

**VII. PUBLICATIONS**  
**(APRIL 2013 – MARCH 2014)**

## 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-186 Proceedings of the International Symposium on Environmental Monitoring and dose Estimation of Residents after Accident of TEPCO's Fukushima Daiichi Nuclear Power Stations (2013)
- KURRI-KR-187 Meeting on the Future Project of the Kyoto University Research Reactor Institute (2013)
- KURRI-KR-188 Proceedings of the Specialists' Meeting on the Chemistry and Technology of Actinide Elements (2013)
- KURRI-KR-189 Proceeding of the 21<sup>th</sup> Technical Meeting on Nuclear Reactor and Radiation for KURRI Engineers and the 12<sup>th</sup> Technical Official Group Section V Meeting in Kyoto University (2013)
- KURRI-KR-190 Proceedings of the 4<sup>th</sup> Integration Meeting of KUR Research Program for Scientific Basis of Nuclear Safety (2013)
- KURRI-KR-191 Proceedings of the 5<sup>th</sup> Integration Meeting of KUR Research Program for Scientific Basis of Nuclear Safety (2013)
- KURRI-KR-192 Proceedings of the Specialist Research Meeting on "The Latest Study on Analysis of Trace Amount of Elements Using Activation Analysis & The Results and Future Prospects of Activation Analysis Using KUR" (2014)
- KURRI-KR-193 Team for Holding Scientific Meetings, the Office of Academic Public Relations (2014)
- KURRI-KR-194 Proceedings of the International Symposium on Nuclear Back-end Issues and the Role of Nuclear Transmutation Technology after the accident of TEPCO's Fukushima Daiichi Nuclear Power Stations (2014)
- KURRI-KR-195 Proceedings of the Specialist Research Meeting on "Science and Engineering of Unstable Nuclei and Their Uses on Condensed Matter Physics" (2014)
- KURRI-KR-196 Proceedings of the Specialist Research Meeting on "Abnormal Protein Aggregation and the Folding Diseases, and their Protection and Repair System (2014)

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

- KURRI-KR (CD)-42 Proceedings of the Specialist Meeting on Positron Annihilation Study for Science and Engineering (November 30-December 1, 2012) (2013)
- KURRI-KR (CD)-43 Proceedings of Workshop on Reactor Physics (2013)
- KURRI-KR (CD)-44 Proceedings of the Specialist Meeting on Positron Annihilation Study for Science and Engineering (December 6-7, 2013)(2014)
- KURRI-KR (CD)-45 Workshop on Materials Irradiation Effects and Applications (2014)
- KURRI-KR (CD)-46 Proceedings of 11th International Workshop on Asian Network for Accelerator-Driven System and Nuclear Transmutation Technology (ADS+NTT 2013) (2014)

## Publication List (April 2013 – March 2014)

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

### 1. Slow Neutron Physics and Neutron Scattering

#### Papers

Spatial Arrangement and Functional Role of  $\alpha$ -Subunits of Proteasome Activator PA28 in Hetero-Oligomeric Form  
M. Sugiyama, H. Sahashi, E. Kurimoto, S. Takata, H. Yagi, K. Kanai, E. Sakata, Y. Minami, K. Tanaka and K. Kato  
Biochem. Biophys. Res. Commun., **432** (2013) 141-145.

Basic Concepts of Polarisation Analysis for Neutron Chopper Spectrometer POLANO at J-PARC  
K. Ohoyama, T. Yokoo, S. Itoh, J. Suzuki, K. Iwasa, T. J Sato, H. Kira, Y. Sakaguchi, T. Ino, T. Oku, K. Tomiyasu, M. Matsuura, H. Hiraka, M. Fujita, H. Kimura, T. Sato, J. Suzuki, H.M. Shimizu, T. Arima, M. Takeda, K. Kaneko, M. Hino, S. Muto, C.H. Lee, J.G. Park and S. Choi  
J. Phys. Soc. Jpn., **82** (2013) SA36.

Newly Proposed Inelastic Neutron Spectrometer POLANO  
T. Yokoo, K. Ohoyama, S. Itoh, J. Suzuki, K. Iwasa, T. J Sato, H. Kira, Y. Sakaguchi, T. Ino, T. Oku, K. Tomiyasu, M. Matsuura, H. Hiraka, M. Fujita, H. Kimura, T. Sato, J. Suzuki, M. Takeda, K. Kaneko, M. Hino and S. Muto  
J. Phys. Soc. Jpn., **82** (2013) SA35.

Development of Two-Dimensional Multiwire-Type Neutron Detector System with Individual Line Readout and Optical Signal Transmission  
K. Toh, T. Nakamura, K. Sakasai, K. Soyama, M. Hino, M. Kitaguchi and H. Yamagishi,  
Nucl. Instrum. Methods. Phys. Res., Sect. A, **726** (2013) 169-174.

Current Status of BL06 Beam Line for VIN ROSE at J-PARC/MLF  
M. Hino, T. Oda, M. Kitaguchi, N. L. Yamada, H. Sagehashi, Y. Kawabata and H. Seto  
Phys. Procedia, **42** (2013) 136-141.

Numerical Simulation of a Beam Divergence Correction for NRSE Spectrometer Using Polygonal 2D-focusing Supermirrors  
T. Oda, M. Hino, M. Kitaguchi and Y. Kawabata  
Phys. Procedia, **42** (2013) 121-124.

Distribution of Glass Transition Temperature in Multilayered Poly(Methyl Methacrylate) Thin Film Supported on a Si Substrate as Studied by Neutron Reflectivity  
R. Inoue, M. Nakamura, K. Matsui, T. Kanaya, K. Nishida and M. Hino  
Phys. Rev. E, **88** (2013) 32601.

Novel Neutron Reflectometer SOFIA at J-PARC/MLF for *In-Situ* Soft-Interface Characterization  
K. Mitamura, N. L. Yamada, H. Sagehashi, N. Torikai, H. Arita, M. Terada, M. Kobayashi, S. Sato, H. Seto, S. Goko, M. Furusaka, T. Oda, M. Hino, H. Jinnai and A. Takahara  
Polym. J., **43** (2013) 100-108.

Conformational Characterization of a Protein Complex Involving Intrinsically Disordered Protein by Small-Angle Neutron Scattering Using the Inverse Contrast Matching Method: a Case Study of Interaction between  $\alpha$ -Synuclein and PbaB Tetramer as a Model Chaperone  
M. Sugiyama, H. Yagi, T. Yamaguchi, K. Kumoi, M. Hirai, Y. Oba, N. Sato, L. Porcar, A. Martel and K. Kato  
J. Appl. Crystallogr., **47** (2014) 430-435.

Observation of the Spatial Distribution of Gravitationally Bound Quantum States of Ultracold Neutrons and Its Derivation Using the Wigner Function

G. Ichikawa, S. Komamiya, Y. Kamiya, Y. Minami, M. Tani, P. Geltenbort, K. Yamamura, M. Nagano, T. Sanuki, S. Kawasaki, M. Hino and M. Kitaguchi

Phys. Rev. Lett., **112** (2014) 71101.

