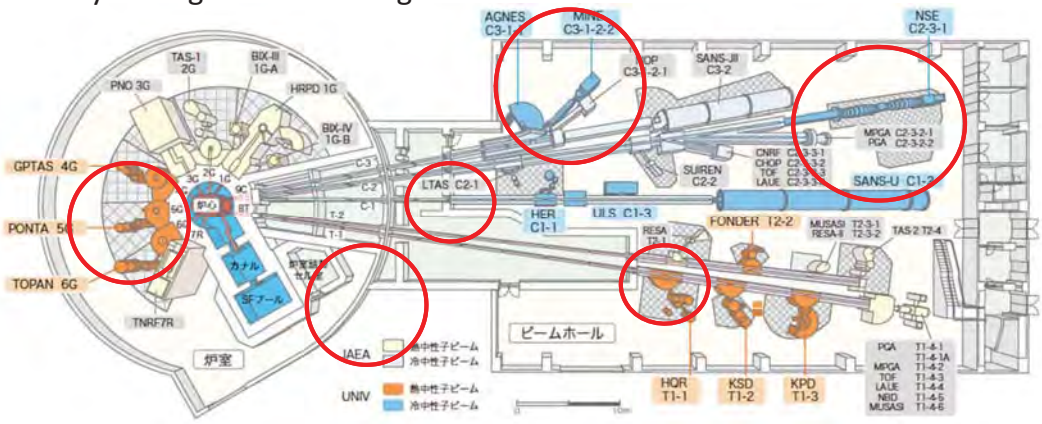
Damage Report: JRR-3

East-Japan Earthquake Disaster (M9.0; 2011/3/11, 14:46)

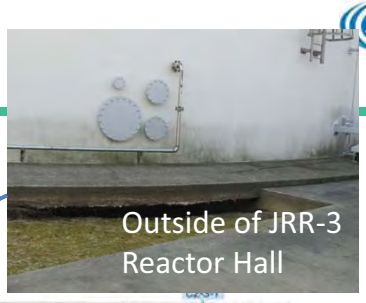
(1) Due to lack of ventilation and electric power, damage survey has not been carried out yet. **Recovery of ventilation (May 12-), electric power (May 16 -)**

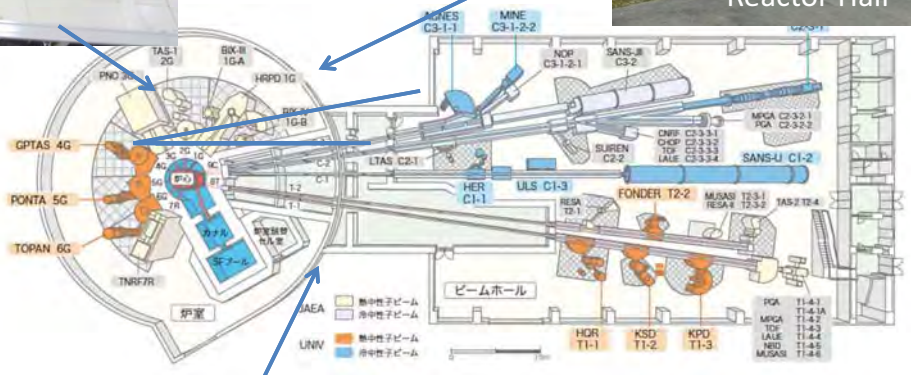
(2) However, the instruments in both JRR-3 reactor hall and Beam Hall do not seem to be seriously damaged.

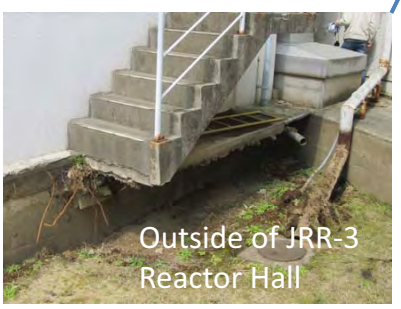
(3) Some area outside of the outside of Reactor Hall and Guide Hall caved in up to 1m. The level of the two buildings mismatches by a few cm, which may damage the neutron guide.



