

11th International Symposium on REACTOR DOSIMETRY



Programme & Book of Abstracts

Hotel Metropole Brussels, Belgium, August 18-23, 2002

Hosted by SCK•CEN
The Belgian Nuclear Research Centre

INTRODUCTION AND WELCOME

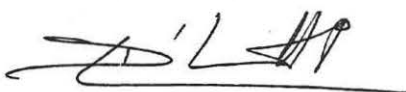
Dear Colleagues,

The International Symposium on Reactor Dosimetry is held every two or three year. The first Symposium was held in 1975 at the Joint Research Centre in Petten, The Netherlands. This year we will have the 11th edition of the symposium, ISRD'2002, in Brussels, Belgium. SCK•CEN is honoured to host this symposium as a recognition of its continuous contribution towards the reactor dosimetry community. I think this community has established a really good tradition in organizing this symposium. It gives each person who is interested in reactor dosimetry the opportunity to get acquainted with the latest technological and scientific developments in the field and to meet and discuss with reactor dosimetry experts from all over the world.

At ISRD'2002 about 110 papers will be presented. It is our aim to avoid parallel sessions, so everybody can attend the oral and poster presentations of all these 110 papers. Additionally 9 workshops are organized. These workshops intend to have more profound discussions on certain topics of interest to the reactor dosimetry community. For the workshops three sessions are scheduled, so there will be three parallel workshops during each session.

I am convinced that the programme of ISRD'2002 is attractive to you and I hope that you will enjoy both your stay in the splendid grandeur of the Hotel Metropole, located in the centre of the cosy city of Brussels, the heart of Belgium and Europe, well-known for its restaurants, pubs and terraces, food, beer and chocolates.

Sincerely Yours,



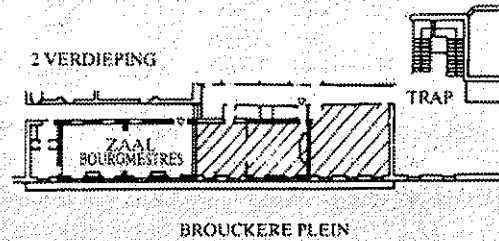
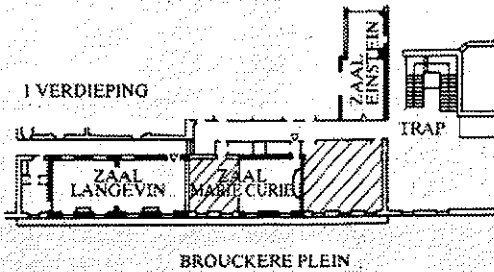
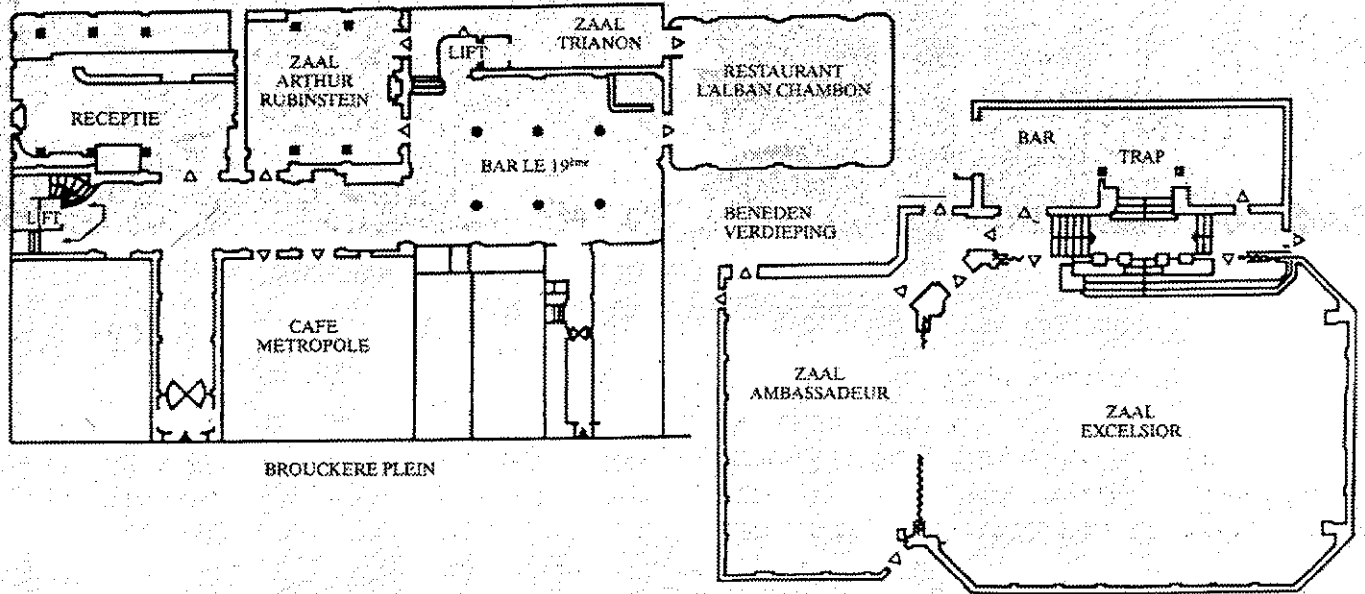
Pierre D'hondt
ISRD'2002 Symposium Chair