## 2. Nuclear Physics and Nuclear Data

### Papers

In-beam Fission Study at JAEA for Heavy Element Synthesis

K. Nishio, H. Ikezoe, S. Hofmann, D. Ackermann, Y. Aritomo, V. F. Comas, Ch. E. Düllmann, S. Heinz, J. A. Heredia, F. P. Heßberger, K. Hirose, J. Khuyagbaatar, B. Kindler, I. Kojouharov, B. Lommel, M. Makii, R. Mann, S. Mitsuoka, I. Nishinaka, T. Ohtsuki, S. Saro, M. Schädel, A. G. Popeko, A. Türler, Y. Wakabayashi, Y. Watanabe, A. Yakushev and A. Yeremin

AIP Conf. Proc., **1524** (2013) 68-72.

Design for an Upgrade of the Gas-Jet Type ISOL at KUR

A. Taniguchi, M. Tanigaki and Y. Ohkubo

Nucl. Instrum. Methods. Phys. Res., Sect. B, **317** (2013) 476-479.

$\gamma$ -Flash Suppression Using a Gated Photomultiplier Assembled with an LaBr<sub>3</sub>(Ce) Detector to Measure Fast Neutron Capture Reactions

K. Y. Hara, H. Harada, Y. Toh and J. Hori

Nucl. Instrum. Methods. Phys. Res., Sect. A, **723** (2013) 121-127.

Magnetic Moment of the 2083 keV Level of <sup>140</sup>Ce

Y. Ohkubo, A. Taniguchi, Q. Xu, M. Tanigaki, N. Shimizu and T. Otsuka

Phys. Rev. C, **87** (2013) 44324 (1-5).

Measurements of the Neutron Activation Cross Sections for B<sub>1</sub> and Co at 386 MeV

H. Yashima, S. Sekimoto, K. Ninomiya, Y. Kasamatsu, T. Shima, N. Takahashi, A. Shinohara, H. Matsumura, D. Satoh, Y. Iwamoto, M. Hagiwara, K. Nishiizumi, M. W. Caffee and S. Shibata

Rad. Prot. Dos., (2013) 1-5.

Study of Heavy-Ion Induced Fission for Heavy-Element Synthesis

K. Nishio, H. Ikezoe, S. Hofmann, F.P. Heßberger, D. Ackermann, S. Antalic, Y. Aritomo, V.F. Comas, Ch.E. Düllman, A. Gorshkov, R. Graeger, S. Heinz, J.A. Heredia, K. Hirose, J. Khuyagbaatar, B. Kindler, I. Kojouharov, B. Lommel, H. Makii, R. Mann, S. Mitsuoka, Y. Nagame, I. Nishinaka, T. Ohtsuki, A.G. Popeko, S. Saro, M. Schädel, A. Türler, Y. Wakabayashi, Y. Watanabe, A. Yakushev and A.V. Yeremin

EPJ Web of Conf., **66** (2014) 03065 p.1-4.

Energy Resolution of Pulsed Neutron Beam Provided by the ANNRI Beamline at the J-PARC/MLF

K. Kino, M. Furusaka, F. Hiraga, T. Kamiyama, Y. Kiyonagi, K. Furutaka, S. Goko, K. Y. Hara, H. Harada, M. Harada, K. Hirose, T. Kai, A. Kimura, T. Kin, F. Kitatani, M. Koizumi, F. Maekawa, S. Meigo, S. Nakamura, M. Ooi, M. Ohta, M. Oshima, Y. Toh, M. Igashira, T. Katabuchi, M. Mizumoto and J. Hori

Nucl. Instrum. Methods. Phys. Res., Sect. A, **736** (2014) 66-74.

## Proceedings

### Present Status of Research Reactor and Future Prospects

K. Nakajima

Proc. of the 2012 Symposium on Nuclear Data, JAEA-Conf 2013-002, Kumatori, Osaka, Japan, Nov. 11-16 (2012) 21-27.

### Measurement of Capture Cross Section of $^{142}\text{Nd}$ with the Accurate Neutron-Nucleus Measurement Instrument (ANNRI) at J-PARC

T. Matsuhashi, M. Igashira, T. Katabuchi, M. Mizumoto, K. Terada, K. Hirose, A. Kimura, K. Furutaka, K. Y. Hara, H. Harada, M. Koizumi, F. Kitatani, S. Nakamura, M. Oshima, Y. Toh, T. Kamiyama, K. Kino, Y. Kiyonagi and J. Hori

Proc. of the 2012 Symposium on Nuclear Data, JAEA-Conf 2013-002, Kumatori, Osaka, Japan, Nov. 11-16 (2012) 133-135.

### Cross Section Measurement of $^{117}\text{Sn}(n,g)$ Using ANNRI-NaI(Tl) Spectrometer at J-PARC

K. Hirose, K. Furutaka, K. Y. Hara, H. Harada, A. Kimura, F. Kitatani, M. Koizumi, S. Nakamura, M. Oshima, Y. Toh, M. Igashira, T. Katabuchi, T. Matsuhashi, M. Mizumoto, K. Terada, T. Kamiyama, K. Kino, Y. Kiyonagi and J. Hori

Proc. of the 2012 Symposium on Nuclear Data, JAEA-Conf 2013-002, Kumatori, Osaka, Japan, Nov. 11-16 (2012) 173-178.

### Measurement of High Energy Neutron Induced Cross Sections for Terbium

H. Suzuki, S. Sekimoto, H. Yashima, K. Nishimura, K. Ninomiya, Y. Kasamatsu, T. Shima, N. Takahashi, A. Shinohara, H. Matsumura, M. Hagiwara, K. Nishiizumi, M.W. Caffee and S. Shibata

The 2012 Symposium on Nuclear Data, Osaka, Nov. 15-16 (2012) 197-202.

### Response Measurements of a Neutron Dosimeter for Epi-Thermal Region Using a Pulsed White Beam

T. Matsumoto, H. Harano, A. Masuda, J. Hori, M. Takada and S. Kamada

2013 IEEE Nuclear Science Symposium Conference Record, NPO1-209 (2014)

## Reviews

### Kyoto University Research Reactor Institute Electron Accelerator Neutron Source

J. Hori, T. Sano and Y. Takahashi

Isotope News, **717** (2014) 38-40 (in Japanese).

## 3. Reactor Physics and Reactor Engineering

### Papers

#### Conceptual Design of Multi-Targets for Accelerator-Driven System Experiments with 100-MeV Protons

Y. Takahashi, T. Azuma, T. Nishio, T. Yagi, C. H. Pyeon and T. Misawa

Ann. Nucl. Energy, **54** (2013) 162-166.

#### Reactivity Insertion Transient Analysis for KUR Low-enriched Uranium Silicide Fuel Core

X. Shen, K. Nakajima, H. Unesaki and K. Mishima

Ann. Nucl. Energy, **62** (2013) 195-207.

#### Accuracy of Thorium Cross Section of JENDL-4.0 Library in Thorium Based Fuel Core Evaluation

T. M. Vu, T. Fujii, K. Wada, T. Kojima, T. Kitada, N. Takaki, A. Yamaguchi, H. Watanabe and H. Unesaki

Ann. Nucl. Energy, **57** (2013) 173-178.

Application of Wavelength Shifting Fiber to Subcriticality Measurements

T. Yagi, C. H. Pyeon and T. Misawa

Appl. Radiat. Isot., **72** (2013) 11-15.

\* Development of Instrumentation System for Safety Measure at LWR's Severe Accident

T. Takeuchi, A. Shibata, H. Nagata, N. Kimura, N. Ohtsuka, T. Saito, J. Nakamura, Y. Matsui and K. Tsuchiya

ASMTR., **2013** (2013) 52-58.