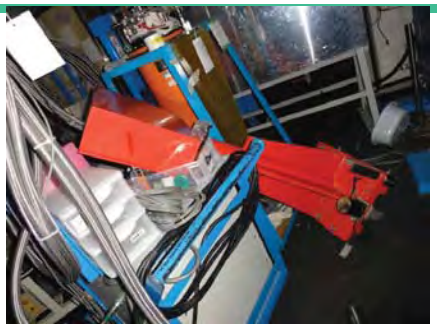
JRR-3







Reactor Hall

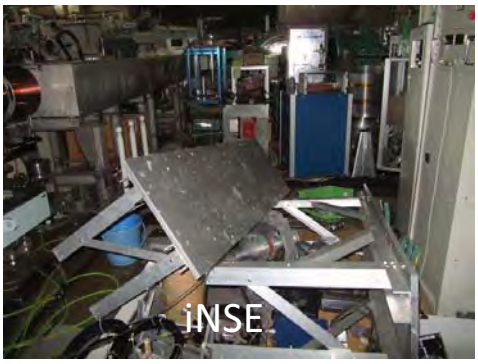


5G

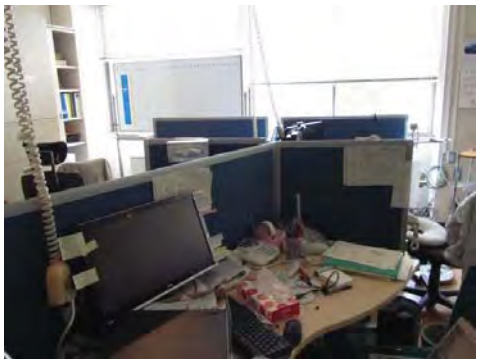
Sample storage
@half story

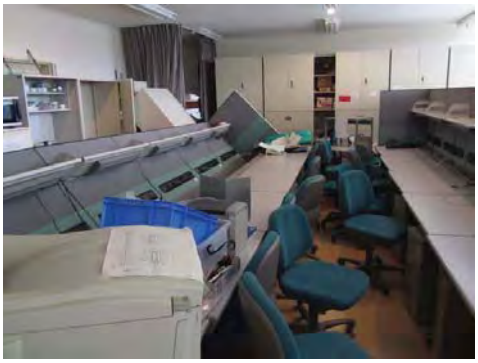
Guide Hall

Guide Hall

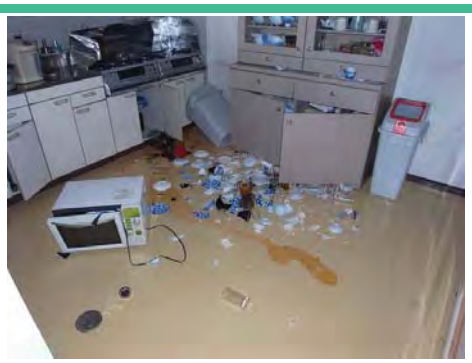


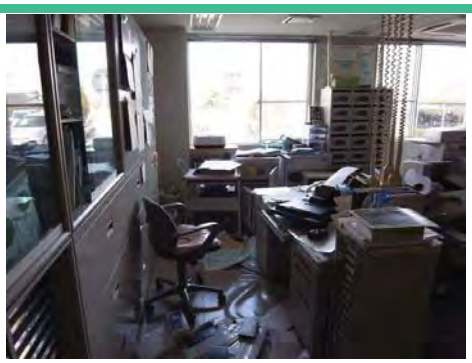
Users Office (ISSP)