ISRD'2002 Time Table

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
8:00						
8:30		Registration				
9:00		Opening & Keynote session	Oral session 3 Expos. Param. of Irr. Mat.	Oral session 6 Dosim. for Adv. Syst.	Oral session 7 Calc. & Uncert. Anal.	Oral session 9 Bench. & Stand.
10:30		Break	Break	Break	Break	Break
10:50		Oral session 1 RSD I: PLIM	Oral session 4 Charact. Neut. & Gam. Environments	Workshop session II Rad. Dam. Corr. Adjust. Meth. & Uncert. (n,γ) Dosimetry	Poster session B	Workshop summaries
12:50		Lunch	Lunch	Free time	Lunch	Closing session
13:50		Poster session A	Oral session 5 Dev. in Meas. Tech.	Social event	Oral session 8 Nucl. Data	
15:50		Break	Break		Break	
16:10		Oral session 2 RSD II: Oper. Monit.	Workshop session I LWR Surv. Dosim. Dosim. for Adv. Syst. X-Sect. & Uncert.		Workshop session III Dosim. for Test React. Bench. & Intercomp. Retrospect. Dosim.	
18:00	Registration & Cocktail					
19:30				Conf. Dinner - End?		
20:00						



HOTEL METROPOLE – BRUSSEL



The symposium secretariat is located in meeting room Marie Curie.

The registration on Sunday evening (18:00-20:00) will take place in the hotel lobby.

ORGANISATION & SPONSORING

This symposium is organised by SCK·CEN on behalf of the EWGRD in co-operation with the EWGRD and ASTM.

The symposium is sponsored by :

- SCK·CEN, the Belgian Nuclear Research Center (Mol, Belgium)
- ASTM

and co-sponsored by :

- Atomic Energy Society of Japan (AESJ)
- US National Institute of Standards and Technology (NIST)
- American Nuclear Society (ANS)

This symposium is being organised in co-operation with the International Atomic Energy Agency (IAEA).

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 John G. Williams, (Univ. of Arizona, USA)

ISR'D'2002 GUEST PROGRAMME

Sunday, August 18th

6:00 to 8:00 p.m. Welcome Cocktail (partners are cordially invited)

Monday, August 19th

9:00 a.m. Coming together at Hotel Metropole ISR'D'2002 registration desk for information about Brussels.

9:30 a.m. Getting acquainted with Brussels : Visit to shopping areas (Rue Neuve (walking distance from the Metropole) and Woluwe Shopping Center (using subway)). Visit to some key places in Brussels (have a look to <http://www.bruxelles.irisnet.be/>)

Tuesday, August 20th

9:00 a.m. Visit to the city of Bruges. Registration fee of 25€ to be paid in advance (food and drink during this trip are not included).

Travel by train from Brussels-Central station (walking distance from Hotel Metropole). There is a train connection every 30 minutes and the travel lasts 55 minutes. A minimum of 10 participants is needed for maintaining this activity. The participants will be accompanied by 2 persons from the guest programme organizing committee. Departure around 09:30 a.m., start of the guided tour in Bruges at 2:00 p.m. and return to Hotel Metropole around 6:00 p.m.

Wednesday, August 21st

Outing of the conference for all registrants included in the conference fee (a 10 € fee is to be charged to the accompanying persons). We foresee a visit to the comic strip museum (at a walking distance from the Metropole Hotel). Meeting together in the Lobby of the Metropole Hotel at 2:00 p.m. Start of the guided visit in groups of 25 persons in parallel at 2:30 p.m.

We have selected the visit to the comic strip museum for two reasons :

- Comic strip is a Belgian speciality just like chocolate, beer, diamonds or MOX fuel.
- The comic strip museum building is a splendid Victor Horta building. Victor Horta is the pioneer of the "Art Nouveau" at the end of the 19th and beginning of the 20th century.

The visit will end around 5:00 p.m.

Conference dinner in the Metropole Hotel for all participants. Free of charge for the conference participants (included in the conference fee) whereas we will charge a fee of 40 € for the accompanying persons. A cocktail will be served at 7:30 p.m. and the dinner at 8:00 p.m. Please register your accompanying person the first day.

For the rest of the week nothing particular is organized but information will be provided in the conference package on chocolate and beer tours in and around Brussels.

11TH INTERNATIONAL SYMPOSIUM ON REACTOR DOSIMETRY

PROGRAMME

SUNDAY, AUGUST 18TH 2002

REGISTRATION (18:00–20:00 - LOBBY)

COCKTAIL (18:00-20:00 - RUBINSTEIN)

MONDAY, AUGUST 19TH 2002

WELCOME ADDRESS (9:00-9:10 - EXCELSIOR)

P. Govaerts, General Manager SCK•CEN, Mol, Belgium

INTRODUCTION TO ISRD'2002 (9:10-9:15 - EXCELSIOR)

P. D'hondt, SCK•CEN, Mol, Belgium, ISRD'2002 Symposium Chair

KEYNOTE SESSION (9:15-10:30 - EXCELSIOR)

Chairs P. D'hondt, D. Vehar

Next generation reactors: new challenges for reactor dosimetry?

H. Ait Abderrahim, SCK•CEN, Belgium

The evolving role of reactor dosimetry in the commercial nuclear industry.

