VII. PUBLICATIONS
(APRIL 2011 – MARCH 2012)

VII. PUBLICATIONS

Since 1967, the institute published the Annual Report of the KURRI, containing the original papers written by researchers of the institute and users of other organizations. It played an important role in showing the activities of the institute. However, due to a variety of research fields covered by researchers in the institute, it became difficult to contain all the original papers. Therefore, the Annual Report was discontinued in 1995. The Progress Report of the KURRI has been issued from 1991 in English and summarizes the abstracts of the published papers, reviews, book titles and current research activities of the KURRI. The Technical Report of the KURRI (KURRI-TR) has been issued occasionally from 1965. It contains technical data in Japanese with English summaries. The KUR Report (KURRI-KR), issued in Japanese since 1996, is the proceedings of symposia and technical meetings held at the institute. Furthermore, the CD-ROM version (KURRI-KR(CD)) has been issued from 2004.

The KUR Report (KURRI-KR)

KURRI-KR-**165** Meeting on the Future Project of the Kyoto University Research Reactor Institute (2011)

KURRI-KR-**166** Specialists' Meeting on the Chemistry and Technology of Actinide Elements 2010 (2011)

KURRI-KR-**167** Proceedings of the Specialists' Meeting on Radioactive Waste Management 2011 (2012)

KURRI-KR-**168** Proceedings of the Specialist Research Meeting on Science and Engineering of Unstable Nuclei and Their Uses on Condensed Matter Physics (2012)

KURRI-KR-**169** Proceedings of the Specialist Research Meeting on Abnormal Protein Aggregation and the Folding Diseases, and their Protection and Repair system (2012)

KURRI-KR-**170** Proceedings of the Workshop on "Monitorring of Environmental Radiooactivity and Studying the Measurements and Kinetics of Radioactive Materials in the Environment"(2012)

The KUR Report (CD) (KURRI-KR (CD))

KURRI-KR (CD)-**34** Proceedings of the Specialist Meeting on Positron Annihilation Study for Science and Engineering 2011 (2012)

KURRI-KR (CD)-**35** Workshop on Materials Irradiation Effects and Applications 2011 (2012)

KURRI-KR (CD)-**36** NUPYRO 2011 (2012)

KURRI-KR (CD)-**37** Proceedings of the 5th Specialist Research Meeting on MIEZE/N(R)SE Spectroscopy (2012)

KURRI-KR (CD)-**38** Proceedings of the Specialist Research Meeting on Development and Applications of Devices for Neutrons V (2012)

Publication List (April 2011－March 2012)

(＊ The Results of Research that an Outside Researcher Carried out Originally in RRI.)

1. Slow Neutron Physics and Neutron Scattering

Papers

Kinetic Asymmetry of Subunit Exchange of Homo-Oligomeric Protein as Revealed by Deuteration-assisted Small-Angle Neutron Scattering
M. Sugiyama, E. Kurimoto, H. Yagi, K. Mori, T. Fukunaga, M. Hirai, G. Zccai and K. Kato
Biophys. J., **101** (2011) 2037-2042.

＊ $^{40}Ar/^{39}Ar$ Dating of Biotite in Pumice from the Kitahata Tuff Layers of the Kobe Group
C. Gouzu, Y. Tani, H. Takeshita and H. Hyodo
Engineering Geology of Japan, **1** (2011) 19-25.

Design and Performance of Horizontal Type Neutron Reflectometer SOFIA at J-PARC/MLF
N.L. Yamada, N. Torikai, K. Mitamura, H. Sagehashi, S. Sato, H. Seto, T. Sugita, S. Goko, M. Furusaka, T. Oda, M. Hino, T. Fujiwara, H. Takahashi and A. Takahara
Euro. Phys. J. Plus, **126** (2011) 108.

＊ What Criteria Should be used for Ar-Ar Dating in Multi-chronology
K. Sato, H. Kumagai and H. Hyodo
Fission Track News Letter, **24** (2011) 1-8 (in Japanese).

Synthesisi of New Compound Gd_5Ni_{19} with a Superlattic Structure and Hydrogen Absorption Properties
K. Iwase, K. Mori, A. Hoshikawa and T. Ishigaki
Inorg. Chem. Commun., **50** (2011) 11631-11635.

Development of Sample Holder for in Situ Neutron Measurement of Hydrogen Absorbing Alloy
K. Iwase, K. Mori, Y. Hishinuma, Y. Hasegawa, S. Iimura, H. Ishikawa, T. Kamoshida and T. Ishigaki
Int. J. Hydrogen Energy, **36** (2011) 3062-3066.

Design of Air Scattering Chamber for the Powder Diffractometer SPICA
K. Kino, K. Mori, M. Yonemura, S. Torii, M. Kawai, T. Fukunaga and T. Kamiyama
J. Phys. Soc. Jpn., **80** (2011) SB001 (1-4).

Reverse Monte Carlo Modeling of Atomic Configuration for Li_2S-P_2S_5 Super Ionic Glasses
Y. Onodera, K. Mori, T. Otomo, A. C. Hannon, M. Sugiyama and T. Fukunaga
Mater. Sci. Eng., **18** (2011) 22012.

Structural Analysis of Pd-Cu-Si Metallic Glassy Alloy Thin Films with Varying Glass Transition Temperature
S. Kajita, S. Kohara, Y. Onodera, T. Fukunaga and E. Matsubara
Mater. Trans., **52** (2011) 1349-1355.

Abnormal Behavior of Hydrogen Response and Hydrogen Induced Linear Expansion Coefficient of Pd-Cu-Si Metallic Glassy Alloys for Thin Film Hydrogen Sensor
S. Kajita, Y. Hasebe, T. Fukunaga and E. Matsubara
Mater. Trans., **52** (2011) 1148-1155.

Distributions of Glass-transition Temperature and Thermal Expansivity in Multilayered Polystyrene Thin Films Studied by Neutron Reflectivity
R. Inoue, K. Kawashima, K. Matsui, T. Kanaya, K. Nishida, G. Matsuba and M. Hino
Phys. Rev. E, **83** (2011) 021801.

Hydrogenation and Structural Properties of Gd_2Ni_7 with Superlattice Structure
K. Iwase, K. Mori, A. Hoshikawa and T. Ishigaki
Int. J. Hydrogen Energy, **37** (2012) 5122-5127.

Structural Evidence for High Ionic Conductivity of $Li_7P_3S_{11}$ Metastable Crystal
Y. Onodera, K. Mori, T Otomo, M. Sugiyama and T. Fukunaga
J. Phys. Soc. Jpn., **81** (2012) 044802.

Reverse Monte Carlo modeling of Li_2S-P_2S_5 Superionic Conductors
Y. Onodera, K. Mori, T .Otomo, A. C. Hannon, M. Sugiyama and T .Fukunaga
J. Phys.: Conf. Ser., **340** (2012) 012058.

Neutron Scattering Studies of Ti-Cr-V Bcc Alloy with the Residual Hydrogen and Deuterium
K. Mori, K. Iwase, M. Sugiyama, M. Kofu, O. Yamamuro, Y. Onodera, T. Otomo and T. Fukunaga
J. Phys.: Conf. Ser., **340** (2012) 012103.

Proceedings

Longitudinal-gradient Magnet for Time Focusing of Ultra-cold Neutrons
Y. Arimoto, T. Yoshioka, H.M. Shimizu, K. Mishima, T. Ino, K. Taketani, S. Muto, M. Kitaguchi, S. Imajo, Y. Iwashita, S. Yamashita,Y. Kamiya, A. Yoshimi, K. Asahi, T. Shima and K. Sakai
2nd International Workshop on the Physics of Fundamental Symmetries and Interactions – PSI2010, Paul Scherrer Institut, Switzerland, Oct 11-14, 2010, Physics Procedia **17**, (2011) 20-29.

Research Toward the Development of Compact Neutron Interference Imaging Instrument with Gratings
Y.Otake, M. Olbinado, Y. Seki, K. Hirota, Y. Yamagata, J. Ju, T. Adachi, S, Morita, Y. Iwashita, M. Hino, M. Ichikawa, M. kitaguchi, T. Takahashi, H. Yoshizawa, S. W Lee, W. Yashiro and A. Momose
5th European Conference on Neutron Scattering, Czech Republic, July 17-21, 2011, J. Phys.: Conf. Ser. **340** (2012) 012035.

Demonstration of Optical Thickness Measurement using Multilayer Cold Neutron Interferometer
Y. Seki, J. Uda, H. Funahashi, M. Kitaguchi, M. Hino, Y. Otake, K. Taketani and H. M. Shimizu
5th European Conference on Neutron Scattering, Czech Republic, July 17-21, 2011, J. Phys.: Conf. Ser. **340** (2012) 012039.

Development of a Physically Bent Cylindroid Mirror for Beam Focusing for a Pulsed Neutron Reflectometer
N.Torikai, N.L.Yamada, H.Sagehashi, T.Sugita, M.Furusaka, Y.Higashi, M.Hino, T. Fujiwara and H.Takahashi
Buried Interface Sciences with X-rays and Neutrons 2010, Nagoya, July 25-27, 2010, IOP Conf. Ser.: Mater. Sci. Eng., **24** (2011) 012016.

A Liberal Structure of the yeast 26S Proteasome by Small-angle Scattering Analysis
Y. Morita, K. Nishio, T. Inobe, M. Sugiyama and Y. Morimoto
Neutrons in Biology and Biotechnology, Grenoble, France, Oct 10-19, 2011.

Time of Flight Neutron Crystallographic analysis of Human Carbonmonoxyhemoglobin
T. Chatake, N. Shibayama, S.Y. Park, K. Tomoyori , T. Hosoya, T. Ohhara, K. Kusaka, K. Kurihara, I. Tanaka, N. Niimura and Y. Morimoto
1st Asia-Oceania Conference on Neutron Scattering, Tsukuba, Japan, Nov 20-24, 2011 (2011) 562.

Others

Development of an Advanced Special Diffractometer under Extreme Environment for Materials
T. Fukunaga, K. Mori, T. Kamiyama, M. Yonemura, K. Kino, S. Torii and M. Kawai
Kens Report XVII (KEK Proc Report 2011-2), (2011) 58-59.

BL09:Special Environment Neutron Powder Diffractiometer SPICA
K. Mori, M. Yonemura, T. Kamiyama, S. Torii, K .Kino, M. Kawai and T. Fukunaga
MLF Annual Report 2010（J-PARK11-03 KEK Progress Report2011-4), (2011) 66-67.

2. Nuclear Physics and Nuclear Data

Papers

Quality Management System Proposed to JENDL Evaluation Project
N. Yamano, T. Yoshida, K. Nakajima, M. Ishikawa, K. Shibata, K. Suyama, K. Okumura, O. Iwamoto, M. Uematsu and Y. Tahara
J. Korean Phys. Soc., **59** (2011) 1298-1302.

Study on Neutron Capture Reactions Using the 4π Ge Spectrometer
H. Harada, S. Goko, A. Kimura, M. Ohta, M. Oshima, F. Kitatani, Y. Toh, K. Furutaka, T. Kin, M. Koizumi, S. Nakamura, M. Igashira, T. Katabuchi, M. Mizumoto, T. Ohsaki, J. Hori, T. Fujii, K. Takamiya, J. Goto, Y. Kiyanagi, K. Kino, M. Furusaka, F. Hiraga and T. Kamiyama
J. Korean Phys. Soc., **59** (2011) 1547-1552.

Shielding Experiments by the JASMIN Collaboration at Fermilab(II) - Radioactivityl Measurement Induced by Secondary Particles from the Anti-proton Production Target
H. Yashima, N. Matsuda, Y. Kasugai, H. Matsumura, H. Iwase, N. Kinoshita, D. Boehlein, L. Gary, A. Levering, N. Mokhov, K. Vazili and K. Oishi
J. Korean Phys. Soc., **59** (2011) 2051-2054.

Cross-section Measurements for Neutron-Induced Fission of Minor Actinides with Lead Slowing-down Spectrometer at KURRI
K. Hirose, T. Ohtsuki, Y. Shibasaki, N. Iwasa, J. Hori, S. Sekimoto, K. Takamiya, H. Yashima, K. Nishio and Y. Kiyanagi
J. Korean Phys. Soc., **59** (2011) 1733-1736.