One-Group Interfacial Area Transport Equation and Its Sink and Source Terms in Narrow Rectangular Channel

X. Shen and T. Hibiki,

Int. J. Heat and Fluid Flow, **44** (2013) 312-326.

Local Interfacial Velocity Measurement Method Using a Four-Sensor Probe

X. Shen and H. Nakamura

Int. J. Heat Mass Transf., **67** (2013) 843-852.

Application of Cerenkov Radiation Generated in Plastic Optical Fibers for Therapeutic Photon Beam Dosimetry

K. W. Jang, T. Yagi, C. H. Pyeon, W. J. Yoo, S. H. Shin, C. Y. Jeong, B. J. Min, D. H. Shin, T. Misawa and B. Lee

J. Biomed. Opt., **18** (2013) 27001.

Power Spectral Analysis for a Thermal Subcritical Reactor System Driven by a Pulsed 14 MeV Neutron Source

A. Sakon, K. Hashimoto, W. Sugiyama, H. Taninaka, C. H. Pyeon, T. Sano, T. Misawa, H. Unesaki and T. Ohsawa

J. Nucl. Sci. Technol., **50** (2013) 481-492.

Experimental Analyses of External Neutron Source Generated by 100 MeV Protons at the Kyoto University Critical Assembly

C. H. Pyeon, T. Azuma, Y. Takemoto, T. Yagi and T. Misawa

Nucl. Eng. Technol., **45** (2013) 81-88.

Development of Erbia-Credit Super-High-Burnup Fuel: Assessment of Fuel Cycle Economics

M. Yamasaki, H. Unesaki, A. Yamamoto, T. Takeda and M. Mori

Nucl. Technol., **183** (2013) 178-193.

Feasibility of Fiber-Optic Radiation Sensor Using Cerenkov Effect for Detecting Thermal Neutrons

K. W. Jang, T. Yagi, C. H. Pyeon, W. J. Yoo, S. H. Shin, T. Misawa and B. Lee

Opt. Express, **21** (2013) 14573-14582.

Spherical-Bubble-Based Four-Sensor Probe Signal Processing Algorithm for Two-Phase Flow Measurement

X. Shen and H. Nakamura

Int. J. Multiphase Flow, **60** (2014) 11-29.

Upward Air-Water Bubbly Flow Characteristics in a Vertical Square Duct

H. Sun, T. Kunugi, X. Shen and D. Wu; H. Nakamura

J. Nucl. Sci. Technol., **51** (2014) 267-281.

Measurement of Large Negative Reactivity of an Accelerator-driven System in the Kyoto University Critical Assembly

A. Sakon, K. Hashimoto, M.A.B. Maarof, M. Kawasaki, W. Sugiyama, C.H. Pyeon, T. Sano, T. Yagi and T. Ohsawa

J. Nucl. Sci. Technol., **51** (2014) 116-126.

## Proceedings

Measurement of the Isothermal Temperature Reactivity Coefficient of KUCA C-core with a D<sub>2</sub>O Tank

H. J. Shim, C. H. Pyeon, S. H. Choi, B. K. Jeon and E. H. Ryu

Proc. Int. Congress Advanced in Nucl. Power Plants (ICAPP2013), Jeju Apr. 14-18.

Basic Experiments on Accelerator Driven Subcritical System (ADS) for Transmutation of Minor Actinides and for Innovative Neutron Source

T. Misawa

Conference on Laser and Accelerator Neutron Sources and Applications (LANSA '13), Yokohama (Apr. 23-25).

Study on Flow Characteristics of Gas-Liquid Two-Phase Flow in a Large Diameter Square Duct

X. Shen, T. Hibiki and H. Nakamura

Symposium 2013 of the Japanese Society for Multiphase Flow (JSMF), Shinshu University, Japan, Aug. 9-11 (2013)

Paper No.: A314.

Experimental Benchmarks on the Thorium-Loaded Accelerator-Driven System at the Kyoto University Critical Assembly

C. H. Pyeon

Technical Mtg. (TM) of 'Collaborative Work on Accelerator Driven Subcritical Systems (ADS) and Use of Low-Enriched Uranium (LEU) in ADS', Vienna (Feb. 4-8).

Development of Measurement Methods for Detection of Special Nuclear Materials using D-D Pulsed Neutron Source

T. Misawa

Proc. Of Int. Workshop Nuclear Physics and Gamma-ray Source for Nuclear Security and Nonproliferation (NPNSNP), Tokai, Jan. 27-29.

Experiments on the Thorium-Loaded Accelerator-Driven System at the Kyoto University Critical Assembly

C. H. Pyeon

KIAS Int. Workshop on Accelerator-Driven System with Thorium 2013, Seoul. Korea, Jul. 11.

Spatio-temporal Measurement of Liquid Film Thickness in Tight-Lattice Double Subchannels

D. Ito and H.-M. Prasser

The 15th International Topical Meeting on Nuclear Reactor Thermalhydraulics, Pisa, Italy, May 12-15 (2013) NURETH15-226.

Experimental Investigation on Natural Circulation Capacity of Kyoto University Research Reactor

J. Zhang, X. Z. Shen, Y. Fujihara, T. Sano, Y. Takahashi, K. Oono, A. Nakamori, N. Maruyama, K. Hasegawa, T. Tsuchiyama, K. Minami, K. Okumura, T. Yamamoto and K. Nakajima

The 15th International Topical Meeting on Nuclear Reactor Thermal - Hydraulics, NURETH-15, Pisa, Italy, May 12-17 (2013) CD-ROM.

Experimental Investigation on Natural Circulation Capability of Kyoto University Research Reactor,

J. Zhang, X. Shen, Y. Fujihara, T. Sano, T. Yamamoto, K. Nakajima, K. Oono, A. Nakamori, N. Maruyama, K. Hasegawa, T. Tsuchiyama, Y. Takahashi, K., Minami and K. Okumura

The 15th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-15), Pisa, Italy, May 12-17 (2013) Paper No.: NURETH15-125.

Interfacial Area Transport of Gas-Liquid Bubbly Flow in Mini Channel

X. Shen and T. Hibiki

The 15th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-15), Pisa, Italy, May 12-17 (2013) Paper No.: NURETH15-439.

Forthcoming Experiments on Accelerator-Driven System with 100 MeV Protons at Kyoto University Critical Assembly

C. H. Pyeon, T. Yagi, Y. Takahashi, T. Sano and H. Shiga

Proc. Second Int. Workshop on Technology and Components of Accelerator Driven Systems (TCADS-2) (OECD/NEA), Nantes, France, May 21-23 (2013) CD-ROM.

A Study on Air-Water Two-phase Upward Turbulent Flow in a Large Square Duct

H. Sun, T. Kunugi, X. Shen and H. Nakamura

The 8th International Conference on Multiphase Flow (ICMF) 2013, Jeju, Korea, May 26-31 (2013) Paper No.: ICMF2013-244.

Two-Phase Flow Characteristics in a Liquid-metal Two-Phase Flow

Y. Saito, Y. Asai, D. Ito and K. Mishima

The 8th International Conference on Multiphase Flow (ICMF) 2013, Jeju, Korea, May 26-31 (2013) ICMF2013-822.