S.L. Anderson, Westinghouse, USA

BREAK (10:30-10:50 – BAR EXCELSIOR)

ORAL SESSION 1 : REACTOR SURVEILLANCE

DOSIMETRY I : PLIM (10:50-12:50 – EXCELSIOR)

Chairs S. Zaritsky, J. Adams

Assessment of irradiation conditions in WWER-440(213) RPV surveillance location

A. Ballesteros, L. Andersen, Tecnatom S.A., Spain

L. Debarberis, F. Sevini, JRC, Petten, The Netherlands

D. Erak, A. Kryukov, Y. Shtrombakh, RRC KI, Russia

S. Goloschapov, A. Ionov, Y. Pytkin, Kola NPP, Russia

Y. Anikeev, G. Banyuk, A. Plusch, OKB Hidrogress, Russia

F. Gillemot, KFKI, Hungaria

A. Hovsepyan, ARMATOM, Armenia

VVER pressure vessel neutron dosimetry and lifetime prediction in aspect of licensing activity

S.A. Adamchik, V.A. Grivizirsky, B.G. Gordon, N.N. Khrennikov, G. Borodkin, GOSATOMNADZOR, Russia

Post-annealing ex-vessel dosimetry at Loviisa 1 - an international exercise

T. Serén, VTT, Finland

J. Hogel, SKODA, Czech Republic

W.P. Voorbraak, NRG, The Netherlands

Tracking the Neutron Exposure of Pressurized Water Reactor (PWR) Pressure Vessels During the License Renewal Period

S. L. Anderson, A. H. Fero, G. K. Roberts, Westinghouse, USA

Retrospective Reactor Dosimetry for Neutron Fluence, Helium, and Boron Measurements

L.R. Greenwood, B.M. Oliver, PNNL, USA

LUNCH (12:50-13:50 – RUBINSTEIN)

POSTER SESSION A (13:50-15:50 – AMBASSADEUR)

Chairs K. van der Meer, A. Hawari

PA.01: Optimum strategy for ex-core dosimeters/monitors in the IRIS reactor

B. Petrović, F. H. Ruddy, Westinghouse, USA

C. Lombardi, Politecnico di Milano, Italy

PA.02: Evaluation of Boiling Water Reactor Dosimetry Results

E. P. Lippincott, Consultant, USA

M. P. Manahan, Sr., MPM Technologies, USA

PA.03: Three Dimensional Radiation Transport Analysis in PWR with TORT and MCNP

K. Fukuya, H. Nakata, I. Kimura, Institute of Nuclear Safety System, Inc., Japan

H. Kitagawa, M. Omura, Mitsubishi Heavy Industry, Ltd., Japan

T. Ito, K. Shin, Kyoto Univ., Japan

PA.04: Benchmark Validation of TORT code using KKM Measurement and its application to 500/800 MWe BWR

K. Hayashi, T. Tsukiyama, Hitachi Engineering, Japan

M. Kurosawa, Y. Hayashida, Toshiba Corporation, Japan

K. Asano, K. Koyabu, TEPCO, Japan

PA.05: Basis for Vessel Flux Reduction at Atucha I

A. F. Albornoz, M. Caro and H. Blaumann, CONEA-CAB, Argentina

PA.06: WWER reactor pressure vessel lifetime management by changing of radiation load of the reactor vessel

S.S. Lomakin, GOSATOMNADZOR, Russia

PA.07: Radiation Dosimetry of the Pressure Vessel Internals of the High Flux Beam Reactor

N. E. Holden, R. N. Reciniello, J-P. Hu, D. C. Rorer, BNL, USA

PA.08: NPRIM Computer Code for Radiation Damage Calculation

S. Shimakawa, JAERI and Univ. of Tokyo, Japan

N. Sekimura, Univ. of Tokyo, Japan

N. Nojiri, JAERI, Japan

PA.09: PKA energy spectrum analysis of iron and tungsten irradiated by high energy protons

T. Yoshiie, Y. Satoh, Kyoto Univ., Japan

M. Kawai, KEK Oho, Japan

PA.10: Radiation Embrittlement Prediction Models and The Impact of Irradiation Temperature

J.A. Wang, N.S. Rao, ORNL, USA

PA.11: Material aspects of plant life management in WWER reactor of the first generation

V.I.Tsofin, G.F.Banyuk, Yu.G.Dragunov, V.M.Komolov, OKB Gidropress, Russia

PA.12: Calculation study of the WWER decommissioning problem

O. Grudzevich, D. Klinov, Y. Kurachenko, INPE, Russia

S. Yavshits, Khlopin Radium Institute, Russia

PA.13: Calculation analyses of decommissioning benchmarks by discrete ordinates and Monte-Carlo techniques

O. Grudzevich, D. Klinov, Y. Kurachenko, INPE, Russia

S. Yavshits, Khlopin Radium Institute, Russia

PA.14: Calculated and Measured Thermal Neutron Flux at the BNCT Facility in HANARO

B. Chul Lee, M. Seop Kim, S. Jun Park, B. Jin Jun, KAERI, Korea

PA.15: The Irradiation Characteristics of the KUR Heavy Water Facility (II) -- Neutron and Gamma-ray Dose Measurement by a Twin-chamber

Y. Sakurai, T. Kobayashi, Kyoto Univ., Japan

PA.16: Characteristics of neutron fields for radiation protection and other applications at the Kinki University Reactor

Y. Ogawa, T. Fujiwara, H. Morishima, Kinki Univ., Japan

I. Urabe, H. Sagawa, Fukuyama Univ., Japan

PA.17: Characterization of the Neutron Field in the HSSI/UCSB Irradiation Facility at the Ford Nuclear Reactor

I. Remec, C.A. Baldwin, E.D. Blakeman, ORNL, USA

PA.18: Measurement and Analysis of Low-Energy Photon Components in the New Sandia GIF