The "4π Ge Spectrometer" for Measurements of Neutron Capture Cross Sections by the TOF Method at the J-PARC/MLF/ANNRI
T. Kin, F. Furutaka, S. Goko, H. Harada, A. Kimura, F. Kitatani, S. Nakamura, M. Ohta, M. Oshima, Y. Toh, J. Hori, M. Igashira, T. Katabuchi, M. Koizumi, M. Mizumoto, T. Kamiyama, K. Kino and Y. Kiyanagi
J. Korean Phys. Soc., **59** (2011) 1769-1772.

Measurement of Neutron Capture Gamma Rays from the Resonances of ^{91}Zr and ^{96}Zr at J-PARC/MLF/ANNRI
J. Hori, K. Furutaka, S. Goko, H. Harada, A. Kimura, T. Kin, F. Kitatani, M. Koizumi, S. Nakamura, M. Ohta, M. Oshima, Y. Toh, M. Igashira, T. Katabuchi, M. Mizumoto, T. Kamiyama, K. Kino and Y. Kiyanagi
J. Korean Phys. Soc., **59** (2011) 1777-1780.

The 'Study on Nuclear Data by Using a High Intensity Pulsed Neutron Source for Advanced Nuclear System` Nuclear Data Project and the Characteristics of the Neutron Beam Line for the Capture Cross Section Experiments at J-PARC
Y. Kiyanagi, K. Kino, M. Furusaka, F. Hiraga, T. Kamiyama, K. Kato, M. Igashira, T. Katabuchi, M. Mizumoto, M. Oshima, H. Harada, J. Katakura, K. Furutaka, S. Goko, A. Kimura, T. Kin, F. Kitatani, M. Koizumi, S. Nakamura, M. Ohta, Y. Toh, T. Ohtsuki, K. Hirose, T. Fujii, J. Hori, K. Takamiya, S. Fukutani, M. Shibata, K. Yamada and H. Utsunomiya
J. Korean Phys. Soc., **59** (2011) 1781-1784.

Measurements on Neutron-capture Cross Sections of ^{244}Cm and ^{246}Cm at J-PARC/MLF/ANNRI
A. Kimura, K. Furutaka, S. Goko, H. Harada, T. Kin, F. Kitatani, M. Koizumi, S. Nakamura, M. Ohta, M. Oshima, Y. Toh, T. Fujii, S. Fukutani, J. Hori, K. Takamiya, M. Igashira, T. Katabuchi, M. Mizumoto, T. Kamiyama, K. Kino and Y. Kiyanagi
J. Korean Phys. Soc., **59** (2011) 1828-1831.

Measurement of High Energy Neutron Induced Cross Sections for Chromium
S. Sekimoto, T. Utsunomiya, H. Yashima, H. Joto, S. Shibata, K. Ninomiya, D. Satoh, Y. Iwamoto, T. Omoto, R. Nakagaki, N. Takahashi, A. Shinohara, T. Shima, M. Hagiwara, H. Matsumura, K. Nishiizumi, Y. Matsushi and H. Matsuzaki
J. Korean Phys. Soc., **59** (2011) 1916-1919.

* New Idea of a Small-Sized Neutron Detector with a Plastic Fiber
T. Matsumoto, H. Harano, A. Masuda, J. Nishiyama, Y. Sakurai and A. Uritani
Radiat. Prot. Dosim., **146** [1-3] (2011) 92-95.

* Development of a New Calibration Method of Neutron Dosimeters using Pulsed White Neutron Sources
T. Matsumoto, H. Harano, A. Masuda, J. Nishiyama and J. Hori
KEK proc., **8** (2011) 218-225.

A Spectrometer for Lifetime Determination by β-γ-γ Delayed Coincidence Technique at KUR-ISOL
Y. Kojima, H. Hayashi, M. Shibata, S. Endo, K. Shizuma and A. Taniguchi
Nucl. Inst. Methods Phys. Res., Sect. A, **659** (2011) 193-197.

Shielding Experiments at High Energy Accelerators of Fermilab(II) - Spatial Distribution Measurement of Reaction Rate behind the Shield and its Application for Moyer Model –
H. Yashima, Y. Kasugai, N. Matsuda, H. Matsumura, H. Iwase, N. Kinoshita, N. Mokhov, A. Levling, D. Boehnlein, K. Vazili, L. Gary, S. Wayne, T. Nakamura, K. Oishi, H. Hirayama, K. Ishibashi, H. Nakashima, Y. Sakamoto and members of JASMIN collaboration
Prog. Nucl. Sci. Tech., **1** (2011) 48-51.

Proceedings

Measurement of Neutron Cross Sections for Yttrium and Terbium at 287 MeV
S. Sekimoto, T. Utsunomiya, H. Yashima, K. Ninomiya, T. Omoto, R. Nakagaki, T. Shima, N. Takahashi, A. Shinohara, N. Kinoshita, H. Matsumura, D. Satoh, Y. Iwamoto, M. Hagiwara, K. Nishiizumi and S. Shibata
International Symposium on Radiation Safety and Detection Technology (ISORD-5), Kitakyushu, Japan, July 15-17, 2009, Prog. Nucl. Sci. Technol., **1** (2011) 89-93.

Cross Sections of ^{7}Be, ^{22}Na and ^{24}Na for Geochemical and Cosmochemical Important Elements by Monoenergetic 287 and 370 MeV Neutrons
K. Ninomiya, T. Omoto, R. Nakagaki, N. Takahashi, A. Shinohara, S. Sekimoto, T. Utsunomiya, H. Yashima, S. Shibata, T. Shima, N. Kinoshita, H. Matsumura, M. Hagiwara, Y. Iwamoto, D. Satoh, M. W. Caffee, K. C. Welten, M. Imamura and K. Nishiizumi
Asia-Pacific Symposium on Radiochemistry (APSORC-09), Napa, California, U.S.A. Nov 29- Dec 4, 2009, Proc. Radiochim. Acta, **1** (2011) 123-126.

Measurements of the Neutron Activation Cross Sections for Bi at 287 and 370 MeV
H. Yashima, S. Sekimoto, T. Utsunomiya, K. Ninomiya, T. Omoto, R. Nakagaki, T. Shima, N. Takahashi, A. Shinohara, H. Matsumura, D. Satoh, Y. Iwamoto, M. Hagiwara, K. Nishiizumi and S. Shibata
Asia-Pacific Symposium on Radiochemistry (APSORC-09), Napa, California, U.S.A. Nov 29- Dec 4, 2009, Proc. Radiochim. Acta, **1** (2011) 135-139.

Measurements of Neutron Capture Cross Sections at J-PARC/MLF/ANNRI (1) Measurements of Neutron Capture Cross Sections of Minor Actinides using a High Intensity Pulsed Neutron Source
A. Kimura, T. Fujii, S. Fukutani, K. Furutaka, S. Goko, H. Harada, J. Hori, M. Igashira, T. Kamiyama, T. Katabuchi, T. Kin, K. Kino, F. Kitatani, Y. kiyanagi, M. Koizumi, M. Mizumoto, S. Nakamura, M. Ohta, M. Oshima, K. Takamiya and Y. Toh
Proc. the 2010 Symposium on Nuclear Data, JAEA-Conf 2011-002, 23-28 (2011).

Measurements of Neutron Capture Cross Sections at J-PARC/MLF/ANNRI (2) Measurements of Neutron Capture Cross Sections of Long-Lived Fission Products using a High Intensity Pulsed Neutron Source
J. Hori, T. Fujii, S. Fukutani, M. Furusaka, K. Furutaka, S. Goko, H. Harada, F. Hiraga, M. Igashira, T. Kamiyama, T. Katabuchi, A. Kimura, T. Kin, K. Kino, F. Kitatani, Y. Kiyanagi, M. Koizumi, M. Mizumoto, S. Nakamura, M. Ohta, M. Oshima, K. Takamiya and Y. Toh
Proc. the 2010 Symposium on Nuclear Data, JAEA-Conf 2011-002, 29-34 (2011).

Measurement of ^{151},^{153}Eu Neutron Capture Cross Sections using a Pair of C_6D_6 Detectors
J. H. Lee, J. Hori and K. Nakajima
Proc. the 2010 Symposium on Nuclear Data, JAEA-Conf 2011-002, 101-106 (2011).

3. Reactor Physics and Reactor Engineering

Papers

Application of a ^{6}LiF Small Neutron Detector with an Optical Fiber to Tritium Production Rate Measurement in D-T Neutron Fields
T. Yagi, K. Kondo, T. Misawa, K. Ochiai, S. Ohnishi, K. Takakura, S. Sato, C. Konno, C. H. Pyeon and S. Shiroya
J. Nucl. Sci. Tech., **48** (2011) 777-785.

Preliminary Study on the Thorium-Loaded Accelerator-Driven System with 100 MeV Protons at the Kyoto University Critical Assembly
C. H. Pyeon, J. Y. Lim, Y. Takemoto, T. Yagi, T. Azuma, H. S. Kim, Y. Takahashi, T. Misawa and S. Shiroya
Ann. Nucl. Energy, **38** (2011) 2298-2302.

Non-regionwise Weight Cancellation for Monte Carlo Higher Order Criticality Calculations Using Kernel Density Estimator
T. Yamamoto
Ann. Nucl. Energy, **38** (2011) 2515-2520.

Effect of Axial Reflector on Radial Uniformity in Neutron Transmutation Doping
H. S. Kim, C. H. Pyeon, Y. Sakurai and T. Misawa
Ann. Nucl. Energy, **38** (2011) 2541-2549.

A Small High Sensitivity Neutron Detector using a Wavelength Shifting Fiber
T. Yagi, T. Misawa, C. H. Pyeon and S. Shiroya
Appl. Radiat. Isot., **69** (2011) 176-179.

Investigation on the TPR Prediction Accuracy in Blanket Neutronics Experiments with Reflector at JAEA/FNS
K. Kondo, T. Yagi, K. Ochiai, S. Sato, K. Takakura, S. Ohnishi and C. Konno
Fusion Eng. Des., **86** (2011) 2184-2187.

DT Neutronics Benchmark Experiment on Lead at JAEA-FNS
K. Ochiai, K. Kondo, S. Ohnishi, K. Takakura, S. Sato, Y. Abe, C. Konno, C. Suzuki and T. Yagi
J. Korean Phys. Soc., **59** (2011) 1953-1956.

Determination of Subcritical Reactivity of a Thermal Accelerator-Driven System from Beam Trip and Restart Experiment
H. Taninaka, K. Hashimoto, C. H. Pyeon, T. Sano, T. Misawa, H. Unesaki, W. Sugiyama and T. Osawa
J. Nucl. Sci. Tech., **48** (2011) 873-879.

Feynman-α Analysis for a Thermal Subcritical Reactor System Driven by an Unstable 14MeV-Neutron Source
H. Taninaka, A. Miyoshi, K. Hashimoto, C. H. Pyeon, T. Sano, T. Misawa, W. Sugiyama and T. Osawa
J. Nucl. Sci. Tech., **48** (2011) 1272-1280.

Interfacial Drag Model and Numerical Analysis for Gas-Liquid Two-Phase Flow in Large Diameter Pipe
X. Shen, K. Mishima and H. Nakamura
Jpn. J. Multiphase Flow, **24** (2011) 595-602 (in Japanese).

Higher Order α Mode Eigenvalue Calculation by Monte Carlo Power Iteration
T.Yamamoto
Prog. Nucl. Sci. Technol., **2** (2011) 826-835.

Accuracy of Reaction Rates in the Accelerator-Driven System with 14 MeV Neutrons at the Kyoto University Critical Assembly
C. H. Pyeon, Y. Takemoto, T. Yagi, Y. Takahashi and T. Misawa
Ann. Nucl. Energy, **40** (2012) 229-236.

Effects of Neutron Spectrum in Radial Uniformity in Neutron Transmutation Doping
H. S. Kim, C. H. Pyeon, J. Y. Lim and T. Misawa
Appl. Radiat. Isot., **70** (2012) 133-138.

Development of Erbia-Credit Super High Burnup Fuel: Experiments and Numerical Analyses
M. Yamasaki, H. Unesaki, A. Yamamoto, T. Takeda and M. Mori
Nucl. Technol., **177** (2012) 63-72.