Power Spectral Analysis for a Thermal Accelerator-Driven System of the Kyoto University Critical Assembly

A. Sakon, K. Hashimoto and C. H. Pyeon

Proc. Second Int. Workshop on Technology and Components of Accelerator Driven Systems (TCADS-2), Nantes, May. 21-24.

\*Development of Instrumentation System for Safety Measure at LWR's Severe Accident

T. Takeuchi, A. Shibata, H. Nagata, N. Kimura, N. Ohtsuka, T. Saito, J. Nakamura, Y. Matsui and K. Tsuchiya

Proc. 3rd Asian Symposium on Material Testing Reactors, Nov. (2013) 52-58.

Future Nuclear System in Japan after the TEPCO Fukushima NPP Accident

T. Misawa

CETHZ-Kyoto Univ. Symposium, Zurich, Nov. 21-22.

Experimental Study of Flow Structure and Turbulent Characteristics in Lead-Bismuth Two-Phase Flow

G. Ariyoshi, D. Ito and Y. Saito

International Symposium on Nuclear Back-End Issues and the Role of Nuclear Transmutation Technology after the Accident of TEPCO's Fukushima Daiichi Nuclear Power Stations, Kyoto, Japan, Nov. 28 (2013) 32.

Heat Transfer Study for ADS Solid Target -Surface Wettability and its Effect on a Boiling Heat Transfer-

D. Ito, K. Hase and Y. Saito

International Symposium on Nuclear Back-End Issues and the Role of Nuclear Transmutation Technology after the Accident of TEPCO's Fukushima Daiichi Nuclear Power Stations, Kyoto, Japan, Nov. 28 (2013) 31.

Perspectives of Research and Development of Accelerator-Driven System in Kyoto University Research Reactor Institute

C. H. Pyeon, T. Yagi, Y. Takahashi, T. Sano, D. Ito, Y. Saito and K. Nakajima

Proc. 4th COE-INES Int. Sympo. (INES-4), Tokyo, Japan, Nov. 6-8.

Safety Re-evaluation of Kyoto University Research Reactor by Reflecting the Accident of Fukushima Daiichi Nuclear Power Plant

K. Nakajima

Joint IGORR 2013 & IAEA Technical Meeting, Daejeon, Korea, Oct. 13-18 (2013) CD-ROM.

Thorium-Loaded Accelerator-Driven System Experiments in Kyoto University Research Reactor Institute

C. H. Pyeon

Thorium Energy Conf. 2013 (ThEC13), Geneva, Oct. 27-31.

## Books

Final Report by the AESJ Investigation Committee on Fukushima Daiichi NPS Accident  
The Atomic Energy Society of Japan (AESJ) The Investigation Committee on TEPCO's Fukushima Daiichi NPS Accident  
Maruzen Publishing Co. Ltd., (2014) (in Japanese).

Chapter 2 Flow Characteristics and Void Fraction Prediction in Large Diameter Pipes, in L. Cheng (ed.), *Frontiers and Progress in Multiphase Flow I*  
X. Shen, J. Schlegel, S. Chen, S. Rassame, M. Griffiths, T. Hibiki and M. Ishii  
Springer International Publishing Switzerland (2014).

## Reviews

Review of Studies on Criticality Safety Evaluation and Criticality Experiment Methods  
Y. Naito, T. Yamamoto, T. Misawa and Y. Yamane  
*J. Nucl. Sci. Technol.*, **50** (2013) 1045.

## 4. Material Science and Radiation Effects

### Papers

Broadband Spectroscopy of Nanoporous-Gold Promoter  
S.K. Nakatani, Y.H. Han, T. Takahashi and T. Awano  
*Adv. Electrom.*, **2** (2013) 5-10.

Visualization of Conduction Pathways in Lithium Superionic Conductors:  $\text{Li}_2\text{S}-\text{P}_2\text{S}_5$  Glasses and  $\text{Li}_7\text{P}_3\text{S}_{11}$  Glass-ceramic  
K. Mori, T. Ichida, K. Iwase, T. Otomo, S. Kohara, H. Arai, Y. Uchimoto, Z. Ogumi, Y. Onodera and T. Fukunaga  
*Chem. Phys. Lett.*, **584** (2013) 113–118.

\* Formation of Lithium-Tritide by Hot Atom Reactions of Tritium Produced in Pb-16Li  
K. Okuno, M. Kobayashi, T. Yamanishi and Y. Oya  
*Fusion Eng. Des.*, **88** (2013) 2328-2331.

Structural Evolution of Glutathionate-Protected Gold Clusters Studied by Means of  $^{197}\text{Au}$  Mössbauer Spectroscopy  
N. Kojima, Y. Kobayashi, Y. Negishi, M. Seto and T. Tsukuda  
*Hyperfine Interact.*, **217** (2013) 91-98.

Studies on Spintronics-Related Thin Films Using Synchrotron-Radiation-Based Mössbauer Spectroscopy  
K. Mibu, M. Seto, T. Mitsui, Y. Yoda, R. Masuda, S. Kitao, Y. Kobayashi, E. Suharyadi, M. Tanaka, M. Tsunoda, H. Yanagihara and E. Kita  
*Hyperfine Interact.*, **217** (2013) 127-135.

Characteristic Interactions of  $^{111}\text{Cd}$  Probes with Nonradioactive In Impurities Doped in ZnO  
W. Sato, S. Komatsuda and Y. Ohkubo  
*Hyperfine Interact.*, **221** (2013) 79-84.

Crystal Structure and Cyclic Hydrogenation Property of  $\text{Pr}_4\text{MgNi}_{19}$   
K. Iwase, N. Terashita, K. Mori, H. Yokota and T. Suzuki  
*Inorg. Chem.*, **52** (2013) 14270–14274.

Crystal Structure and Hydrogen Storage Property of Nd<sub>2</sub>Ni<sub>7</sub> Superlattice Alloy

K. Iwase and K. Mori

Int. J. Hydrogen Energy, **38** (2013) 5316–5321.

In situ Synchrotron <sup>57</sup>Fe Mössbauer Spectroscopy of RFe<sub>2</sub> (R=Y, Gd) Hydrides Synthesized under Ultra-High-Pressure Hydrogen

T. Mitsui, R. Masuda, M. Seto, N. Hirao, T. Matsuoka, Y. Nakamura, K. Sakaki and H. Enoki

J. Alloys Compd., **580** (2013) S264-S267.

Small-Angle Neutron Scattering Observation of the Surface Structure of Ti<sub>0.31</sub>Cr<sub>0.33</sub>V<sub>0.36</sub> Alloy in Hydrogenation

K. Mori, K. Iwase, Y. Nishikawa, M. Sugiyama, Y. Oba and T. Fukunaga

J. Alloys Compd., **580** (2013) S18–S20.

Geometric and Electronic Structure of the Mn(IV) Fe(III) Cofactor in Class Ic Ribonucleotide Reductase: Correlation to the Class Ia Binuclear Non-Heme Iron Enzyme

Y. Kwak, W. Jiang, L. M. K. Dassama, K. Park, C. B. Bell III, L. V. Liu, S. D. Wong, M. Saito, Y. Kobayashi, S. Kitao, M. Seto, Y. Yoda, E. E. Alp, J. Zhao, J. M. Bollinger Jr., C. Krebs and E. I. Solomon