D. W. Vehar, P. J. Griffin, K. R. DePriest, Sandia NL, USA

M. H. Sparks, W. W. Sallee, STEWS, USA

- PA.19: Calculation-experimental evaluation of gamma-fields and radiation energy release in the irradiation channels of the RBT-6 reactor
V.Sh. Sulaberidze, M.Yu. Tihonchev, Yu.V. Chernobrovkin, G.A. Shimansky, RIAR, Russia
- PA.20: Mixed-field dosimetry of a fast neutron beam at the Portuguese Research Reactor for irradiation of electronic circuits - measurements and calculations
A. C. Fernandes, I. C. Gonçalves, J. Santos, ITN, Portugal
- PA.21: Technique and general results of the radiation heating measurements in the IVV-2M research reactor
S. Zlokazov, Research and Development Institute of Power Engineering, Russia
- PA.22: Development of Helium Accumulation Fluence Monitor for Fast Reactor Dosimetry
C. Ito, T. Sekine, T. Aoyama, JNC Development Institute, Japan
- PA.23: Use of Solid State Track Recorders and Neutron Transport Calculations to Characterize the Actinide Contents of a High-Level Waste Tank
*A.H. Fero, F.H. Ruddy, Westinghouse, USA
J. Fazio, West Valley Nuclear Services Company, USA*
- PA.24: Summation Corrections for HPGe Detectors
*M.H. Sparks, W.W. Sallee, T.M. Flanders, STEWS, USA
P.J. Griffin, D.W. Vehar, Sandia NL, USA
W.L. Sparks, Private consultant, USA*
- PA.25: Neutron Energy Spectra in the Vicinity of a Nuclear Reactor Measured with a Liquid Scintillation Detector with Bismuth Shield
*I. Urabe, H. Sagawa, Fukuyama Univ., Japan
Y. Ogawa, Kinki Univ., Japan
K. Kobayashi, Kyoto Univ., Japan*
- PA.26: Optimization studies of a fibre optic neutron sensor based on a neutron to proton conversion mechanism
B. Brichard, N. Messaoudi, Th. Aoust, SCK•CEN, Belgium
- PA.27: The application of long ESR sensor rods for neutron and gamma dosimetry of the "weak" in-reactor irradiation of the HTGR fuel
A.F. Usaty, G.V. Momot, V.B. Kaynov, RRC KI, Russia
- PA.28: Is the Co/Ag method for the simultaneous determination of the thermal and epithermal neutron flux reliable?
K. van der Meer, C. Delveau, B. Kriener, SCK•CEN, Belgium
- PA.29: Multiparameter multichannel analyser system for characterisation of mixed neutron-gamma field in the experimental reactor LR-0
Z. Bureš, J. Cvachovec, F. Cvachovec, P. Čeleda, B. Ošmera, NRI, Czech Republic
- PA.30: Towards reactor dosimetry with MOSFET devices
*C. Benson, M. J. Joyce, Lancaster Univ., UK
A. Mathewson, National Microelectronics Research Centre, Cork Ireland
J. Silvie, BAE SYSTEMS, UK*

PA.31: Dosimetry Plan at the First Irradiation Test in the HTTR*T. Shibata, T. Kikuchi, S. Shimakawa, JAERI, Japan*PA.32: Self-powered neutron detector qualification for absolute on-line in-pile neutron flux measurements in BR2*L. Vermeeren, M. Wéber, SCK•CEN, Belgium*PA.33: Features of neutron dosimetry in the "KORPUS" facility of the RBT-6 reactor*A.I. Tellin, V.V. Lichadeev, D.K. Ryazanov, M.Yu. Tikhonchev, G. A. Shimansky, H.E. Lebedeva, RIAR, Russia*PA.34: Neutron dosimetry of material science experiments in the fast reactor BOR-60*A.I. Tellin, V.V. Lichadeev, D.K. Ryazanov, G. A. Shimansky, RIAR, Russia*PA.35: Neutron spectra measurements at the KORPUS facility*A.I. Tellin, V.V. Lichadeev, D.K. Ryazanov, M.Yu. Tikhonchev, RIAR, Russia
T. O. Serén, VTT, Finland*PA.36: Determination of Baffle Bolt Operating Parameters*A.H. Fero, D.R. Forsyth, Westinghouse, USA***BREAK (15:50-16:10 – BAR EXCELSIOR)****ORAL SESSION 2 : REACTOR SURVEILLANCE
DOSIMETRY II : OPERATIONAL MONITORING
(16:10-18:00 – EXCELSIOR)**

Chairs A. Ballesteros, S.L. Anderson

MCNP-Based Methodology to Compute Helium Production in BWR Shrouds

*S. Sitaraman, R-T. Chiang, GE Nuclear Energy, USA**B. M. Oliver, PNNL, USA*

Neutron fluence determination in EdF surveillance programme for VVER-440 nuclear power plants

*M. Brumovsky, O. Erben, L. Zerola, NRI, Czech Republic**J. Hogel, SKODA, Czech Republic**J-P. Massoud, C. Trollat, EdF, France*

Dosimetry of the experimental surveillance assemblies of WWER-1000 Balakovo unit 1

*S.M. Zaritsky, E.B. Brodtkin, A.L. Egorov, V.I. Vikhrov, D.Yu. Erak, A.V. Borodin, V.N. Kochkin, RRC KI, Russia**H. Ait Abderrahim, K. van der Meer, SCK•CEN, Belgium**R. Gerard, BELGATOM, Belgium*