Developing Structure of Two-phase Flow in a Large Diameter Pipe at Low Liquid Flow Rate
X. Shen, T. Hibiki and H. Nakamura
Int. J. Heat and Fluid Flow, **34** (2012) 70-84.

CHF in a Circumferentially Non-Uniformly Heated Tube under Low Pressure and Low Mass Flux Condition (Influence of the Magnitude of Heat Flux) (in Japanese)
T. Ami, H. Umekawa, M. Ozawa, K. Mishima and Y. Saito
Trans. Jpn. Soc. Mech. Eng., Ser. B, **77-778** (2011) 1385-1396.

Proceedings

Calculated Results of KUCA Criticality Experiments for ER-SHB Fuel by Using Scale Code System
T. Kuroishi, M. Yamasaki, H. Unesaki, T. Sano and A. Yamamoto
Int. Conf. Nucl. Criticality Safety 2011, Edinburgh, UK, Sep. 19-22, 2011.

On the Feasibility Study for Utilization of Low Enrichment Uranium Fuel at Kyoto University Assembly (KUCA)
H. Unesaki, T. Misawa, T. Sano, K. Nakajima and J.R. Ribas
RERTR 2011 - 33rd International Meeting on Reduced Enrichment for Research and Test Reactors, Santiago, Chile, Oct. 23-27, 2011.

Operational Experience of Kyoto University Research Reactor (KUR) with LEU Fuel
H. Unesaki, T. Sano and K. Nakajima
RERTR 2011 - 33rd International Meeting on Reduced Enrichment for Research and Test Reactors, Santiago, Chile, Oct. 23-27, 2011.

Basic Experiments on Accelerator Driven Subcritical System at Kyoto University Critical Assembly
T. Misawa, C. H. Pyeon, and T. Yagi
Asia Europe Physics Summit, ASPS 2011, Wroclaw, Poland, Oct. 26-29, 2011.

Reaction Rate Analyses in the Thorium-Loaded Accelerator-Driven System at the Kyoto University Critical Assembly
C. H. Pyeon, J. Y. Lim, T. Yagi and T. Misawa
Trans. Am. Nucl. Soc., 105 (2011) 792.

Experimental Investigation of Power Spectral Analysis for Periodic and Pulsed Neutron Source
A. Sakon, K. Hashimoto, C. H. Pyeon, T. Sano, T. Misawa, H. Unesaki, W. Sugiyama and T. Osawa
2nd Int. Conf. Physics & Technol. of Reactors & Applications (PHYTRA-2), Fez, Morocco, Sep. 26-28, 2011.

Energy Dependence of Feynman-α Method and its Application to Realistic Subcritical Systems
T. Yamamoto
Int. Conf. Nucl. Criticality Safety 2011, Edingburgh, UK, Sep. 19-22, 2011.

Power Profile Analysis of JCO-TOKAI Criticality Accident in 1999
K. Nakajima
Int. Conf. Nucl. Criticality Safety 2011, Edingburgh, UK, Sep. 19-22, 2011.

ADS Experiments with 100 MeV Protons in the Kyoto University Critical Assembly - ^{235}U- and ^{232}Th-loaded ADS Exps
C. H. Pyeon
Consultancy on Lessons from the Development, License, and Operation of Accelerator Driven Systems (ADS) Facilities, Vienna, Austria, May 18-20, 2011.

Accelerator Driven Subcritical System (ADS) Experiments at KURRI
T. Misawa
Hamon, **21** (2011) 12.

Reaction Rate Analyses in the Thorium-Loaded Accelerator-Driven System at the Kyoto University Critical Assembly
C. H. Pyeon, J. Y. Lim, T. Yagi and T. Misawa
Trans. Am. Nucl. Soc., 105 (2011) 792-793.

Heat Transfer and Flow in Curved Narrow Duct of Research Reactor Fuel Element
X. Shen and B. Deng
46th Annual Conf. Kyoto University Research Reactor Institute, Kumatori, Japan, Feb. 2-3, 2012.

Gas-Liquid Bubbly Turbulent Upward Flow in Square Duct
H. Sun, T. Kunugi, D. Wu, H. Zhang, H. Nakamura and X. Shen
20th Int. Conf. on Nucl. Engineer, California, USA, July 30- Aug. 3, 2012, ICONE20 POWER (2012) 54918.

4. Material Science and Radiation Effects

Papers

Thermally Stimulated Current Studies on Electron-Irradiated Single Crystal ZnO Bulk: Dual Light Illumination Effects
T. Oga, Y. Izawa, K. Kuriyama, K. Kushida and Q. Xu
AIP Conf. Proc., **1399** (2011) 67-68.

Photoluminescence, Morphology, and Structure of Hydrothermal ZnO Implanted at Room Temperature with 60keV Sn^+ Ions
G. T. Dang, T. Kawaharamura, N. Nitta, T. Hirao, T. Yoshiie and M. Taniwaki
J. Appl. Phys., **109** (2011) 123516, 1-5.

＊ Study on Microstructural Changes in Thermally-aged Stainless Steel Weld-overlay Cladding of Nuclear Reactor Pressure Vessels by Atom Probe Tomography
T. Takeuchi, J. Kameda, Y. Nagai, T. Toyama, Y. Nishiyama and K. Onizawa
J. Nucl. Mater., **415** (2011) 198-204.

Effect of Solute Atom Concentration on Vacancy Cluster Formation in Neutron-irradiated Ni Alloys
K. Sato, D. Ito, T. Yoshiie, Q. Xu, A. Taniguchi and T. Toyama
J. Nucl. Mater., **417** (2011) 963-967.

Point Defect Processes During Incubation Period of Void Growth in Austenitic Stainless Steels, Ti-modified 316SS
T. Yoshiie, X.Z. Cao, K. Sato, K. Miyawaki and Q. Xu
J. Nucl. Mater., **417** (2011) 968-971.

Annihilation of Interstitial-type Dislocation Loops in a-Fe During He Irradiation
Q. Xu, Y.X. Wang, Y. Katakabe, H. Iwakiri, N. Yoshida, K. Sato and T. Yoshiie
J. Nucl. Mater., **417** (2011) 1022-1025.

Effects of Dislocations on Thermal Helium Desorption from Nickel and Iron
X.Z. Cao, Q. Xu, K. Sato and T. Yoshiie
J. Nucl. Mater., **417** (2011) 1034-1037.

＊ Irradiation-induced Precipitates in a Neutron Irradiated 304 Stainless Steel Studied by Three-dimensional Atom Probe
T. Toyama, Y. Nozawa, W. Van Renterghem, Y. Matsukawa, M. Hatakeyama, Y. Nagai, A. Al Mazouzi and S. Van Dyck
J. Nucl. Mater., **418** (2011) 62-68.

Design of a Dedicated Beamline for THz Coherent Synchrotron Radiation at UVSOR-III
S. Kimura, E. Nakamura, K. Imura1, M. Hosaka, T. Takahashi and M. Katoh
J. Phys., **359** (2012) 012009.

Development of a Scanning Near-Field Sub-THz-Wave Microscopy with Coherent Transition Radiation
T. Takahashi, T. Iizuka, T. Mori and S. Kimura
J. Phys, **359** (2012) 012016.

Positron Annihilation Lifetime Measurements of He-ion Irradiated Fe using Pulsed Positron Beam
K. Sato, A. Kinomura, T. Omura, Q. Xu, T. Yoshiie, R. Kasada, A. Kimura and K. Morishita
J. Phys. C, **262** (2011) 012053, 1-4.

Vacancy Evolution in Ni During Irradiation at High Temperatures Studied by in Situ Positron Annihilation Spectroscopy
H. Tsuchida, T. Iwai, S. Kasai, H. Tanaka, N. Oshima, R. Suzuki, T. Yoshiie and A. Itoh
J. Phys. C, **262** (2011) 012060, 1-6.

＊ Effect of Electron- and Neutron-irradiation on Fe-Cu Model Alloys Studied by Positron Annihilation Spectroscopy
Y. Nagai, K. Takadate, Z. Tang, H. Ohkubo, H. Sunaga, H. Takizawa and M. Hasegawa
J. Phys.: Conf. Ser., **265** (2011) 012007, 1-6.

Simulation of Displacement Cascades in Tungsten Irradiated by Fusion Neutrons
T. Troev, N. Nankov and T. Yoshiie
Nucl. Inst. Meth. Phys. Res. B, **269** (2011) 566-571.

Multi-scale Modeling of Irradiation Effects in Spallation Neutron Source Materials
T. Yoshiie, T. Ito, H. Iwase, Y. Kaneko, M. Kawai, I. Kishida, S. Kunieda, K. Sato, S. Shimakawa, F. Shimizu, S. Hashimoto, N. Hashimoto, T. Fukahori, Y. Watanabe, Q. Xu and S. Ishino
Nucl. Inst. Meth. Phys. Res. B, **269** (2011) 1740-1743.

Thermal Desorption of Helium from Defects in Nickel
X.Z. Cao, Q. Xu, K. Sato and T. Yoshiie
J. Nucl. Mater., **412** (2011) 165-169.

＊ Microstructural Changes of a Thermally Aged Stainless Steel Submerged Arc Weld Overlay Cladding of Nuclear Reactor Pressure Vessels
T. Takeuchi, J. Kameda, Y. Nagai, T. Toyama, Y. Matsukawa, Y. Nishiyama and K. Onizawa
J. Nucl. Mater., **425** (2012) 60-64.

＊ Grain Boundary Segregation in Neutron-irradiated 304 Stainless Steel Studied by Atom Probe Tomography
T. Toyama, Y. Nozawa, W. Van Renterghem, Y. Matsukawa, M. Hatakeyama, Y. Nagai, A. Al Mazouzi and S. Van Dyck
J. Nucl. Mater., **425** (2012) 71-75.

＊ Post-irradiation Annealing Behavior of Microstructure and Hardening of a Reactor Pressure Vessel Steel Studied by Positron Annihilation and Atom Probe Tomography.
A. Kuramoto, T. Toyama, T. Takeuchi, Y. Nagai, M. Hasegawa, T. Yoshiie and Y. Nishiyama
J. Nucl. Mater., **425** (2012) 65-70.

Formation of Defect Structure on Ge Surface by Ion Irradiation at Controlled Substrate Temperature
N. Nitta, Tokiya Hasegawa, H. Yasuda, Y. Hayashi, T. Yoshiie and M. Taniwaki
Mater. Trans., **52** (2011) 127-129.

Secondary Defects Induced by Ion and Electron Irradiation of GaSb
N. Nitta, E. Taguchi, H. Yasuda, H. Mori, Y. Hayashi, T. Yoshiie and M. Taniwaki
Phil. Mag. Let., **91** (2011) 223-228.

Effect of Impurities on the Growth of {113} Interstitial Clusters in Silicon under Electron Irradiation
K. Nakai, K. Hamada, Y. Satoh and T. Yoshiie
Phil. Mag., **91** (2011) 421-436.

Can Helium Actually Improve the Mechanical Properties of a Metal?
Q. Xu, H. Yamasaki, K. Sato and T. Yoshiie
Phil. Mag. Let., **91** (2011) 724-730.

Effects of Damage Rate on Cu Precipitation in Fe-Cu Model Alloys under Neutron Irradiation
Q. Xu and T. Yoshiie
Phil. Mag., **91** (2011) 3716–3726.

Structure of iodine/nylon 6 Complex: 5.: Variation of Intercalation in Complexes Induced by Humidification
A. Kawaguchi and N. Tsurutani
Polym. J., **43** (2011) 385-389.

Persistent Photoconductivity in Electron-Irradiated ZnO Bulk Single Crystals: Evaluation of the Metastable Conductive State by the Dual Light Illumination
T. Oga, Y. Izawa, K. Kuriyama, K. Kushida and Q. Xu
Sol. State Comm., **151** (2011) 1700-1703.

Synchrotron Radiation ^{57}Fe-Mössbauer Spectroscopy Using Nuclear Monochromator
T. Mitsui, R. Masuda, N. Hirao, K. Mibu and M. Seto
Hyperfine Interact., **204** (2012) 97-100.

An *in situ* Mössbauer Study Using Synchrotron Radiation
R. Masuda, T. Mitsui, K. Itoh, K. Sakaki, H. Enoki, Y. Nakamura and M. Seto
Hyperfine Interact., **204** (2012) 139-142.