J. Am. Chem. Soc., **135** (2013) 17573-17584.

J. Am. Chem. Soc., **135** (2013) 17573-17584.

Fe<sup>2+</sup>-Based Layered Porous Coordination Polymers and Soft Encapsulation of Guests *via* Redox Activity

S. Horike, M. Sugimoto, K. Kongpatpanich, Y. Hijikata, M. Inukai, D. Umeyama, S. Kitao, M. Seto and S. Kitagawa

J. Mater. Chem. A, **1** (2013) 3675-3679.

Evaluation of Mechanical Properties and Nano-Meso Structures of 9-11%Cr ODS Steels

T. Tanno, S. Ohtsuka, Y. Yano, T. Kaito, Y. Oba, M. Ohnuma, S. Koyama and K. Tanaka,

J. Nucl. Mater., **440** (2013) 568-574.

Positron Annihilation Studies of Electron-Irradiated F82H Model Alloys

S.S. Huang, T. Yoshiie, Q. Xu, K. Sato and T.D. Troev

J. Nucl. Mater., **440** (2013) 617-621.

Microstructure of Ni Fatigued under Neutron Irradiation

K. Sato, X.Z. Cao, T. Yoshiie, Q. Xu, C. Kutsukake and C. Konno

J. Nucl. Mater., **442** (2013) S805-S808.

Recovery Process of Neutron-Irradiated Vanadium Alloys in Post-Irradiation Annealing Treatment

K. Fukumoto, M. Iwasaki and Q. Xu

J. Nucl. Mater., **442** (2013) S360-S363.

\* Migration of Hydrogen Isotopes in Lithium Metatitanate

M. Kobayashi, Y. Oya and K. Okuno

J. Nucl. Mater., **439** (2013) 159-167.

Effects of Alloying Elements on Defect Structures in the Incubation Period for Void Swelling in Austenitic Stainless Steels

M. Horiki, T. Yoshiie, S.S. Huang, K. Sato, X.Z. Cao, Q. Xu and T.D. Troev

J. Nucl. Mater., **442** (2013) S813-S816.

Unveiling the Origin of Unusual Pseudocapacitance of RuO<sub>2</sub> · nH<sub>2</sub>O from Its Hierarchical Nanostructure by Small-Angle X-ray Scattering

N. Yoshida, Y. Yamada, S. Nishimura, Y. Oba, M. Ohnuma and A. Yamada

J. Phys. Chem. C, **117** (2013) 12003-12009.

- Formation of a Pd@Au<sub>12</sub> Superatomic Core in Au<sub>24</sub>Pd<sub>1</sub>(SC<sub>12</sub>H<sub>25</sub>)<sub>18</sub> Probed by <sup>197</sup>Au Mössbauer and Pd K-Edge EXAFS Spectroscopy  
Y. Negishi, W. Kurashige, Y. Kobayashi, S. Yamazoe, N. Kojima, M. Seto and T. Tsukuda  
J. Phys. Chem. Lett., **4** (2013) 3579-3583.
- Vacancy Migration Process in F82H and Fe-Cr Binary Alloy Using Positron Annihilation Lifetime Measurement  
K. Sato, Q. Xu, D. Hamaguchi, S.S. Huang and T. Yoshiie  
J. Phys. Conf. Ser., **443** (2013) 012031.
- Positron Annihilation Study of Free Volume in Electron Irradiated Zr<sub>50</sub>Cu<sub>40</sub>Al<sub>10</sub> Bulk Glassy Alloy  
N. Onodera, A. Ishii, A. Iwase, Y. Yokoyama, K. Sato, Q. Xu, T. Yoshiie and F. Hori  
J. Phys. Conf. Ser., **443** (2013) 012022.
- Cu Precipitates in Fe Ion Irradiated Fe-Cu Alloys Studied Using Positron Techniques  
X.Z. Cao, P. Zhang, Q. Xu, K. Sato, H. Tsuchida, G.D. Cheng, H.B. Wu, X.P. Jiang, R.S. Yu, B.Y. Wang and L. Wei  
J. Phys. Conf. Ser., **443** (2013) 012017.
- Effects of Interactions between Dislocations and/or Vacancies and He Atoms on Mechanical Property Changes in Ni  
Q. Xu, H. Yamasaki, Y. Sugiura, K. Sato and T. Yoshiie  
Mater. Sci. Eng. A, **586** (2013) 231-235.
- Pitting Damage in Metals by Mercury Cavitation with MIMTM  
T. Yoshiie, M. Futakawa, T. Naoe, M. Komatsu, K. Sato, Q. Xu and M. Kawai  
Materia Japan, **52** (2013) 390-394 (in Japanese).
- Elucidation of the Fe(IV)=O Intermediate in the Catalytic Cycle of the Halogenase SyrB2  
S. D. Wong, M. Srncic, M. L. Matthews, L. V. Liu, Y. Kwak, K. Park, C. B. Bell III, E. E. Alp, J. Zhao, Y. Yoda, S. Kitao, M. Seto, C. Krebs, J. M. Bollinger and E. I. Solomon  
Nature, **499** (2013) 320-323.
- Reaction Kinetic Analysis of Damage Rate Effects on Defect Structural Evolution in Fe-Cu  
T. Yoshiie, Q. Xu and K. Sato  
Nucl. Instrum. Methods. Phys. Res. Sec., B, **303** (2013) 37-41.
- Vibronic Photoexcitation Spectra of Irradiated Spinel MgO · n Al<sub>2</sub>O<sub>3</sub> (n=2) at Low Temperatures  
A.Z.M.S. Rahman, X.Z. Cao, L. Wei, B.Y. Wang, Y. Tao, Q. Xu and K. Atobe  
Nucl. Instrum. Methods. Phys. Res. Sec., B, **305** (2013) 33-36.
- Interaction of Deuterium with Vacancies Induced by Ion Irradiation in W  
Q. Xu, K. Sato, X.Z. Cao, P. Zhang, B.Y. Wang, T. Yoshiie, H. Watanabe and N. Yoshida  
Nucl. Instrum. Methods. Phys. Res. Sec., B, **315** (2013) 146-148.
- Investigation of the Interaction of He and Din FeBSi Alloy  
Q. Xu, K. Sato and T. Yoshiie  
Phil. Mag. Lett., **93** (2013) 560-565.
- Effects of Sn on Defect Structures in High-Speed Deformed Ni-Sn Alloy  
K. Sato, Q. Xu and T. Yoshiie  
Phil. Mag., **93** (2013) 567-574.

Point Defect Processes in Neutron Irradiated Ni, Fe-15Cr-16Ni and Ti-Added Modified SUS316SS

M. Horiki, T. Yoshiie, K. Sato and Q. Xu

Phil. Mag. Lett., **93** (2013) 1701-1714.

Selective Cu(II) Adsorption from Aqueous Solutions Including Cu(II), Co(II), and Ni(II) by Modified Acrylic Acid Grafted PET Film

N. Rahman, N. Sato, S. Yoshioka, M. Sugiyama, H. Okabe and K. Hara

ISRN polymer Science, **2013** (2013) (DOI: 10.1155/2013/536314, 9 pages).