Dosimetry of surveillance specimens and WWER-1000 reactor pressure vessel at the NPPs of Ukraine

V.N. Bukanov, E.G. Vasylyeva, V.L. Dyemokhin, O.V. Grytsenko, INR, Ukraine

TUESDAY, AUGUST 20TH 2002**ORAL SESSION 3 : EXPOSURE PARAMETERS OF IRRADIATED MATERIALS (8:30-10:30 – EXCELSIOR)**

Chairs A. Alberman, J. Stubbins

A decade of dosimetry for MAGNOX reactors

T.A. Lewis et al., BNFL, UK

Irradiation Growth in Zirconium at Low Temperatures by Displacement Cascade Anisotropy

*A.T. Motta, The Penn State Univ., USA**R.A. Holt, AECL, Canada**U. Colak, Hacettepe Univ., Turkey*

Neutron and gamma fluence and radiation damage parameters of ex-core components of Russian and German light water reactors

*B. Böhmer, H. Kumpf, FZR, Germany**G. Borodkin, GOSATOMNADZOR, Russia**E. Polke, FRAMATOME-ANP, Germany**P. Vladimirov, FZK, Germany*

Calculation of activations in PWR structures

*R. de Wouters, A. Quoidbach, Ph. Beguin, Tractebel EE, Belgium**P. Havard, Electrabel, Belgium*

Reaction rate measurements across the pressure vessel of CHOOZ-A using self-dosimetry technique

*D. Beretz, CEA Cadarache, France**A. Baché, EdF, France***BREAK (10:30-10:50 – BAR EXCELSIOR)****ORAL SESSION 4 : CHARACTERIZATION OF NEUTRON AND GAMMA RAY ENVIRONMENTS (10:50-12:50 – EXCELSIOR)**

Chairs H. Ait Abderrahim, D.M. Gilliam

Optimization of the Epi-Thermal Neutron Beam used for Boron Neutron Capture Therapy at the Brookhaven Medical Research Reactor

J-P. Hu, D.C. Rorer, R.N. Reciniello, N.E. Holden, BNL, USA

Characterization of ACRR Reference Benchmark Field

P.J. Griffin, S.M. Luker, P.J. Cooper, D.W. Vehar, C.V. Holm, Sandia NL, USA

Measurement and calculation of gamma and neutron fluence spectra in iron-water benchmark configurations

*B. Boehmer, K. Noack, J. Konheiser, I. Stephan, FZR, Germany**M. Grantz, H-C. Mehner, Hochschule Zittau, Germany**W. Hansen, D. Hinke, S. Unholzer, R. Schneider, Technische Universität Dresden, Germany*

Improved modelling of the Portuguese Research Reactor and validation with dosimetry measurements

A. C. Fernandes, J. Santos, I. C. Gonçalves, ITN, Portugal

Characterization of a Thermal Neutron Field at the Heavy Water Neutron Irradiation Facility of the Kyoto University Reactor

A. Uritani, N. Takeda, S. Koshikawa, K. Kudo, National Institute of Advanced Industrial Science and Technology, Japan

K. Kobayashi, T. Yoshimoto, Y. Sakurai, T. Kobayashi, Kyoto Univ., Japan

LUNCH (12:50-13:50 – RUBINSTEIN)

ORAL SESSION 5 : DEVELOPMENTS IN MEASUREMENT TECHNIQUES (13:50-15:50 – EXCELSIOR)

Chairs B. Osmera, F. Ruddy

RETROSPEC: retrospective dosimetry based on extraction of Nb from RPV materials

W. Voorbraak, NRG, The Netherlands

K. van der Meer, M. Gysemans, SCK•CEN, Belgium

T. O. Serén, VTT, Finland

Fast Neutron Spectrometry Using Silicon Carbide Detectors

F.H. Ruddy, A.R. Dulloo, B. Petrović, J.G. Seidel, Westinghouse, USA

Experimental Study on Accelerator Driven Subcritical Reactor by Using Optical Fiber Detectors in the Kyoto University Critical Assembly (KUCA)

S. Shiroya, H. Unesaki, T. Ikeda, S. Nakano, M. Komeda, K. Miyoshi, C. Ichihara, H. Nakamura, K. Kobayashi and T. Misawa, Kyoto Univ., Japan

In-pile sub-miniature fission chambers testing in BR2

L. Vermeeren, M. Wéber, SCK•CEN, Belgium

Ch. Blandin, S. Breaud, A. Lebrun, J.P. Trapp, CEA/DEN/Cadarache, France

The BCR programme for certified reference materials for reactor neutron dosimetry

C. Ingelbrecht, IRMM, Belgium

BREAK (15:50-16:10 – BAR EXCELSIOR)

WORKSHOP SESSION I (16:10-18:00)

LWR Surveillance Dosimetry (Chairs J. Hogel, E.P. Lippincott) **(EXCELSIOR)**

Dosimetry for Fusion and High-Energy Applications (Chairs B. Brichard, M. James) **(LANGEVIN)**

Cross-section Files and Uncertainties (Chairs E. Zsolnay, P. Griffin) **(BOURGMESTRES)**

WEDNESDAY, AUGUST 21ST 2002**ORAL SESSION 6 : DOSIMETRY FOR IRRADIATION
EXPERIMENTS, FUSION AND ADVANCED SYSTEMS
(8:30-10:30 – EXCELSIOR)**