Upgrade of the Nuclear Resonant Scattering Beamline, BL09XU in SPring-8
Y. Yoda, Y. Imai, H. Kobayashi, S. Goto, K. Takeshita and M. Seto
Hyperfine Interact., **206** (2012) 83-86.

Time-Domain Interferometry Experiments Using Multi-Line Nuclear Absorbers
M. Saito, M. Seto, S. Kitao, Y. Kobayashi, M. Kurokuzu and Y. Yoda
Hyperfine Interact., **206** (2012) 87-90.

Study of the Structure and Electronic State of Thiolate-Protected Gold Clusters by Means of ^{197}Au Mössbauer Spectroscopy
N. Kojima, K. Ikeda, Y. Kobayashi, T. Tsukuda, Y. Negishi, G. Harada, T. Sugawara and M. Seto
Hyperfine Interact., **207** (2012) 127-131.

Small and Large Angle Quasi-Elastic Scattering Experiments by Using Nuclear Resonant Scattering on Typical and Amphiphilic Liquid Crystals
M. Saito, M. Seto, S. Kitao, Y. Kobayashi, M. Kurokuzu, Y. Yoda and J. Yamamoto
J. Phys. Soc. Jpn., **81** (2012) 023001 (4 pages).

Mössbauer Study of the $SmFe_2$ Hydride through ^{149}Sm and ^{57}Fe
R. Masuda, T. Mitsui, K. Itoh, Y. Kobayashi, S. Kitao and M. Seto
J. Phys. Soc. Jpn., **81** (2012) 034714 (6 pages).

Grazing-Incidence Synchrotron-Radiation ^{57}Fe-Mössbauer Spectroscopy Using Nuclear Bragg Monochromator and its Application to the study of Magnetic Thin Films
T. Mitsui, R. Masuda, M. Seto, E. Suharyadi and K. Mibu
J. Synchrotron Rad., **19** (2012) 198-204.

Structural and Valence Changes of Europium Hydride Induced by Application of High-Pressure H_2
T. Matsuoka, H. Fujihisa, N. Hirao, Y. Ohishi, T. Mitsui, R. Masuda, M. Seto, Y. Yoda, K. Shimizu, A. Machida and K. Aoki
Phys. Rev. Lett., **107** (2011) 025501 (4 pages).

Improvement of Efficiency of Time-Domain Interferometry Method Using Two Driven Nuclear Absorbers
M. Saito, M. Seto, S. Kitao, Y. Kobayashi, M. Kurokuzu and Y. Yoda
J. Phys. Soc. Jpn., **80** (2011) 123001 (4 pages).

Effect of the Graft Chain Length and Density on the Morphology of Radiation-modified Polysilane Monolayers at the Air/Water Interface
H. Tanaka, Y. Kunai, N. Sato and T. Matsuyama
J. Colloid Interface Sci., **363** (2011) 440-445.

Orientation of Radiation-Modified Polysilane in Monolayers at the Air/Water Interface As Revealed from Its Optical Property
H. Tanaka,Y. Kunai, K. Okayasu, N. Sato and T. Matsuyama
J. Phys. Chem. C, **115** (2011) 20242-20247.

Radiation-induced Graft Polymerization of Amphiphilic Monomers with Different Polymerization Characteristics onto Hydrophobic Polysilane
H. Tanaka, I. Iwasaki, Y. Kunai, N. Sato and T. Matsuyama
Rad. Phys. Chem., **80** (2011) 884-889.

Effects of Microcrystallites on Swelling Behavior in Chemically Crosslinked Poly (vinyl alcohol) Gels
E.Otsuka, S. Kudo, M.Sugiyama and A.Suzuki
J. Polym. Sci., Part B: Polym. Phys., **49** (2011) 96-102.

Formation and Destruction of Physical Crosslinks by Mild Treatments in Chemically Crosslinked Poly (Vinyl Alcohol) Gels
E.Otsuka, M.Sugiyama and A.Suzuki
Polym. Bull., **67** (2011) 1215-1226.

Strong Affinity between In and Al Impurities Doped in ZnO
S. Komatsuda, W. Sato, S. Kawata and Y. Ohkubo
J. Phys. Soc. Jpn., **80** (2011) 095001 (4 pages).

Proceedings

Absorption Spectroscopy for SiO_2 Particles by Using the Coherent Radiation Light Source
S. Okuda and T. Takahashi
Proc. 35th Int. Conf. on Infrared, Millimeter and Terahertz Waves IEEE Xplore 10.1109/ICIMW, Italy, Sep. 5-10, 2010, 5612474.

Electric Field Gradient at the ^{111}Cd($\leftarrow^{111}$In) Site in Ga-Doped ZnO
W. Sato, Y. Ohkubo, Y. Itsuki, S. Komatsuda, D. Minami, T. Kubota, A. Yokoyama and T. Nakanishi
Asia-Pacific Symposium on Radiochemistry '09, Napa, USA, Nov. 29-Dec. 4, 2009 (2011) 435-438.

Books

Mössbauer Excitation by Synchrotron Radiation in "Handbook of Nuclear Chemistry", 2nd ed., A. Vertes et al. eds., vol. 3, pp. 1447-1460.
M. Seto
Springer, (2011).

Others

Characterization of Gold Nanoparticles Supported on Metal Oxides by X-Ray Absorption Spectroscopy and ^{197}Au Mössbauer Spectroscopy: Detection of Gold Alloy
D. Kawamoto, H. Nishikawa, H. Ohashi, H. Oji, T. Honma, Y. Kobayashi, A. Hamasaki, T. Ishida, Y. Okaue, M. Tokunaga and T. Yokoyama
Adv. in X-Ray Chem. Anal., Jpn., **43** (2012) 293-302 (in Japanese).

State Analysis of Au Nanoparticles Supported on NiO
H. Nishikawa, D. Kawamoto, H. Ohashi, H. Oji, T. Honma, Y. Kobayashi, Y. Okaue, A. Hamasaki, T. Ishida, T. Yokoyama and M. Tokunaga
Adv. in X-Ray Chem. Anal., Jpn., **43** (2012) 285-292 (in Japanese).

5. Geochemistry and Environmental Science

Papers

The Effect of Wetting on the Emission of Asbestos Fibers from the Waste
Y. Fujikawa, R. Nakatsubo, T. Hiraki and A. Fujinaga
Environ. Conserv. Eng., **40**[6] (2011) 373-374.

Degradation of Estrogens in Methanogenic Digestate of Livestock Excrements
F. Oritate, Y. Fujikawa, M. Fukui, M. Umeeda, T. Hamasaki and M. Sugahara
Environ. Conserv. Eng, **40**[10] (2011) 44-51.

＊ Barite Geochemistry from Hydrothermal Chimneys of the Okinawa Trough: Insight Into Chimney Formation and Fluid/Sediment Interaction
T. Noguchi, R. Shinjo, M. Ito, J. Takada and T. Oomori
J. Mineralogical and Petrological Sciences (J.M.P.S), **106** (2010) 26-35.

＊ Fission Track Dating of Quaternary Volcanic Glass by Stepwise Etching
K. Ito and N. Hasebe
Radi. Meas., **46** (2011) 176-182.

＊ Fission-track Zircon Ages in Psammitic Schist from the Chlorite Zone of the Sambagawa Metamorphic Belt, Central Shikoku, Japan: Two Distinct Ages and Their Implications
T. Takeshita, N. Hasebe and K. Nomura
J. Geol. Soc. Japan, **117** (2011) 53-56.

＊ Narantsetseg TS, Oyunchimeg TS, Egor V. Ivanov, Kenji Kashiwaya, K-Ar age of basement basalt of HDP09 core from Lake Khuvsgul, Mongolia: Implication to Estimate the Beginning of Baikal Rift Zone
N. Hasebe, K. Ito and A. Hasebe
J. Earth Environment, **2** (2011) 462-466.

＊ The Matrix Effect on ^{238}U and ^{232}Th Measurements using Pressed Powder Pellets by LA-ICP-MS
K. Ito, N. Hasebe, A. Hasebe and S. Arai
Geochem. J., **45** (2011) 375-385.

＊ Gang Li and Niiden Ichinnorovu, Jurassic-Cretaceous Lacustrine Deposits in the East Gobi Basin, Southeast Mongolia
H. Ando, H. Hasegawa, T. Hasegawa, T. Ohta, M. Yamamoto and N. Hasebe
J. Geological Society of Japan, **117** (2012) XI-XII.

＊ Denudation History of the Kiso Range, Central Japan, and its Tectonic Implications: Constraints from Low-temperature Thermochronology
S. Sueoka, B. P. Kohn, T. Tagami, H. Tsutsumi, N. Hasebe, A. Tamura and S. Arai
Island Arc., **21** (2012) 32-52.

＊ Raman Spectroscopy of Synthetic Zircon: Effects of Chemical Composition
N. Hasbe, K. Aratake, A. Tamura, M. Okuno, S. Arai and I. Shinno
The Science Reports of Kanazawa University, **55** (2012) 17-24.

＊ Thermoluminescence Color Image Analysis of Sediments from Lake Khuvsgul, Mongolia, and its Potential to Investigate Paleoenvironmental Change
N. Hasebe, A. Inagaki, N. Endo, K. Fukushi, K. Ito and K. Kashiwaya
Quat. Geochronol., (2012).

＊ Observations of Fission-tracks in Zircons by Atomic Force Microscope
S. Ohishi and N. Hasebe
Radiat. Meas., (2012).

Estimation of Groundwater Residence Time and Evaluation of the Origin of Ground Water using Dissolved Noble Gases and Natural Radionuclides with a Long Half-life as Geochemical Tracers
Y. Mahara and T. Ohta
J. Geogr., **121**[1] (2012) 96-117.

Determination of Trace Amount of Nickel in Cosmic Spherules by Photon Activation Analysis
S. Sekimoto, K. Hirose, M. Takimoto, T. Otsuki and S. Shibata
J. Radioanal. Nucl. Chem., **291** (2012) 457-459.

Neutron Activation Analysis of a Particle Returned from Asteroid Itokawa
M. Ebihara, S. Sekimoto, N. Shirai, Y. Hamajima, M. Yamamoto, K. Kumagai, Y. Oura, T. R. Ireland, F. Kitajima, K. Nagao, T. Nakamura, H. Naraoka, T. Noguchi, R. Okazaki, A. Tsuchiyama, M. Uesugi, H. Yurimoto, M. E. Zolensky, M. Abe, A. Fujimura, T. Mukai and Y. Yada
Science, **333** (2011) 1119-1121.

Observation of $^{228}Ra/^{226}Ra$ Activity Ratio, and Concentrations of ^{226}Ra and ^{228}Ra of Surface Seawaters in the Pacific Side of Japan
T. Ohta, M. Yoshikawa, T. Kubota, Y. Mahara and J. Sato
Proc. Radiochim. Acta, **1** (2011) 183-188.

Comparison of Deep Underground Neutron Flux Measured with a Helium-3 Filled Proportional Counter and Evaluated from Element Composition or Isotopic Ratio of $^{36}Cl/Cl$ in Granite Rock
T. Kubota, T. Ohta, Y. Mahara and A. Kudo
Proc. Radiochim. Acta, **1** (2011) 227-232.

Proceedings

＊ Fission-track Dating of Apatite: an Attempt of Absolute Evaluation without Reactor Neutron Irradiation
T. Suzuki
Absts. 25th Internat. Conf. Nucl. Tracks in Solids, Puebla, Mexico (2011) 40.

＊ Fission-track Dating of Moldavite using an Improved Procedure for Absolute Evaluation
T. Suzuki
Absts. 25th Internat. Conf. Nucl. Tracks in Solids, Puebla, Mexico (2011) 151.

Groundwater Residence Time Estimated from ^{4}He Accumulated Rate Calibrated by using Cosmogenic and Subsurface Produced ^{36}Cl
Y. Mahara, T. Ohta, T. Kubota, K. Miyakawa, T. Hasegawa, M. A. Habermehl and L. K. Fifield
Proc. of ER2010 - Environmental Radioactivity New Frontiers and Developments, 104, the Italian Physical Society, (2012) 00302 P1-9.