Nuclear Resonance Vibrational Spectroscopic and Computational Study of High-Valent Diiron Complexes Relevant to Enzyme Intermediates

K. Park, C. B. Bell III, L. V. Liu, D. Wang, G. Xue, Y. Kwak, S. D. Wong, K. M. Light, J. Zhao, E. E. Alp, Y. Yoda, M. Saito, Y. Kobayashi, T. Ohta, M. Seto, L. Que, Jr. and E. I. Solomon

Proc. Natl. Acad. Sci. U.S.A., **110** (2013) 6275-6280.

Beam Flux Dependence of Ion-Irradiation-Induced Porous Structures in III-V Compound Semiconductors

N. Nitta, T. Hasegawa, H. Yasuda, K. Sato, Q. Xu, T. Yoshiie, M. Taniwaki and A. Hatta

Radiat. Eff. Defects Solids, **168** (2013) 247-252.

Synchrotron Radiation-Based Mössbauer Spectra of  $^{174}\text{Yb}$  Measured with Internal Conversion Electrons

R. Masuda, Y. Kobayashi, S. Kitao, M. Kurokuzu, M. Saito, Y. Yoda, T. Mitsui, F. Iga and M. Seto

Appl. Phys. Lett., **104** (2014) 082411 (5 pages).

A Porous Coordination Polymer with a Reactive Diiron Paddlewheel Unit

K. Kongpatpanich, S. Horike, M. Sugimoto, S. Kitao, M. Seto and S. Kitagawa

Chem. Commun., **50** (2014) 2292-2294.

Selective Hg(II) Adsorption from Aqueous Solutions of Hg(II) and Pb(II) by Hydrolyzed Acrylamide-Grafted PET Films

N. Rahman, N. Sato, M. Sugiyama, Y. Hidaka, H. Okabe and K. Hara

J. Environ. Sci. Health. A, **49** (2014) 798-806.

Studies on ADS as a Neutron Source at the Kyoto University Research Reactor Institute

T. Yoshiie, K. Fukumoto, Y. Ishi, D. Ito, Y. Kuriyama, T. Misawa, Y. Mori, T. Nagasaka, K. Nakajima, Y. Oki, C. Pyeon, Y. Saito, K. Sato, X. Shen, S. Shibata, T. Uesugi and Q. Xu

J. Nucl. Mater., **450** (2014) 16-19.

$^{125}\text{Te}$  Synchrotron-Radiation-Based Mössbauer Spectroscopy of  $\text{Fe}_{1.1}\text{Te}$  and  $\text{FeTe}_{0.5}\text{Se}_{0.5}$

M. Kurokuzu, S. Kitao, Y. Kobayashi, M. Saito, R. Masuda, T. Mitsui, Y. Yoda and M. Seto

J. Phys. Soc. Jpn., **83** (2014) 044708 (4 pages).

Hierarchical Structure-Property Relationships in Graft-Type Fluorinated Polymer Electrolyte Membranes Using Small- and Ultrasmall-Angle X-ray Scattering Analysis

T. D. Tap, S. Sawada, S. Hasegawa, K. Yoshimura, Y. Oba, M. Ohnuma, Y. Katsumura and Y. Maekawa

Macromolecules, **47** (2014) 2373-2383.

Verification of Terahertz-Wave Spectrophotometry by Compton Backscattering of Coherent Synchrotron Radiation

N. Sei and T. Takahashi

Phys. Lett. A, **378** (2014) 303-307.

The Effect of Hot DMSO Treatment on the  $\gamma$ -Ray-Induced Grafting of Acrylamide onto PET Films  
N. Rahman, N. Sato, M. Sugiyama, Y. Hidaka, H. Okabe and K. Hara  
Polym. J., **46** (2014) 412-421.

### Proceedings

Neutron-Transmuted Carbon-14 in Neutron-Irradiated GaN: Compensation of DX-like Center  
T. Ida, T. Oga. K. Kuriyama, K. Kushida, Q. Xu and S. Fukutani  
31st International Conference on the Physics of Semiconductor 2012, Zurich, Switzerland, (2013) American Institute of Physics Conference Proceedings, 1566, 67-68.

Broadband Spectroscopy of Nanoporous-Gold Promoter  
S. Kuwano-Nakatani, Y. H. Han, T. Takahashi and T. Awano  
Advanced Electromagnetics, **12** (2013) 5-10.

- \* Transport of Terahertz-Wave Coherent Synchrotron Radiation with a Free-Electron Laser Beamline at LEBRA  
N. Sei, H. Ogawa, K. Hayakawa, T. Tanaka, Y. Hayakawa, K. Nakao, T. Sakai, K. Nogami and M. Inagaki  
Proc. 35th Int Free Electron Laser Conference, New York, USA, Aug. 26-30 (2013) pp.383-386.

Defect Structures during Incubation Period of Void Swelling in Austenitic and Ferritic Alloys Studied by Positron Annihilation Spectroscopy  
S. Huang, K. Miyawaki, K. Tsujikawa, M. Horiki, T. Yoshiie, K. Sato, Q. Xu and T.D. Troev  
MRS Online Proceedings Library, Volume 1526, January 2013, mrsf12-1526-tt01-04, Jan (2013).

Characterizations of Dynamic Behavior for Organic Solar Cells under High Energy Secondary Electrons by  $^{60}\text{Co}$  Beams  
M. Oita, K. Nakata and Y. Sakurai  
Proc.13th Asia-Oceania Congress of Medical Physics & 11th South-East Asian Congress of Medical Phys., **2013** (2013) 54-55.

### Reviews

Structural Study of Superionic Conductors by Neutron Scattering  
Y. Onodera  
HAMON, **23** (2013) 197-203.

Expectation of Analysis Using BL09/SPICA, the World's First Neutron Beamline Dedicated for Battery Analysis  
H. Arai, K. Mori, Y. Onodera, T. Fukunaga, M. Yonemura, T. Kamiyama, M. Nagao, Y. Ishikawa and S. Torii  
J. Soc. Automot. Eng. Jpn., **67** (2013) 108-109.

Structure of Lithium Superionic Conductors  
T. Fukunaga, Y. Onodera and K. Mori  
MOLTEN SALTS, **56** (2013) 27-32.

### Others

Toward the Spread of Small-Angle Neutron and X-ray Scattering for Steel Research  
Y. Oba  
Bulletin of the Iron and Steel Institute of Japan (Ferrum), **18** (2013) 257-259.

## 5. Geochemistry and Environmental Science

### Papers

Accurate Determination of Chlorine, Bromine, and Iodine in Sedimentary Rock Reference Samples by Radiochemical Neutron Activation Analysis and a Detailed Comparison with Inductively Coupled Plasma Mass Spectrometry Literature Data

S. Sekimoto and M. Ebihara

Anal. Chem., **85** (2013) 6336-6341.

Aging Effect of  $^{137}\text{Cs}$  Obtained from  $^{137}\text{Cs}$  in the Kanto Loam Layer from the Fukushima Nuclear Power Plant Accident and in the Nishiyama Loam Layer from the Nagasaki A-bomb Explosion

T. Ohta, Y. Mahara, T. Kubota and T. Igarashi

Anal. Sci., **29** (2013) 941-947.

- \* Closure Temperature of Muscovite using Laser Heating Results

H. Hyodo

Bulletine of Research Institute of Natural Sciences, Okayama University of Science, **39** (2013) 45-50 (in Japanese).

- \* Luminescence Dating of Lake Sediments and Some Problems

K. Ito, N. Hasebe and K. Kashiwaya

Chikyu Monthly Special, **62** (2013) 37-43.