Chairs D. Beretz, K. Kobayashi

Characterization of Neutron Field in the Experimental Fast Reactor JOYO
*T. Aoyama, S. Maeda, T. Sekine, JNC Development Institute, Japan*Evaluation of the Shielding Characteristics Test around the Reactor Core in the
Prototype FBR Monju
*S. Usami, Z. Suzuoki, T. Deshimaru, F. Nakashima, JNC Development Institute,
Japan
T. Hikichi, Nuclear Energy System, Japan*Au and Mn reaction rate measurements for high-energy neutron code validation
for spallation sources
*K. van der Meer, H. Ait Abderrahim, S. Dekelver, F. Van Gestel, E. Malambu, J.
Oeyen, M. Willekens, SCK•CEN, Belgium
E.H. Lehmann, M. Daum, Y. Foucher, W. Hajdas, P. Linder, PSI, Switzerland
D. Bar, D. Berkovits, H-P. Mardor, D. Saphier, A. Shor, Y. Yariv and M.B.
Goldberg, Soreq NRC, Israël
J. Gerber, IreS, France*Dosimetry experiments on WWER-1000 Mock-up with model of irradiation rig of
Novo Voronezh unit 5 WWER-1000
*S.M. Zaritsky, E.B. Brodtkin, A.L. Egorov, D.Yu. Erak, V.L. Vikhrov, RRC KI,
Russia
N.V. Markina(†), D.K. Ryazanov, V.V. Lichadeev, A.I. Tellin, RIAR, Russia
S.S. Lomakin, GOSATOMNADZOR, Russia
E.I. Grigoriev, VINIIFTRI, Russia
B. Osmera, S. Posta, B. Jansky, E. Novak, NRI, Czech Republic
F. Cvachovec, P. Tiller, MA, Czech Republic*Application of MCNP for dosimetry calculations in the BR2 reactor
*B. Verboomen, SCK•CEN, Belgium***BREAK (10:30-10:50 – BAR EXCELSIOR)****WORKSHOP SESSION II (10:50-12:50)**Radiation Damage Correlations including Thermal and Low-energy Neutrons
(Chairs T.A. Lewis, S.L. Anderson) **(LANGEVIN)**
Adjustment Methods and Uncertainties (Chairs H. Nolthenius, J.J. Wagschal)
(EXCELSIOR)
Mixed-Field and Gamma-ray Dosimetry (Chairs A. Fernandes, D. Gilliam)
(BOURGMESTRES)

AFTERNOON: SOCIAL EVENT (13:50-17:00 - VISIT TO THE COMIC STRIP MUSEUM)

COCKTAIL (19:30-20:00 – BAR LE 19^{IÈME})

CONFERENCE DINNER (20:00-23:00 – RUBINSTEIN)

THURSDAY, AUGUST 22ND 2002

ORAL SESSION 7 : CALCULATIONS AND UNCERTAINTY ANALYSIS (8:30-10:30 – EXCELSIOR)

Chairs B. Böhmer, E.P. Lippincott

Three Stage Adjustments of Fluences, Transport Parameters and Damage Parameters in Reactor Vessels

J. J. Wagschal, Y. Yeivin, Hebrew Univ., Israël

J. G. Williams, Univ. of Arizona, USA

Aspects in Decreasing the Differences between Multigroup and Continuous Energy Structure Calculations in Shielding Applications

F. A. Alpan, The Penn State Univ., USA

A. Haghghat, Univ. of Florida, USA

SIGUEVIVA: a new application for including vessel fluence in loading pattern optimization and its benchmarking with reactor dosimetry

P. M. Ortego, SEA Ingeniería y Análisis de Blindajes, Spain

A. Crespo García, IBERINCO, Spain

J-M. Picapiedra, IBERDROLA GENERACION, Spain

Sensitivity analysis for RPV VVER-1000 neutron fluence adjustment

S. Belousov, K. Ilieva, D. Kirilova, INRNE, Bulgaria

French PWR vessel surveillance program dosimetry: new uncertainty assessment

D. Beretz, C. Destouches, N. Devictor, C. Fiche, CEA, France

BREAK (10:30-10:50 – BAR EXCELSIOR)

POSTER SESSION B (INCLUDING LATE NEWS POSTERS) (10:50-12:50 – AMBASSADEUR)

Chairs B. Böhmer, G.P. Lamaze

PB.01: Upgrade of Irradiation Test Capability of the Experimental Fast Reactor JOYO

T. Aoyama, S. Yogo, Y. Yamashita, JNC Development Institute, Japan

PB.02: Proton Induced Activation of Mercury: Preliminary Comparison of Calculations and Measurements

I. Remec, D.C. Glasgow, J.O. Johnson, J.R. Haines, ORNL, USA

PB.03: Pohang Neutron Facility Based on 100-MeV Electron Linac

*G. N. Kim, Y. S. Lee, and D. Son, Kyungpook National Univ., Korea
M. H. Cho, I. S. Ko, and W. Namkung, Pohang Univ. of Science and Technology, Korea*

PB.04: Preliminary Results of Neutron Yield and Spectral Measurements from a Thick Pb-Bi Target from Irradiation by 800 MeV Protons

M. James, R.T. Klann, G.L. Morgan, E.J. Pitcher, M.A. Paciotti, J.M. Oostens, LANL, USA

PB.05: Co-60 As an On-Line Burnup Indicator for Multi-Pass Pebble Bed Reactors

*A. I. Hawari, Department of Nuclear Engineering, North Carolina State Univ., USA
J. Chen, Nuclear and Radiological Engineering Program, Univ. of Cincinnati, USA*