$^{228}Ra/^{226}Ra$ Activity Ratio in Groundwater Around Fuji Volcano, Japan
T. Ohta, Y. Mahara, K. Miyakawa, T. Kubota, K. Tagami and J. Sato
Proc. ER2010 - Environmental Radioactivity New Frontiers and Developments, 104, the Italian Physical Society, (2012) 03003 P1-8.

Observation of $^{228}Ra/^{226}Ra$ Activity Ratio, and Concentrations of ^{226}Ra and ^{228}Ra of Surface Seawaters in the Pacific Side of Japan
T. Ohta, T. Kubota, J. Sato and Y. Mahara
Proc. Radiochim. Acta, (2011) 183-188.

Biological Filtration Applied in Hanoi, Vietnam to Remove Arsenic from well Water at very Low Cost
Y. Fujikawa, M. Sugahara, Ph. D. Hung, H. Iwasaki, Y. Sugimoto and T. Hamasaki
The 4th IWA-ASPIRE Conference, Tokyo, Japan, Oct 3, 2011.

Pilot Test Results of Biological Filtration Technology in Vietnam
Y. Fujikawa, M. Sugahara, Ph. D. Hung, H. Iwasaki and T. Hamasaki
The 17th Symposium on Soil and Groundwater Contamination and Remediation, Kawasaki, Japan, Jun 17, 2011, 320-322.

Books

The Latest Development on Water Purification Technology
Y. Fujikawa and M. Sugahara
CMC Publishing, (2011).

Reviews

Seminar on Biological Filtration for Simultaneous Removal of Arsenic and Iron from Water Held at Hanoi, Vietnam
Y. Fujikawa
J. Environmental Conservation Engineering, **40**[4] (2011) 55-59.

Workshop for Initiation of Human Network for Asia / Oceania Water Resource Utilization Held by Society of Environmental Conservation Engineering
Y. Fujikawa
J. Environmental Conservation Engineering, **40**[9] (2011) 514-517.

The Status and Prospect of the Land treatmen Technology for Water Purification 3. Principle and Results of the Pilot Study Using Granulated Materials
Y. Fujikawa, M. Sugahara and T. Hamasaki
J. Environmental Conservation Engineering, **41**[2] (2012) 115-119.

6. Life Science and Medical Science

Papers

Evidence of Deep-blue Photon Emission at High Efficiency by Common Plastic
H. Nakamura, Y. Shirakawa, S. Takahashi and H. Shimizu
Europhys. Lett., **95** (2011) 22001.

Cyanidioschyzon Melorae Ferredoxin: a High Resolution Crystal Structure Analysis and its Thermal Stability
A.Yamaoka, Y. Ozawa, Y. Ueno, Y. Morimoto, A. Urushiyama, D. Ohmori and T. Imai
FEBS Lett., **585** (2011) 1299-1302.

High-resolution X-ray Study of Effects of Deuteration on Crystal Growth and Crystal Structure of Proteinase K
T. Chatake, T. Ishikawa, Y. Yanagisawa, T. Yamada, I. Tanaka, S. Fujiwara and Y. Morimoto
Acta Cryst., Sect. F, **67** (2011) 1334-1338.

Simultaneous Stereoinversion and Isomerization at the Asp-4 Residue in ßB2-crystallin from the Aged Human Eye Lenses
N. Fujii, T. Kawaguchi, H. Sasaki and N. Fujii
Biochemistry, **50** (2011) 8628-8635.

siRNA Targeted for NBS1 Enhances Heat Sensitivity in Human Anaplastic Thyroid Carcinoma Cells
N. Okamoto, A. Takahashi, I. Ota, K. Ohnishi, E. Mori, N. Kondo, T. Noda, Y. Nakagawa, H. Uemura, K. Yane, H. Hosoi and T. Ohnishi
Int. J. Hyperthermia, **27**[3] (2011) 297-304.

Nitric Oxide Radical-induced Radioadaptation and Radiosensitization Are G(2)/M Phase-dependent
X. Su , A. Takahashi, N. Kondo , Y. Nakagawa , T. Iwasaki, G. Guo and T. Ohnishi
J. Radiat. Res. (Tokyo), **52**[5] (2011) 609-615.

The Bystander Effect is a Novel Mechanism of UVA-Induced Melanogenesis
H. Nishiura, J. Kumagai, G. Kashino, T. Okada, K. Tano and M. Watanabe
Photochem. Photobiol., **88**[2] (2012) 389-397.

Micronuclei Formation Induced by X-Ray Irradiation Does Not Always Result from DNA Double-Strand Breaks
T. Okada, G. Kashino, H. Nishiura, K. Tano and M. Watanabe
J. Radiat. Res., **53**[1] (2012) 93-100.

Dysregulation of Gene Expression in the Artificial Human Trisomy Cells of Chromosome 8 Associated with Transformed Cell Phenotypes
H. Nawata, G. Kashino,K. Tano K, K. Daino, Y. Shimada, H. Kugoh H, M. Oshimura and M. Watanabe
PLoS One, **6**[9] (2011) e25319.

Characterization and Radio-resistant Function of Manganese Superoxide Dismutase of Rubrobacter Radiotolerans
H. Terato, K. Suzuki, N. Nishioka, A. Okamoto, Y. Shimazaki-Tokuyama, Y. Inoue and T. Saito
J. Radiat. Res., **22** (2011) 735-742.

Determination of Rate Constants for Beta-linkage Isomerization of Three Specific Aspartyl Residues in Recombinant Human Alpha A-crystallin Protein by Reversed-phase HPLC
Y. Sadakane, N. Fujii and K. Nakagomi
J. Chromatogr., B, **879** (2011) 3240-3246.

Substrate Stereoselectivity of Mammalian D-aspartyl Endopeptidase
T. Kinouchi, N. Fujii and N. Fujii
J. Chromatogr., B, **879** (2011) 3349-3352.

UV B-irradiation Enhances the Racemization and Isomerizaiton of Aspartyl Residues and Production of N^{e}-carboxymethyl Lysine (CML) in Keratin of Skin
Y. Mori, K. Aki, K. Kuge, N. Yamanaka, S. Tajima, Y. Kaji, R. Nagai, H. Yoshii, N. Yamamoto, N Fujii, M Watanabe, T. Kinouchi and N. Fujii
J. Chromatogr., B: Anal. Technol. Biomed. Life Sci., **879** (2011) 3303-3309.

Cheap Educational Materials for Understanding Radiation
H. Nakamura, Y. Shirakawa, S. Takahashi, T. Yamano, Y. Kobayashi, R. Hazama, C. Takagi and O. Hasebe
Phys. Education, **47** (2012) 17.

Proceedings

Structural Insights of the S1 Pocket in the Yeast 20S Proteasome
T. Maekawa, K. Nishio, U. Bahrudin, I. Hisatome, Y. Saeki, K. Tanaka, H. Yamaguchi and Y. Morimoto
XXII Congress and General Assembly of the International Union of Crystallography, Madrid, Spain, Aug. 22-30, 2011, C223.

Crystal Structures of Symbiosis Related Lectin and its Saccharide Bound Form
A. Kita, M. Jimbo Y. Morimoto, R. Sakai, H. Kamiya and K. Miki
XXII Congress and General Assembly of the International Union of Crystallography, Madrid, Spain, Aug. 22-30, 2011, C635-C636.

Crystal Structure and Nucleotide Bound States of V_1-ATPase
N. Numoto, T. Kuranaga, Y. Nagamatsu, Y. Hasegawa, A. Kita, K. Takeda and K. Miki
XXII Congress and General Assembly of the International Union of Crystallography, Madrid, Spain, Aug. 22-30, 2011, C263-C264.

Abnormal Protein Aggregation due to the Presence of D-aspartyl Residues in Cataractous Lenses
N. Fujii, N. Fujii and M. Sugiyama
International Union of Materials Research Societies (IUMRS)-ICA2011, Taipei, Taiwan, Sep. 19-22, 2011.

D-Amino Acids in Lens Crystallins and Cataract
N. Fujii, N. Fujii and H. Sakaue
International Conference on Medical Genetics and Genomic, Bharathidasan Univ.,Tiruchirappali, India, Dec.12-14, 2011 (2011) 6.

Reviews

D-Amino Acids in Aged Proteins: Analysis and Biological Relevance
N. Fujii Y. Kaji and N. Fujii
J. Chromatogr., B, **879** (2011) 3141-3147.

Effects of D-aspartyl Residues on Structural and Functional Properties of Human Lens alpha-Crystallin
N. Fujii
J. The Japanese Society for Cataract Research, **23** (2011) 29-32 (in Japanese).

Crystallographic Studies of Giant Hemoglobin and V-Type ATPase
N. Numoto
J. Crystallographic Society of Japan, **53** (2011) 249-256 (in Japanese).

Others

Neutron Protein Crystallography
T. Chatake
Hamon (TheJapanese Society for Neutron Science), **21** (2011) 120 (in Japanese).

Neutron Protein Crystallography
T. Chatake
J. Cryst. Soc. Jpn., **53** (2011) 287 (in Japanese).

7. Neutron Capture Therapy

Papers

Tumor Accumulation of e-Poly-Lysines-Based Polyamines Conjugated with Boron Clusters
M. Umano, K. Uechi, T. Uriuda, S. Murayama, H. Azuma, A. Shinohara, Y. Liu, K. Ono, M. Kirihata, H. Yanagie and T. Nagasaki
Appl. Radiat. Isot., **69**[12] (2011) 1765-1767.

* Biological Evaluation of Dopamine Analogues Containing Phenylboronic Acid Group as New Boron Carriers
Y. Ito, T. Mizuno, K. Yoshino, H.S. Ban, H. Nakamura, J. Hiratsuka, A. Ishikawa and H. Ohki
Appl. Radiat. Isot., **69**[12] (2011) 1771-1773.

Design Synthesis and Destructive Dynamic Effects of BODIPY-containing and Curcuminoid Boron Tracedrugs for Neutron Dynamic Therapy
E. Nakata, M. Koizumi, Y. Yamashita, K. Onaka, Y. Sakurai, N. Kondo, K. Ono, Y. Uto and H. Hori
Anticancer Res., **31**[7] (2011) 2477-2481.

Experimental Verification of Beam Characteristics for Cyclotron-Based Epithermal Neutron Source (C-BENS)
H.Tanaka, Y.Sakurai, M. Suzuki, S. Masunaga, T. Mitsumoto, K. Fujita, G. Kashino, Y. Kinashi, Y. Liu, M. Takada, K.Ono and A. Maruhashi
Appl. Radiat. Isot., **69** (2011) 1642-1645.

Evaluation for Activities of Component of Cyclotron-Based Epithermal Neutron Source (C-BENS) and the Surface of Concrete Wall in Irradiation Room
M. Imoto, H. Tanaka, K. Fujita, T. Mitsumoto, K. Ono, A. Maruhashi and Y. Sakurai
Appl. Radiat. Isot., **69** (2011) 1646-1648.

The Optimization Study of Bonner Sphere in the Epi-thermal Neutron Irradiation Field for BNCT
H. Ueda, H. Tanaka, A. Maruhashi, K. Ono and Y. Sakurai
Appl. Radiat. Isot., **69** (2011) 1657-1659.

A Phantom Experiment for the Evaluation of Whole Body Exposure During BNCT using Cyclotron-Based Epithermal Neutron Source (C-BENS)
T. Tsukamoto, H. Tanaka, H. Yoshinaga, T. Mitsumoto, A. Maruhashi, K. Ono and Y. Sakurai
Appl. Radiat. Isot., **69** (2011) 1830-1833.

Feasibility Evaluation of Neutron Capture Therapy for Hepatocellular Carcinoma Using Selective Enhancement of Boron Accumulation in Tumour with Intra-arterial Administration of Boron-entrapped Water-in-oil-in-water Emulsion
H. Yanagie, H. Kumada, T. Nakamura, S. Higashi, I. Ikushima, Y. Morishita, A.Shinohara, M. Fijihara, M. Suzuki, Y. Sakurai, H. Sugiyama, T. Kajiyama, R. Nishimura, K. Ono, J. Nakajima, M. Ono , M. Eriguchi and H. Takahashi
Appl. Radiat. Isot., **69** (2011) 1854-1857.