- \* Advances in Observation Methods for Fission Track Dating

N. Hasebe, K. Ito, T. Fukuma, S. Ohishi and J. Kim

Chikyu Monthly Special, **62** (2013) 124-128.

- \* Apatite Fission Track Age Determination on Samples Around Syowa Station, Antarctica

M. Takaoka, N. Hasebe, N. Ishikawa, N. Iwata, A. Tamura and S. Arai

FTNL, **26** (2013) 34-36.

- \* Multi-geochronology of Hakusan Volcano

Y. Nakano, N. Hasebe, H. Miyamoto, T. Higashino A. Tamura and S. Arai

FTNL, **26** (2013) 32-33.

- \* Luminescence Dating of Core Sediments from Lake Hovsgol, Mongolia

K. Ito, G. Duller, N. Hasebe, S. Arai, T. Nakamura and K. Kashiwaya

FTNL, **26** (2013) 26-28.

- \* Zeta Equivalent Fission-Track Dating Using LA-ICP-MS and Examples with Simultaneous U-Pb Dating

N. Hasebe, A. Tamura and S. Arai

Island Arc., **22** (2013) 280-291.

- \* An inter-Laboratory Evaluation of OD-3 Zircon for Use as a Secondary U-Pb Dating Standard

H. Iwano, Y. Orihashi T. Hirata, M. Ogasawara, T. Danhara, K. Horie, N. Hasebe, S. Sueoka, A. Tamura, Y. Hayasaka, A. Katsube, H. Ito, K. Tani, J. Kimura, Q. Chang, Y. Kouchi, Y. Haruta and K. Yamamoto

Island Arc., **22** (2013) 382-394.

Misinterpretation on the Risk of Radioactive Cesium Contained in the Disaster Wastes

Y. Fujikawa

J. Environ. Conserv. Eng., **42** (2013) 540-547 (in Japanese).

Ammonium Contamination of Groundwater in Vietnam and its Removal by SNAP (Single Stage Nitrogen Removal Using Anammox and Partial Nitrification) Reactor

Y. Fujikawa

J. Environ. Conserv. Eng., **42** (2013) 732-738 (in Japanese).

Removal of Radioactive Cesium, Strontium, and Iodine from Natural Waters Using Bentonite, Zeolite, and Activated Carbon

T. Kubota, S. Fukutani, T. Ohta and Y. Mahara

J. Radioanal. Nucl. Chem., **296** (2013) 981-984.

Development of a Car-borne  $\gamma$ -ray Survey System, KURAMA

M. Tanigaki, R. Okumura, K. Takamiya, N. Sato, H. Yoshino and H. Yamana

Nucl. Instrum. Methods. Phys. Res. Sec., A, **726** (2013) 162-168.

Separation and Measurement of  $^{129}\text{I}$  and  $^{127}\text{I}$  in Pre-nuclear-era Marine Algae with Ultra-low  $^{129}\text{I}/^{127}\text{I}$  Isotopic Ratios

T. Ohta, Y. Mahara, T. Kubota, T. Abe, H. Matsueda, T. Tokunaga, S. Sekimoto, K. Takamiya, S. Fukutani and H. Matsuzaki

Nucl. Instrum. Methods. Phys. Res. Sec., B, **294** (2013) 559-562.

Pore-water Mobility: Distribution of  $\delta^{37}\text{Cl}$ ,  $^{36}\text{Cl}/\text{Cl}$ ,  $^{129}\text{I}/^{127}\text{I}$  and Dissolved  $^4\text{He}$  Concentration in the Core Drilled in the Mobara Gas Field, Japan

Y. Mahara, T. Ohta, T. Tokunaga, H. Matsuzaki, K. Nagao, E. Nakata, Y. Miyamoto and T. Kubota

Nucl. Instrum. Methods. Phys. Res. Sec., B, **294** (2013) 597-601.

Distribution of Radiocaesium in Cattle body :Analysis Using a Compartment Model

T. Takase, Y. Takagai, M. Uchida, K. Namba, T. Otsuki and Y. Muramatsu

Radioisotopes, **62** (2013) 281-289.

- \* Confirmation of a Middle Jurassic Age for the Eedemt Formation in Dundgobi Province, Southeast Mongolia: Constraints from the Discovery of New Spinicaudatans (Clam Shrimps)

Li. Gang, H. Ando, H. Hasegawa, M. Yamamoto, T. Hasegawa, T. Ohta, N. Hasebe and N. Ichinnorov

Alcheringa: An Australasian Journal of Palaeontology, (2014) DOI:10.1080/03115518 2014 870834.

Analysis of Cesium Isotope Compositions in Environmental Samples by Thermal Ionization Mass Spectrometry-1. A Preliminary Study for Source Analysis of Radioactive Contamination in Fukushima Prefecture

Y. Shibahara, T. Kubota, T. Fujii, S. Fukutani, T. Ohta, K. Takamiya, R. Okumura, S. Mizuno and H. Yamana

J. Nucl. Sci. Technol., **51** (2014) 575-579.

A Study on Redox Sensitive Elements in the Sediments at Dredged Trenches in Tokyo Bay by Instrumental Neutron Activation Analysis

T. Yamagata, K. Shozugawa, R. Okumura, K. Takamiya and M. Matsuo

J. Radioanal. Nucl. Chem., (2014) accepted.

Bacterial Diversity in Biological Filtration System for the Simultaneous Removal of Arsenic, Iron and Manganese from Groundwater

R. T. Chhetri, I. Suzuki, T. Fujita, M. Takeda, J. Koizumi, Y. Fujikawa, A. Minami, T. Hamasaki and M. Sugahara

J. Water Environ. Technol., **12** (2014) 135-149.

## Proceedings

Applicability of Anammox Process to Low Level Ammonium Removal from Groundwater: A Preliminary Study

Y. Fujikawa, Ph. D. Hung, W. Mingling and K. Furukawa

International Anammox Symposium 2013, Seoul. Korea, Jun11-12 (2013) 76.

An Assessment on Electrolytic Degradation of PFOS with Platinum Electrodes for Environmental Remediation  
A. Hashiguchi, M. Yoneda, Y. Fujikawa, H. Ozaki, S. Taniguchi, R. R. Giri, K. Yasuda and T. Takata,  
The 16th International Conference on Diffuse Pollution and Eutrophication, Beijing, China, August 18-23 (2013).

Radiation Measurement in East Japan in 2011 after the Fukushima Nuclear Accident  
T. Kubota, J. Hori, N. Sato, K. Takamiya, T. Ohta and Y. Mahara  
Radiation Monitoring and Dose Estimation of the Fukushima Nuclear Accident, Kyoto, Dec. 14 (2012) 79-88.

Advanced Biological Treatment of Groundwater with Elevated Concentration of Arsenic and Ammonium  
Y. Fujikawa, P. Lewtas and S. Tani  
The 19th Symposium on Soil and Groundwater Contamination and Remediation, Kyoto, Japan, Jun. 13-14 (2013)  
30-33.

Removal of Cesium from the Extract of Municipal Water Treatment Sludges by Precipitation with Ferrocyanide Solids  
Y. Fujikawa, P. Wei, A. Fujinaga, H. Tsuno, H. Ozaki and S. Kimura  
15th International Conference on Environmental Remediation and Radioactive Waste Management, Belgium, Sept 8-12 (2013) ICEM2013-96320.