PB.06: Reduction of Uncertainties in Thermoluminescence Dosimetry Using Robust Estimators

D. W. Vehar, P. J. Griffin, Sandia NL, USA

PB.07: Influence of multigroup presentation of neutron data on fluence calculation

S. Belousov, K. Ilieva, INRNE, Bulgaria

PB.08: Radiation Dosimetry of a Graphite Moderated Radium-Beryllium Source

N. E. Holden, R. N. Reciniello, J-P. Hu, D. C. Rorer, BNL, USA

PB.09: Analysis of the VENUS Benchmark Using TORT and BUGLE-96

A. H. Fero, E. T. Hayes, Westinghouse, USA

PB.10: Neutron excitation function guide for reactor dosimetry

*O. Gritzay, M. Vlasov, L. Chervonna, G. Kolota, N. Klimova, INR, Ukraine
V. Zerkov, IAEA, Austria*

PB.11: Validation of Russian Monte-Carlo code MCU-REA for dosimetry calculations using the international benchmarks

N.I. Alekseev, A.E. Glushkov, E.A. Gomin, M.I. Gurevich, D.A. Shkarovsky, S.M. Zaritsky, RRC KI, Russia

PB.12: Results of testing the cross-section and related uncertainty data to be used in the new International Reactor Dosimetry File IRDF-2002

*É.M. Zsolnay, E.J. Szondi, Budapest Univ. of Technology and Economics, Hungary
H. J. Nolthenius, The Netherlands*

PB.13: Gamma ray exposure of WWER-1000 reactor pressure vessel. The gamma ray spectra measurement in engineering benchmark

*B. Ošmera, J. Kyncl, NRI, Czech Republic
F. Cvachovec, Military Academy Brno, Czech Republic
V. Smutný, SKODA, Czech Republic*

PB.14: Comparison of measured and calculated mixed and neutron gamma fields in iron and water benchmark assemblies driven by Cf252 neutron source

B. Janský, E. Novák, Z. Turzík, J. Kyncl, NRI, Czech Republic
F. Cvachovec, P. Čuda, Military Academy, Brno, Czech Republic
J. Klusoň, Czech Technical Univ., Czech Republic
L. A. Trykov, V.S. Volkov, IPPE, Russia

PB.15: Neutron calibration facilities of the IPSN research laboratory in external dosimetry

L. Van Ryckeghem, J.L. Pochat, V. Gressier, G. Pelcot, T. Bolognese-Milstajn, IPSN, France

PB.16: An Automated Deterministic Variance Reduction Generator for Monte Carlo Simulation of Shielding/Dosimetry Applications

J. C. Wagner, ORNL, USA
B. Petrović, Westinghouse, USA

PB.17: Developing an Expert System for Preparing an Effective Mesh Distribution for the S_N Method in the Parallel Environment

A. Patchimpattapong, The Penn State Univ., USA
A. Haghghat, The Univ. of Florida, USA

PB.18: Development of a Combined S_N and Ray Tracing Methodology for Simulation of a Time of Flight (TOF) Experiment

M. T. Wenner, A. Haghghat, The Univ. of Florida, USA

PB.19: Development of a Methodology for Selection of Effective Group Structure for Transport Biasing in A^3MCNP

D. Shedlock, A. Haghghat, The Univ. of Florida, USA

PB.20: Modifications to BUGLE Library Generation Procedures and their Impact on Shielding Calculations

F. A. Alpan, The Penn State Univ., USA
A. Haghghat, Univ. of Florida, USA

PB.21: Evaluation of the impact of radial gradient of neutron source in VVER neutron fluence calculation

K. Ilieva, S. Belousov, T. Apostolov, D. Kirilova, B. Petrov, INRNE, Bulgaria

PB.22: Study for improvement of VVER-440 reactor vessel neutron fluence calculation

K. Ilieva, S. Belousov, INRNE, Bulgaria

PB.23: Pressure vessel calculations for VVER-440 reactors

G. Hordósy, Gy. Hegyi, A. Keresztúri, Cs. Maráczy, E. Temesvári and P. Vértes, KFKI, Hungary
E.M. Zsolnay, Budapest Univ. of Technology and Economics, Hungary

PB.24: ANISN-DORT-PEGAS-ROZ-MCNP-MCU-TRAMO neutron gamma flux intercomparison exercise for a simple testing model

B. Böhmer, J. Konheiser, FZR, Germany
G. Borodkin, GOSATOMNADZOR, Russia
E. Brodtkin, A. Egorov, A. Kozhevnikov, S. Marin, S. Zaritsky, RRC KI, Russia
G. Manturov, IPPE, Russia

PB.25: Application of the new multitrans SP3 radiation transport code to criticality eigenvalue problem
P. Kotiluoto, VTT, Finland

PB.26: Benchmarking of MCNP for pressure vessel calculations on the LR-0 test reactor
G. Hordósy, KFKI, Hungary

PB.27: Parallel calculations on multiprocessor computer for reactor dosimetry
A.V. Moryakov, E.B. Brodtkin, A.L. Egorov, S.M. Zaritsky, RRC KI, Russia

PB.28: Researches of influence of some neutron source parameters on WWER-1000 type reactor pressure vessel neutron fluence evaluation
O. V. Grytsenko, V.L. Dyemokhin, V.N. Bukanov, INR, Ukraine
A.A. Korennoj, Khmel'nitskaya NPP, Ukraine