Study on Optimization of Multiionization-Chamber System for BNCT
T. Fujii, H. Tanaka, A. Maruhashi, K. Ono and Y. Sakurai
Appl. Radiat. Isot., **69** (2011) 1862-1865.

Investigation of Irradiation Conditions for Recurrent Breast Cancer in JRR-4
H. Horiguchi ,T. Nakamura, H. Kumada, H. Yanagie, M. Suzuki and H. Sagawa
Appl. Radiat. Isot., **69** (2011) 1882-1884.

Pharmacokinetics of Core-polymerized, Boron-conjugated Micelles Designed for Boron Neutron Capture Therapy for Cancer
S. Sumitani, M. Oishi, T. Yaguchi, H. Murotani, Y. Horiguchi, M. Suzuki, K. Ono, H. Yanagie and Y. Nagasaki
Biomaterials, **33** (2011) 3568-3577.

Guideline for the Treatment of Primary Breast Cancer: Radiation Therapy
C. Yamauchi, M. Mitsumori, M. Narabayashi and M. Hiraoka
Current Therapy, **29**[5] (2011) 402-406 (in Japanese).

BNCT for Head and Neck Tumor
M. Suzuki
Head and Neck Cancer, **37** (2011) 503-507 (in Japanese).

Present Status and Future Prospects of Accelerator Based Neutron Source
H. Tanaka
PET Jounal, **17** (2011) 39-41(in Japanease).

Study on High Speed Lithium Jet For Neutron Source of Boron Neutron Capture Therapy (BNCT)
M. Takahashi, T. Kobayashi, M. Zhang, M. Mak, J. Štefanica, V. Dostal and W. Zhao
J. Power and Energy Systems, **6**[2] (2012) 324-338.

A novel BNCT Irradiation System with an On-line Monitor using $^{7}Li(p,n)^{7}Be$ Near Threshold Neutrons
T. Kobayashi, G. Bengua, K. Tanaka, N. Hayashizaki, T. Katabuchi, T. Hattori and M. Aritomi
Radiat. Meas., **46**[12] (2011) 2000-2002.

Cationized Gelatin-HVJ Envelope with Sodium Borocaptate Improved the BNCT Efficacy for Liver Tumors in vivo
H. Fujii, A. Matsuyama, H. Komoda, M. Sasai, M. Suzuki, T. Asano, Y. Doki , M. Kirihata, K. Ono, Y. Tabata, Y. Kaneda, Y. Sawa and CM Lee
Radiat. Oncol., **6** (2011) 6-19.

* Potent Inorganic Boron Clusters as Expected Material for Future BNCT
T. Nagasaki
Expected Materials for the Future, **12**[5] (2012) 34-39.

* Design and Synthesis of Fluorescence-labeled Closo-dodecaborate Lipid: Liposome Formation and in vitro and in vivo Imaging Targeting to Tumor for Boron Neutron Capture Therapy
H. Nakamura, N. Ueda, H. B. Ban, M. Ueno and S. Tachikawa
Org. Biomol. Chem., **10** (2012) 1374-1380.

Detailed Dosimetric Evaluation of Intensity-modulated Radiation Therapy Plans Created for Stage C Prostate Cancer Based on a Planning Protocol
Y. Norihisa, T. Mizowaki, K. Takayama, Y. Miyabe, K. Matsugi, Y. Matsuo, M. Narabayashi, K. Sakanaka, A. Nakamura, Y. Nagata and M. Hiraoka
Int. J. Clin. Oncol., (in press), (2011).

Dose-Volume Metrics Associated With Radiation Pneumonitis after Stereotactic Body Radiation Therapy For Lung Cancer
Y. Matsuo, K. Shibuya, M. Nakamura, M. Narabayashi, K. Sakanaka, N. Ueki, K. Miyagi, Y. Norihisa, T. Mizowaki, Y. Nagata and M. Hiraoka
Int. J. Radiat. Oncol. Biol. Phys., (in press), (2012).

Prognostic Factors in Stereotactic Body Radiotherapy for Non-small-cell Lung Cancer
Y. Matsuo, K. Shibuya, Y. Nagata, K. Takayama, Y. Norihisa, T. Mizowaki, M. Narabayashi, K. Sakanaka and M. Hiraoka
Int. J. Radiat. Oncol. Biol. Phys., **79**[4] (2011) 1104-1111.

Preliminary Report of Late Recurrences, at 5 Years or More, after Stereotactic Body Radiation Therapy for Non-small Cell Lung Cancer
Y. Matsuo, K. Shibuya, Y. Nagata, Y. Norihisa, M. Narabayashi, K. Sakanaka, N. Ueki, T. Mizowaki and M. Hiraoka
J. Thorac. Oncol., **7**[2] (2012) 453-456.

DNA Double-strand Break Induction in Ku80-deficient CHO Cells Following Boron Neutron Capture Reaction
Y. Kinashi, S. Takahashi, G. Kashino, R. Okayasu, S. Masunaga, M. Suzuki and K. Ono
Radiat. Oncol., **6** (2011) 106-113.

FANCD1/BRCA2 Plays Predominant Role in the Repair of DNA Damage Induced by ACNU or TMZ
N. Kondo, A. Takahashi, E. Mori, T. Noda, MZ. Zdzienicka, LH. Thompson, T. Helleday, M. Suzuki, Y. Kinashi, S. Masunaga, K. Ono, M. Hasegawa and T. Ohnishi
PLoS One, **6** (2011) e19659.

Evaluating the Usefulness of a Novel ^{10}B-carrier Conjugated with Cyclic RGD Peptide in Boron Neutron Capture Therapy
S. Masunaga, S. Kimura, T. Harada, K. Okuda, Y. Sakurai, H. Tanaka, M. Suzuki, N. Kondo, A. Maruhashi, H. Nagasawa and K. Ono
World J. Oncol. (in press).

Reducing Intratumor Acute Hypoxia Through Bevacizumab Treatment, Referring to the Response of Quiescent Tumor Cells and Metastatic Potential
S. Masunaga, Y. Liu, H. Tanaka, Y. Sakurai, G. Kashino, M. Suzuki, N. Kondo, A. Maruhashi and K. Ono
Br. J. Radiol., **84** (2011) 1131-1138.

Effects of Employing a ^{10}B-carrier and Manipulating Intratumor Hypoxia on Local Tumor Response and Lung Metastatic Potential in Boron Neutron Capture Therapy
S. Masunaga, Y. Sakurai, H. Tanaka, M. Suzuki, Y. Liu, N. Kondo, A. Maruhashi, Y. Kinashi and K. Ono
Br. J. Radiol., **85** (2012) 249-258.

Proceedings

Development of Thermal Neutron Flux Monitor Using Small Scintillator Array Coupled with Quartz Fibers for Boron Neutron Capture Therapy
H. Tanaka, Y. Sakurai, M. Suzuki, S. Masunaga, Y. Kinashi, N. Kondo, Y. Kawabata, T. Yagi, T. Misawa, K. Ono and A. Maruhashi
2011 IEEE Nuclear Science Symposium and Medical Imaging Conference, Valencia, Oct. 23-29, 2011 (2011) 416-418.

Current Status of Cyclotron-Based Epithermal Neutron Source for BNCT
H. Tanaka, Y. Sakurai, M. Suzuki, S. Masunaga, Y. Kinashi, N. Kondo, T. Mitsumoto, A. Maruhashi and K. Ono
6th Young Researchers Boron Neutron Capture Therapy Meeting, Hsinchu, Dec. 4-8, 2011 (2011) 246-249.

Updated Irradiation Characteristics of the BNCT Facility in Kyoto University Reactor after the Fuel Low-Enrichment
Y. Sakurai, H. Tanaka, M. Suzuki, S. Masunaga, Y. Kinashi, N. Kondo, K. Ono and A. Maruhashi
6th Young Researchers Boron Neutron Capture Therapy Meeting, Hsinchu, Dec. 4-8, 2011 (2011) 218-222.

An Experimental Study for Real-time Neutron Beam Monitor System for BNCT
T. Fujii, T. Ageishi, H. Tanaka, A. Maruhashi, K. Ono and Y. Sakurai
6th Young Researchers Boron Neutron Capture Therapy Meeting, Hsinchu, Dec. 4-8, 2011 (2011) 61-67.

Development of a Software for BNCT Combined with X-ray Radiotherapy
T. Ageishi, H. Tanaka, S. Kawabata, S. Miyatake, K. Ono, A. Maruhashi and Y. Sakurai
6th Young Researchers Boron Neutron Capture Therapy Meeting, Hsinchu, Dec. 4-8, 2011 (2011) 2-6.

Development of Cyclotron-Based Epithermal Neutron Source for Boron Neutron Capture Therapy
H. Tanaka, Y. Sakurai, M. Suzuki, S. Masunaga, T. Mitsumoto, Y. Kinashi, N. Kondo, A. Maruhashi and K. Ono
The 6th Japan-Korean Joint Meeting on Medical Physics, Fukuoka, Sep. 29- Oct. 1, 2011 (2011) P-7.
An Experimental Study for On-line Neutron Beam Monitor System for BNCT
T. Fujii, T. Ageishi, H. Tanaka, A. Maruhashi, K. Ono and Y. Sakurai
The 6th Japan-Korean Joint Meeting on Medical Physics, Fukuoka, Sep. 29- Oct. 1, 2011 (2011) D5-4.

Present Status of Reactor-based Facility for Boron Neutron Capture Therapy at Kyoto University Research Reactor Institute
Y. Sakurai, H. Tanaka, M. Suzuki, S. Masunaga, Y. Kinashi, N. Kondo, K. Ono and A. Maruhashi
The 6th Japan-Korean Joint Meeting on Medical Physics, Fukuoka, Sep. 29- Oct. 1, 2011 (2011) D5-3.

Study on Thermal Neutron Detection Method using Imaging Plate and Activation
H. Tanaka, Y. Sakurai, M. Suzuki, S. Masunaga, A. Maruhashi and K.Ono
The 18th International Conference on Medical Physics, Porto Alegre, Apr. 14-20, 2011 (2011) 122.

Present Status of Boron Neutron Capture Therapy at Kyoto University Research Reactor Institute
Y. Sakurai, H. Tanaka, M. Suzuki, S. Masunaga, Y. Kinashi, N. Kondo, K. Ono and A. Maruhashi
The 18th International Conference on Medical Physics, Porto Alegre, Apr. 14-20, 2011 (2011) 108.

Pulmonary Function Change after Stereotactic Body Radiotherapy for Primary Lung Cancer
N. Ueki, Y. Matsuo, K. Shibuya, A. Nakamura, K. Sakanaka, M. Narabayashi, T. Mizowaki and M. Hiraoka
ASTRO's 53rd Annual Meeting, Miami Beach, Fla., US, Oct. 2-6, 2011 (2011) S617.

Safety and Effectiveness of Stereotactic Body Radiotherapy for Clinically Diagnosed Primary Lung Cancers
K. Sakanaka, Y. Matsuo, Y. Nagata, S. Maki, K. Shibuya, K. Takayama, Y. Norihisa, M. Narabayashi, T. Mizowaki and M. Hiraoka
ASTRO's 53rd Annual Meeting, Miami Beach, Fla., US, Oct. 2-6, 2011 (2011) S627-S628.

The Initial Experience of Stereotactic Body Radiation Therapy for Small-Cell Lung Cancer
K. Hirata, Y. Matsuo, N. Ueki, K. Shibuya, K. Sakanaka, M. Narabayashi, T. Mizowaki and M. Hiraoka
The 70th Annual Meeting of Japan Radiological Society, Web Conference, May 9-20, 2011 (2011) 50.

The Initial Experience of IMRT for Hypopharyngeal Cancer
M. Yoshimura, Y. Matsuo, A. Nakamura, M. Narabayashi, T. Mizowaki, M. Hiraoka, N. Horii and Y. Nagata
The 70th Annual Meeting of Japan Radiological Society, Web Conference, May 9-20, 2011 (2011) S353.

Books

Clinical Practice Guideline of Breast Cancer; in Edition 2011 (1st edition): 1. Treatment
M. Mitsumori, K. Sekiguchi, E. Ogo, M. Oguchi, K. Karasawa, A. Saito, N. Shikama, M. Narabayashi, Y. Hamamoto, C. Yamauchi and E. Yoden
The Japanese Breast Cancer Society Kanehara & Co., Ltd., (2011).