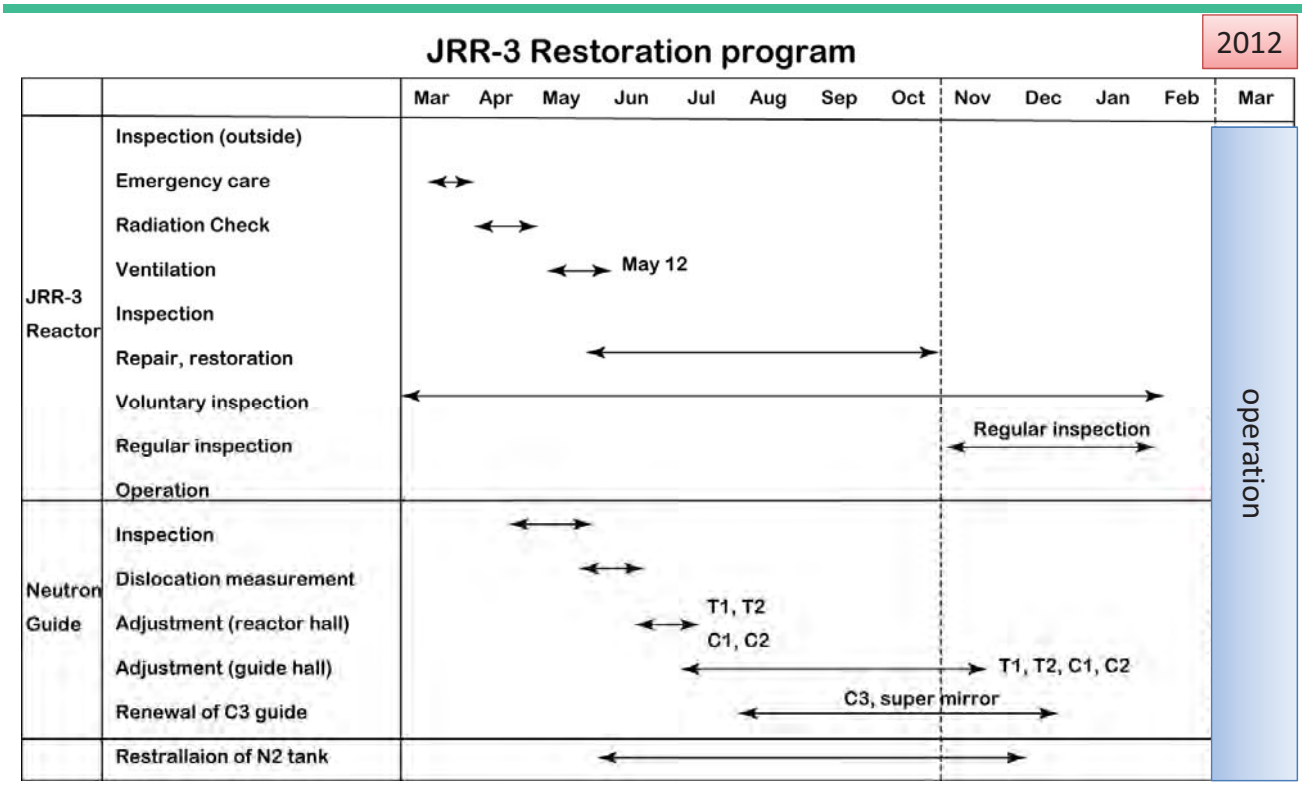


Lodge, Administration Office





JRR-3 Restoration program



Proposals sent to overseas

Kazu Kakurai and Mitsu Shibayama are in charge of reactor-based Neutron scattering experiments.

ANSTO:
5 proposals to powder diffraction (ECHIDNA)

HANARO:
4 SANS proposals (4 JAEA and 1 ISSP) to 18m and 40m SANS, HANARO
1 four-axis diffractometer

We recommend the users apply facilities overseas.

Note
ISSP: 246 proposals for FY2011 were cancelled.
JAEA: about a half number of proposals for FY2011a are also cancelled.