PB.29: Neutron Capture Cross Section Measurements of Some Long-lived Fission Products below 40 keV
K. Kobayashi, S. Lee, S. Yamamoto, Kyoto Univ., Japan
M. Igashira, Tokyo Institute of Technology, Japan

PB.30: Radioactivities and Cross Sections of Spallation Products Induced by Heavy Ions for High Energy Particle Dosimetry
T. Nakamura, H. Yashima, Tohoku Univ., Japan
Y. Uwamino, Institute of Physical and Chemical Research, Japan

PB.31: Capture Cross Section Measurements of ¹⁶¹Dy, ¹⁶²Dy, ¹⁶³Dy, and ¹⁶⁴Dy in the Energy Region Between 10 keV and 90 keV
G. Kim, Kyungpook National Univ., Korea
D. W. Lee, H. D. Kim, Pusan National Univ., Korea
T-I. Ro, Y. Min, Donga Univ., Korea
M. Igashira, S. Mizuno, T. Ohsaki, Tokyo Institute of Technology, Japan

PB.32: Measurement of Neutron Capture Cross Sections of ¹⁶¹Dy and ¹⁶³Dy Between 0.002eV and 10 keV using Total Energy Absorption Detector
G. Kim, Kyungpook National Univ., Korea
Y. S. Lee, I. S. Ko, M. Hyun Cho, Pohang Univ. of Science and Technology, Korea
Y. Min, T-I. Ro, Dong-A Univ., Korea
S. Y. Lee, S. Yamamoto, K. Kobayashi, Y. Fujita, Kyoto Univ., Japan

LATE NEWS POSTERS

PB.33: Semiconductor High-level Dosimeters Used in the SLAC Gamma and Neutron Fields
X.S. Mao, J.C. Liu, Stanford Univ., USA
A.B. Rosenfeld, M.L.F. Lerch, Univ. of Wollongong, Australia
G. Lum, Lockheed Martin, USA
P.J. Griffin, Sandia NL, USA

PB.34: An Examination of the Stability of Reference Deposits Used for Neutron Fluence Measurements
G.P. Lamaze and J.S. Nico, NIST, USA

LUNCH (12:50-13:50 – RUBINSTEIN)**ORAL SESSION 8 : NUCLEAR DATA
(13:50-15:50 – EXCELSIOR)**

Chairs K. Zolotarev, P. Griffin

Theoretical Calculation of Prompt Neutron Spectra from Fission of Curium Isotopes

T. Ohsawa, K. Tani, Y. Kishimoto, Kinki Univ., Japan

Evaluation of Covariance Matrices for Resolved and Unresolved Resonance Regions

T. Kawano, K. Shibata, JAERI, Japan

Database Studies For The New International Evaluation of The Neutron Cross Section Standards

A. D. Carlson, NIST, USA

2001 Review of Neutron and Non-neutron Nuclear Data

N.E. Holden, BNL, USA

International reactor dosimetry file: IRDF-2002

*R. Paviotti-Corcuera, V. Pronyaev, V. Zerkin, , IAEA, Austria**E.M. Zsolnay, Budapest Univ. of Technology and Economics, Hungary**K.I. Zolotarev, IPPE, Russia**W. Mannhart, PTB, Germany**L.R. Greenwood, PNNL, USA**P.J. Griffin, Sandia NL, USA***BREAK (15:50-16:10 – BAR EXCELSIOR)****WORKSHOP SESSION III (16:50-18:00)**Dosimetry for Irradiation Facilities and Test and Research Reactors (Chairs Ch. Blandin, M. Flanders) **(BOURGMESTRES)**

Benchmarks and Intercomparisons (Chairs B. Osmera, J.G. Williams)

(LANGEVIN)Retrospective Dosimetry (Chairs T. Serén, L.R. Greenwood) **(EXCELSIOR)**

FRIDAY, AUGUST 23RD 2002**ORAL SESSION 9 : BENCHMARKS AND STANDARDS
(8:30-10:30 – EXCELSIOR)**

Chairs K. Ilieva, J.G. Williams

Balakovo-3 ex-vessel exercise: analysis of calculation results intercomparison and comparison with reference data

*G. Borodkin, N. Khrennikov, GOSATOMNADZOR, Russia**B. Böhmer, J. Konheiser, FZR, Germany**G. Manturov, IPPE, Russia**E. Polke, FRAMATOME-ANP, Germany**E. Brodtkin, A. Egorov, S. Zaritsky, RRC KI, Russia*

A Monte Carlo Assessment of Time Dependent Spectral Indexes for Benchmarking Neutron Transport in Iron

*A. I. Hawari, North Carolina State Univ., USA**J. M. Adams, NIST, USA*

Improving Neutron Source Calibrations at the National Institute of Standards and Technology

J. M. Adams, D. M. Gilliam, NIST, USA

Review of experimental data for WWER reactor pressure vessel dosimetry benchmarking

*B. Ošmera, NRI, Czech Republic**S. Zaritsky, RRC KI, Russia*

Sensitivity of Leakage from Iron Spheres to the Angular Distribution of Secondary Neutrons

*R.L. Perel, Hebrew Univ., Israël***BREAK (10:30-10:50 – BAR EXCELSIOR)****WORKSHOP SUMMARIES (10:50-11:50 – EXCELSIOR)**

Chairs P. D'hondt, D. Vehar

CLOSING SESSION (11:50-12:50 - EXCELSIOR)

Chairs P. D'hondt, D. Vehar