BNCT from Basic Research to Clinical Application-Basis of Radiobiology for Understanding Neutron Capture Therapy
S. Masunaga
The Association for Nuclear Technology and Medicine, (2011) (in Japanese).

Optical Properties of Superionic Conductors
T. Awano
Science and Technology Co., Ltd., (2011).

Reviews

Boron Neutron Capture Therapy Standing at the Crossroads-In a Viewpoint of Radiation Oncologist.
S. Masunaga
Energy Review, 21-22 (in Japanese).

The necessity of the Accelerator-based BNCT Irradiation System
T. Kobayashi
Energy Review, **31**[11] (2011) 8-11 (in Japanese).

* Future Development of Boron Agents for Multi Cancer Targets on Boron Neutron Capture Therapy
H. Nakamura
Energy Rev., **31**[11] (2011) 17-18(in Japanese).

Modification of Radiation Effects
S. Masunaga and Y. Ogawa
Jpn. J. Cancer Clin., **57**[6] (2011) 265-270 (in Japanese).

Utilization of Nuclear Energy - nuclear Electric Power Generation and Neutron Capture Therapy
T. Kobayashi
Jpn. J. Med Phys., **31**[11] (2011) 8-11(in Japanese).

Neutron Capture Therapy
K. Ono, M. Suzuki and S. Masunaga
Lectures in Cancer Therapy, **2** (2011) 59-64 (in Japanese).

8. Neutron Radiography and Radiation Application

Papers

Landmine Detection Method Combined with Backscattering Neutrons and capture g-rays from Hydrogen
Y. Takahashi, T. Misawa, C.H. Pyeon, S. Shiroya and K. Yoshikawa
Appl. Radiat. Isot., **69** (2011) 1027-1032.

Neutron Radiography on Tubular Flow Reactor for Hydrothermal Synthesis: In Situ Monitoring of Mixing Behavior of Supercritical Water and Room-temperature Water
S. Takami, K. Sugioka, T. Tsukada, T. Adschiri, K. Sugimoto, N. Takenaka and Y. Saito
J. Supercrit. Fluids, **63** (2012) 46-51.

Development of Neutron Radiography Facility for Boiling Two-phase Flow Experiment in Kyoto University Research Reactor
Y. Saito, S. Sekimoto, M. Hino and Y. Kawabata
Nucl. Inst. Methods Phys. Res., Sect. A, **651-1** (2011) 36-41.

Proceedings

Neutron Radiography used on a Mono-propellant Thruster
H. Kagawa, N. Saitoh, K. Kajiwara, K. Nittoh, C. Konagai, Y. Saito and Y. Kawabata
47th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, San Diego, California, July 31- Aug. 3, 2011.

9. TRU and Nuclear Chemistry

Papers

Quantitative Analysis of Eu^{2}+ and Eu^{3}+ in LiCl-KCl Eutectic Melt by Spectrophotometry and Electrochemistry
T.J. Kim, A. Uehara, T. Nagai, T. Fujii and H. Yamana
J. Nucl. Mater., **409**[3] (2011) 188-193.

Electrochemical and Spectrophotometrical Study on Neodymium Ions in Molten Alkali Chlorides
K. Fukasawa, A. Uehara, T. Nagai, T. Fujii and H. Yamana
J. Alloys Compd., **509**[16] (2011) 5112-5118.

Absorption Spectra and Cyclic Voltammograms of Uranium Species in Molten Lithium Molybdate-Sodium Molybdate Eutectic at 550 °C
T. Nagai, A. Uehara, M. Fukushima, M. Myochin, T. Fujii N. Sato and H. Yamana
Proc. Radiochim. Acta, **1** (2011) 151-155.

EXAFS Analysis of Uranium (IV) and Thorium (IV) Complexes in $CaCl_2 \cdot 6H_2O$ Hydrate Melt
A. Uehara, T. Fujii, H. Matsuura, N. Sato, T. Nagai, K. Minato, H. Yamana and Y. Okamoto
Proc. Radiochim. Acta, **1** (2011) 161-165.

Isotope Fractionation of Palladium in Chemical Exchange Reaction,
T. Fujii, F. Moynier, A. Agranier, E. Ponzevera and M. Abe
Proc. Radiochim. Acta, **1** (2011) 339-344.

Nuclear Field Shift Effect of Lead in Chemical Exchange Reaction Using a Crown Ether
T. Fujii, F. Moynier, A. Agranier, E. Ponzevera and M. Abe
Proc. Radiochim. Acta, **1** (2011) 387-392.

Study on Annihilation Behavior of γ-ray Induced Defects in Li_2O
M. Kobayashi, S. Suzuki, R. Kurata, W. Wang, T. Fujii, H. Yamana, K. Feng, Y. Oya and K. Okuno
J. Nucl. Mater., **417**[1-3] (2011) 700-702.

Tritium Release from Ceramic Breeder Materials Deposited with Noble Metals
K. Munakata, K. Mochizuki, T. Wajima, K. Wada, K. Hara, T. Shinozaki, T. Takeishi, R. Knitter, N. Bekris, T. Fujii, H. Yamana and K. Okuno
J. Nucl. Mater., **417**[1-3] (2011) 731-734.

Electrochemical Behavior and Electronic Absorption Spectra of Uranium Ions in Molten LiCl-CsCl Mixtures
T. Nagai, A. Uehara, T. Fujii, N. Sato and H. Yamana
J. Nucl. Mater., **414**[2] (2011) 226-231.

Separation of Nd Metal by Using Disproportionation Reaction of Nd (II) in Molten Chlorides
A. Uehara, K. Fukasawa, T. Nagai, T. Fujii and H. Yamana
J. Nucl. Mater., **414**[2] (2011) 336-339.

Electrochemical and Spectrophotometric Study on Trivalent Neodymium Ion in Molten Binary Mixtures of LiCl and Alkali Earth Chloride
K. Fukasawa, A. Uehara, T. Nagai, T. Fujii and H. Yamana
J. Nucl. Mater., **414**[2] (2011) 265-269.

Electronic Absorption Spectra of Palladium(II) in Concentrated Nitric Acid Solutions
T. Fujii, S. Egusa, A. Uehara, A. Kirishima, I. Yamagishi, Y. Morita and H. Yamana
J. Radioanal. Nucl. Chem., **290**[2] (2011) 475-478.

A Niche for Early Life in Early Archean Serpentine Mud Volcanoes at Isua, Greenland
Marie-Laure PONS, Ghylaine QUITTE, T. Fujii, M. Rosing, B. Reynard, F. Moynier, C. Douchet and F. Albarede
Proc. Natl. Acad. Sci., **108**[43] (2011) 17639-17643.

The origin of Zn Isotope Fractionation in Sulfides
T. Fujii, F. Moynier, M.L. Pons and F. Albarede
Geochim. Cosmochim. Acta, **75**[23] (2011) 7632-7643.

Retention and Desorption Behaviors of Hydrogen Isotopes in Gamma-Ray Irradiated Li_2TiO_3
A. Harada, M. Kobayashi, R. Kurata, M. Suzuki, H. Yamana, T. Fujii, Y. Oya and K. Okuno
Fusion Sci. Technol., **60**[1] (2011) 399-402.

Study of Neutron Capture Reactions Using the 4π Ge Spectrometer
H. Harada, S. Goko, A. Kimura, M. Ohta, M. Oshima, F. Kitatani, Y. Toh, K. Furutaka, T. Kin, M. Koizumi, S. Nakamura, M. Igashira, T. Katabuchi, M. Mizumoto, T. Otsuki, J. Hori, T. Fujii, K. Takamiya, J. Goto, Y. Kiyanagi, K. Kino, M. Furusaka, T. Hiraga and T. Kamiyama
J. Korean Phys. Soc., **59**[2] (2011) 1547-1552.

Measurements of Neutron-capture Cross Sections of Palladium Isotopes at the J-PARC/MLF/ANNRI
S. Nakamura, K. Furutaka, S. Goko, H. Harada, A. Kimura, T. Kin, F. Kitatani, M. Koizumi, M. Ohta, M. Oshima, Y. Toh, J. Hori, T. Fujii, S. Fukutani, K. Takamiya, M. Igashira, T. Katabuchi, M. Mizumoto, T. Kamiyama, K. Kino and Y. Kiyanagi
J. Korean Phys. Soc., **59**[2] (2011) 1773-1776.

The 'Study on Nuclear Data by Using a High Intensity Pulsed Neutron Source for Advanced Nuclear System' Nuclear Data Project and the Characteristics of the Neutron Beam Line for the Capture Cross Section Experiments at J-PARC
Y. Kiyanagi, K. Kino, M. Furusaka, F. Hiraga, T. Kamiyama, K. Kato, M. Igashira, T. Katabuchi, M. Mizumoto, M. Oshima, H. Harada, J. Katakura, K. Furutaka, S. Goko, A. Kimura, T. Kin, F. Kitatani, M. Koizumi, S. Nakamura, M. Ohta, Y. Toh, T. Otsuki, K. Hirose, T. Fujii, J. Hori, K. Takamiya, S. Fukutani, M. Shibata, K. Yamada and H. Utsunomiya
J. Korean Phys. Soc., **59**[2] (2011) 1781-1784.

Measurements of Neutron-capture Cross Sections of ^{244}Cm and ^{246}Cm at J-PARC/MLF/ANNRI
A. Kimura, K. Furutaka, S. Goko, H. Harada, T. Kin, F. Kitatani, M. Koizumi, S. Nakamura, M. Ohta, M. Oshima, Y. Toh, T. Fujii, S. Fukutani, J. Hori, K. Takamiya, M. Igashira, T. Katabuchi, M. Mizumoto, T. Kamiyama, K. Kino and Y. Kiyanagi
J. Korean Phys. Soc., **59**[2] (2011) 1828-1831.

Dependence of Gamma-ray dose on Annihilation Processes of Irradiation Defects in Li_2TiO_3
J. Osuo, M. Kobayashi, R. Kurata, A. Hamada, W. Wang, T. Fujii, H. Yamana, T. Luo, K. Feng, Y. Oya and K. Okuno
Fusion Eng. Design, **86**[9-11] (2011) 2362-2364.

Theoretical and Experimental Investigation of Nickel Isotopic Fractionation in Species Relevant to Modern and Ancient Oceans
T. Fujii, F. Moynier, N. Dauphas and M. Abe
Geochim. Cosmochim. Acta, **75**[2] (2011) 469-482.

Coordination Characteristics of Trivalent Lanthanides and Actinides in Molten Hydrate Salts of $Ca(NO_3)_2$ and $CaCl_2$
T. Fujii, G. Okude, A. Uehara, S. Sekimoto, H. Hayashi, M. Akabori, K. Minato and H. Yamana
J. Radioanal. Nucl. Chem., **288**[2] (2011) 181-187.

Revaluation of Equilibrium Quotient between Titanium Ions and Metallic Titanium in NaCl-KCl Equimolar Molten Salt
H. Sekimoto, Y. Nose, A. Uehara, T. Uda, H. Yamana and H. Sugimura
J. Alloys Comp., **509** (2011) 5477-5482.

Solubility and Solubility-Limiting Phase in M (IV)-OH-Dicarboxylate Ternary Aqueous System
T. Kobayashi, T. Sasaki, I. Takagi and H. Moriyama
J. Nucl. Sci. Tech. (Tokyo, Jpn.), **48** (2011) 993-1003.

Proceedings

Quantitative Analysis of Lanthanides in Molten Chloride by Absorption Spectrophotometry
T. Uda, T. Fujii, K. Fukasawa, A. Uehara, K. Kinoshita, T. Koyama and H. Yamana
9th International Symposium on Molten Salts Chemistry and Technology (MS 9), Trondheim, Norway, Jun. 5-9, 2011 (2011) 355-361.

Formation of Uranium Fluoride Complex by Addition of Fluoride Ion to Molten NaCl-CsCl Melts
A. Uehara, O. Shirai, T. Fujii, T. Nagai, N. Sato and H. Yamana
9th International Symposium on Molten Salts Chemistry and Technology (MS 9), Trondheim, Norway, Jun. 5-9, 2011 (2011) 295-300.

Others

Development of Electrochemical Cell for XAS Measurement of Uranium Ions
A. Uehara, T. Fujii, H. Yamana and Y. Okamoto
Photon Factory Activity Report 2010, Part B, **28** (2011) 19.

10. Health Physics and Waste Management

Papers

Status of Radioactive Fallout and Drinking Water Contamination after Fukushima Daiichi Nuclear Reactor Accident
Y. Fujikawa
Environ. Conserv. Eng., **40**[4] (2011) 42-47.

Distribution of Radioactivity in the Soil and Water Environment and the Remediation Strategy
Y. Fujikawa
Environ. Conserv. Eng., **40**[5] (2011) 49-55.

Behavior of Environmental Tritium at NIFS Toki Site of Japan,
S. Sugihara, M. Tanaka, T. Tamari, J. Shimada, T. Takahashi, N. Momoshima, S. Fukutani, M. Atarashi-Andoh, Y. Sakuma, S. Yokoyama, K. Miyamoto, H. Amano, H. Yamanishi and T. Uda
Fusion Sci. Technol., **60**[4] (2011) 1300-1303.

Environmental Contamination by Antimony and Related Health Risks Around a Chemical Fiber Factory
M. Horiuchi, S. Mori, S. Yamanaka and S. Fukutani
J. Environmental Systems and Engineering, **67**[7] (2011) III_391-III_401 (in Japanese).

Radiation Survey Report in Iitate Village Due to the Fukushima NPP Accident
T. Imanaka, S. Endo, M. Sugai and S. Ozawa
Kagaku, **81** (2011) 594-600 (in Japanese).

Calculation of Personal Dose Equivalent for Positron-Emitting Radionuclides Using Monte Carlo Code EGS5
T. Kato, K. Aoki, S. Yokoyama, K. Ejiri, K. Minami, H. Yashima, A. Taniguchi, T. Nakamura and H. Hirayama
Radiat. Prot. Dosim., **146** (2011) 202-205.

Isotope Ratios of $^{235}U/^{238}U$ and $^{137}Cs/^{235}U$ in Black Rain Streaks on Plaster Wall Caused by Fallout of Hiroshima Atomic Bomb
K. Shizuma, A. Endo and Y. Fujikawa
Health Phys., **102**[2] (2012) 154-160.

Safety Cannot be Assured by Desire
H. Koide
Kagaku, **82**[3] (2012) 306-307 (in Japanese).

Estimation of Beta-ray Skin Dose from Exposure to Fission Fallout from the Hiroshima Atomic Bomb
S. Endo, K. Tanaka, K. Shizuma, M. Hoshi and T. Imanaka
Radiat. Prot. Dosim., **149** (2012) 84-90.

Radiation Exposure and Disease Questionnaires of Early Entrants after the Hiroshima Bombing
T. Imanaka, S. Endo, N. Kawano and K. Tanaka
Radiat. Prot. Dosim., **149** (2012) 91-96.

Influence of Radioactive Gas on Particle Size Measurement of Radioactive Aerosol with Diffusion Battery Method
N. Osada, Y. Oki, K. Yamasaki and S. Shibata
International Symposium on Radiation Safety and Detection Technology (ISORD-5), Kitakyushu, Japan, July 15-17, 2009, Prog. Nucl. Sci. Technol., 1 (2011) 483-486.

Proceedings

Radioactive Aerosol Particles Released from a Pneumatic Irradiation System in a Nuclear Research Reactor
Y. Oki, A. Ozaki, N. Osada, T. Kaneto, Y. Hata, K. Yamasaki and S. Shibata
Asia-Pacific Symposium on Radiochemistry (APSORC-09), Napa, California, U.S.A. Nov. 29 - Dec. 4, 2009, Proc. Radiochim. Acta, **1** (2011) 245-249.

Application of a Graded Screen Array for Size Measurements of Radioactive Aerosols in Accelerator Rooms
N. Osada, Y. Oki, H. Kanda, K. Yamasaki and S. Shibata
Asia-Pacific Symposium on Radiochemistry (APSORC-09), Napa, California, U.S.A. Nov. 29 - Dec. 4, 2009, Proc. Radiochim. Acta, **1** (2011) 251-255.

Initial Process of the Nuclear Explosion and Cloud Formation by the Hiroshima Atomic Bomb
T. Imanaka
17th Hiroshima International Symposium - Lessons from Unhappy Events in the History of Nuclear Power Development, Hiroshima, Jan. 25-26, 2012 (2012) 10-17.

Books

Radioactive Contamination after Great Japan Earthquake and Remediation Strategy
Y. Fujikawa
NTS, (2012). (in Japanese)

Others

Development and Application of KURAMA
M. Tanigaki
FBNews, **420** (2011) 6-10 (in Japanese).

Action of the Engineers and Scientists from Osaka and Kyoto in Response to the Accident in the Fukushima Daiichi Nuclear Power Plant
Y. Fujikawa
Jpn. J. Health Phys., **46**[3] (2011) 244-245.

" No Health Hazards at Below 100 mSv" a New Myth of Genshiryoku-mura?
T. Imanaka
Kagaku, **81** (2011) 1150-1155 (in Japanese).

11. Accelerator Physics

Papers

Scaling FFAG Accelerator for Muon Acceleration
J.B. Lagrange, T. Planche and Y. Mori
AIP Conf. Proc., 1382 (2011) 234-236.

Stationary Bucket Acceleration in the Scaling FFAG Accelerator
E. Yamakawa, T. Uesugi and Y. Mori
Int. J. Mod. Phy. A, **26** (2011) 1685-1872.

Zero-chromatic FFAG Straight Section
J.B. Lagrange, T. Planche and Y. Mori
Int. J. Mod. Phy. A, **26** (2011) 1785-1793.

Harmonic Number Jump Acceleration
T. Planche, J.B. Lagrange, E. Yamakawa, T. Uesugi, Y. Kuriyama, K. Okabe, Y. Ishi and Y. Mori
Nucl. Inst. Meth. Phys. Res., Sect. A **632** (2011) 7-17.

Compact Superferric FFAG Accelerators for Medium Energy Hadron Applications
B. Qin and Y. Mori
Nucl. Inst. Meth. Phys. Res., Sect. A, **648** (2011) 28-34.

A New Fast-rise Kicker Magnet System by a Waveform Correction Method using Auxiliary Magnets and a Three Bump Orbit Correction Method
E. Nakamura, Y. Sakai, I. Sakai, M. Takayama, S. Yabukami, Y. Ishi, T. Uesugi, T. Nakamura, Y. Nakao and S. Inagaki
Nucl. Inst. Meth. Phys. Res., Sect. A, **665** (2011) 19-24.

Proceedings

Status and Development of a Proton FFAG Accelerator at KURRI for ADSR Stud
Y. Kuriyama, Y. Ishi, J.B. Lagrange, Y. Mori, R. Nakano, T. Planche, T. Uesugi, E. Yamakawa, Y. Niwa, K. Okabe and I. Sakai
2011 Particle Accelerator Conference (PAC'11) New York, USA, Mar. 28- Apr. 1, 2011.

Advancement of FFAGs
Y. Mori
FFAG Workshop 2011 Oxford, England, Sep.11-16, 2011.

Theoretical and Experimental Studies of a Straight Scaling FFAG Line at KURRI
J. B. Lagrange
FFAG Workshop 2011 Oxford, England, Sep.11-16, 2011.

Status of FFAGs at KURRI
Y. Ishi
FFAG Workshop 2011 Oxford, England, Sep.11-16, 2011.

Serpentine Acceleration in Scaling FFAGs
E. Yamakawa
FFAG Workshop 2011 Oxford, England, Sep.11-16, 2011.

Straight Scaling FFAG
J. B. Lagrange, T. Planche, E. Yamakawa, T. Uesugi, Y. Kuriyama,Y. Ishi, B. Qin, K. Okabe, A. Sardet, R. Wasef and Y. Mori
IPAC 2011 San Sebastian, Spain, Sep. 4-9, 2011.

Serpentine Acceleration in Scaling FFAG
E. Yamakawa, J. B. Lagrange, R. Nakano, T. Planche, Y. Ishi, T. Uesugi, Y. Kuriyama, B. Qin, Y. Mori, K. Okabe and I. Sakai
IPAC 2011 San Sebastian, Spain, Sep. 4-9, 2011

RF Capture of a Beam with Charge-exchanging Multi-turn Injection
T. Uesugi, Y. Ishi, Y. Kuriyama, J. B. Lagrange, Y. Mori, R. Nakano, T. Planche, B. Qin, E. Yamakawa, Y. Niwa, K. Okabe and I. Sakai
IPAC 2011 San Sebastian, Spain, Sep. 4-9, 2011 (2011) 454-456.

H- Injection Studies of FFAG Accelerator at KURRI
K. Okabe, Y. Niwa, I. Sakai, Y. Ishi, Y. Kuriyama, J.B. Lagrange, Y. Mori, T. Uesugi and E. Yamakawa
IPAC 2011 San Sebastian, Spain, Sep. 4-9, 2011 (2011) 2676-2678.

Present Status of FFAG Proton Accelerator at KURRI
Y. Mori, Y. Ishi, Y. Kuriyama, J. B. Lagrange, R. Nakano, T. Planche, T. Uesugi, E. Yamakawa, Y. Niwa, K. Okabe and I. Sakai
IPAC 2011 San Sebastian, Spain, Sep. 4-9, 2011 (2011) 2685-2687.

Compact FFAG Accelerators for Medium Energy Hadron Applications
B. Qin, Y. Ishi, Y. Kuriyama, J. B. Lagrange, Y. Mori, K. Okabe, T. Uesugi and E. Yamakawa
IPAC 2011 San Sebastian, Spain, Sep. 4-9, 2011 (2011) 2688-2690.

12. Others

Papers

Thickness and Density of Additive Adsorbed Layer on Metal Surface Measured by Neutron Reflectometry and Its Effect on Tribological Properties
T. Hirayama, T. Takashi, Y. Konishi, M. Maeda, T. Matsuoka, K. Inoue, M. Hino, D. Yamazaki and M. Takeda
Trans. JSME, Ser, **77** [779] (2011) 2884-2893.

Proceedings

Development of a Surveillance System with Motion Detection and Self-location Capability
M. Tanigaki, T. Sano, Y. Hirai, M. Miyabe, S. Fukutani, H. Kawabe, Y. Kobayashi, Y. Kuriyama, N. Sato, K. Takamiya and Y. Morimoto
13th Int. Conf. Accelerator and Large Experimental Physics Control Systems, Grenoble, France, Oct. 10-14, 2011 (2011) 257-259.

A New Preparation Method for Neutron Monitor Using Ink-Jet Printer
K. Takamiya, M. Takimoto, S. Shibata, R. Okumura, Y. Nakano, J. H. Moon and S. H. Kim
Asia-Pacific Symposium on Radiochemistry (APSORC-09), Napa, California, U.S.A. Nov. 29- Dec. 4, 2009,
Proc. of Radiochimica Acta, **1** (2011) 63-66.

Experimentelle Untersuchung des Wärmeübergangs beim Strömungsverdampfen von CO_2 und CO_2-Öl-Gemischen
M. Wetzel, Y. Saito, M. Kind and Th. Wetzel
ProcessNet-Fachausschuss Wärme- und Stoffübertragung, Frankfurt, Germany, Mar. 21-22, 2011.

New Flow Pattern Map for CO_2 Two-phase Flow in Horizontal Smooth Tube
Y. Saito, M. Wetzel, M. Kind and Th. Wetzel
23rd IIR Int. Congress of Refrigeration, Prague, Czech Republic, Aug. 21-26, 2011.

Investigations on the Flow Boiling Heat Transfer of CO_2 and CO_2-Oil-mixtures
M. Wetzel, Y. Saito, M. Kind and Th. Wetzel
23rd IIR Int. Congress of Refrigeration, Prague, Czech Republic, Aug. 21-26, 2011.

Books

Verification of Fukushima Nuclear Power Plant Accident and Environmental Radiation Contamination
H. Unesaki
Kankyo Communications (2011).

Reviews

Are the Lessons of JCO Criticality Accident Well Applied? -For the Nuclear Accident Management (in Japanese)
K. Nakajima
J. Atomic Energy Soc. of Jpn, **53** (2011) 628-632.