- \* Noble Gases in the Chelyabinsk Meteorite  
M. K. Haba, H. Sumino, K. Nagao, T. Mikouchi, M. Komatsu and M. E. Zolensky  
45th Lunar and Planetary Science Conference, The Woodlands, Texas, Mar.17-21 (2014) 1732.

## 6. Life Science and Medical Science

### Papers

Kinetics of Isomerization and Inversion of Aspartate 58 of  $\alpha$ A-crystallin Peptide Mimics under Physiological Conditions  
K. Aki, N. Fujii and N. Fujii  
PLoS One, **8** (2013) e58515 doi:10.1371 Epub 2013 Mar 7.

Interaction between DNA Polymerase  $\beta$  and BRCA1  
A. Masaoka, NR. Gassman, JK. Horton, PS. Kedar, KL. Witt, CA. Hobbs, GE. Kissling, K. Tano, K. Asagoshi and SH. Wilson  
PLoS One, **8** (2013) e66801(1-11).

- \* A Methodology for Estimating Localization of Apurinic/Apyrimidinic Sites in DNA Using Fluorescence Resonance Energy Transfer  
K. Akamatsu and N. Shikazono  
Anal. Biochem., **433** (2013) 171-180.

Antimicrobial and Antibiofilm Activity of Designed and Synthesized Antimicrobial Peptide, KABT-AMP  
B. Thankappan, S. Jeyarajan, H. Sakaue, K. Anbarasu, K. Natarajaseenivasan and N. Fujii  
Appl. Biochem. Biotechnol., **170** (2013) 1184-1193.

Increasing the Electron-Transfer Ability of *Cyanidioschyzon Merolae* Ferredoxin by a One-Point Mutation - a High Resolution and Fe-SAD Phasing Crystal Structure Analysis of the Asp58Asn Mutant  
Y. Ueno, T. Matsumoto, A. Yamano, T. Imai and Y. Morimoto  
Biochem. Biophys. Res. Commun., **436** (2013) 736-739.

Change of Dynamics of Raft-Model Membrane Induced by Amyloid- $\beta$  Protein Binding

M. Hirai, R. Kimura, K. Takeuchi, M. Sugiyama, K. Kasahara, N. Ohta, B. Farago, A. Stadler and G. Zaccai  
Eur. Phys. J. E, **36** (2013) 74.

Galectin-7 and Actin are Components of Amyloid Deposit of Localized Cutaneous Amyloidosis

Y. Miura, S. Harumiya, K. Ono, E. Fujimoto, M. Akiyama, N. Fujii, H. Kawano, H. Wachi and S. Tajima  
Exp. Dermatol., **22** (2013) 36-40.

Suppressive Effect of Ascorbic Acid on the Mutagenesis Induced by the Bystander Effect through Mitochondrial Function

G. Kashino, Y. Tamari, J. Kumagai, K. Tano and M. Watanabe  
Free Radic. Res., **47** (2013) 474-479.

Simultaneous Ultraviolet B-Induced Photo-Oxidation of Tryptophan/Tyrosine and Racemization of Neighboring Aspartyl Residues in Peptides

S. Cai, N. Fujii, T. Saito and N. Fujii  
Free Radical Bio. Med., **65** (2013) 1037-1046.

Extension of Lifespan and Protection against Oxidative Stress by an Antioxidant Herb Mixture Complex (KPG-7) in *Caenorhabditis Elegans*

T. Moriwaki, S. Kato, Y. Kato, A. Hosoki, QM. Zhang-Akiyama  
J. Clin. Biochem. Nutr., **53** (2013) 81-88.

Structural Fluctuation Observed in Z-DNA d(CGCGCG)<sub>2</sub> in the Absence of Divalent Metal Cations and Polyamines

T. Chatake  
J. Synchrotron Radiat., **20** (2013) 864-868.

X-ray Structure Determination and Deuteration of Nattokinase

Y. Yanagisawa, T. Chatake, S. Naito, T. Ohsugi, C. Yatagai, H. Sumi, A. Kawaguchi, K. Chiba-Kamosida, M. Ogawa, T. Adachi and Y. Morimoto  
J. Synchrotron Radiat., **20** (2013) 875-879.

Fundamental Studies for the Proton Polarization Technique in Neutron Protein Crystallography

I. Tanaka, K. Kusaka, T. Chatake and N. Niimura  
J. Synchrotron Radiat., **20** (2013) 958-961.

Evaluation of SCCVII Tumor Cell Survival in Clamped and Non-Clamped Solid Tumors Exposed to Carbon-Ion Beams in Comparison to X-rays.

R. Hirayama, A. Uzawa, N. Takase, Y. Matsumoto, M. Noguchi, K. Koda, M. Ozaki, K. Yamashita, H. Li, Y. Kase, N. Matsufuji, S. Koike, S. Masunaga, K. Ando, R. Okayasu and Y. Furusawa  
Mutat. Res., **756** (2013) 146-151.

Structural Basis of a Nucleosome Containing Histone H2A.B/H2A.Bbd That Transiently Associates with Reorganized Chromatin

Y. Arimura, H. Kimura, T. Oda, K. Sato, A. Osakabe, H. Tachiwana, Y. Sato, Y. Kinugasa, T. Ikura, M. Sugiyama, M. Sato and H. Kurumizaka,  
Sci. Rep., **3** (2013) 3510.

\* Quantitative Characteristics of Clustered DNA Damage in Irradiated Cells by Heavy Ion Beams

H. Terato, Y. Shimazaki-Tokuyama, Y. Inoue and Y. Furusawa  
J. Radiat. Res., **55** (2014) i89-i90.

An Increase of Oxidized Nucleotides Activates DNA Damage Checkpoint Pathway that Regulates Post-Embryonic Development in *Caenorhabditis Elegans*

Y. Sanada and QM. Zhang-Akiyama

Mutagenesis, **29** (2014) 107-114.

Effects of Carotenoids on Damage of Biological Lipids Induced by Gamma Irradiation

T. Saito and N. Fujii

Radiat. Phys. Chem., **98** (2014) 57–63.

## Proceedings

Rapid Analysis of the Isomers of Individual Asp residues in Lens Crystallins from Elderly Donors Using LC-MS.

N. Fujii, N. Fujii and H. Sasaki

International Conference on the Lens, Sheraton Kona Resort and Spa, Kona, Hawaii (Jan. 19-24, 2014) 47.

Study on the Soluble Vitamin K<sub>2</sub> from natto Strain

T. Chatake, Y. Yanagisawa, T. Matsuo, S. Fujiwara and Y. Morimoto

The 48th KURRI Scientific Meeting, Osaka, Japan, Jan. 30-31 (2014) 109-112.

Crystal Structure of Symbiosis-Related Lectin from Octocoral

A. Kita, M. Jimbo, R. Sakai, Y. Morimoto, R. Takeuchi, H. Tanaka, T. Takahashi and K. Miki

The 48th KURRI Scientific Meeting, Osaka, Japan, Jan. 30-31 (2014) 67-70.

## Books

Radiation Biology, The 2nd Chapter, The Mode of Radiotherapy, Basis of Radiotherapy, “Radiotherapy for Breast Cancer Based on a Cooperative Medical Care”

S. Masunaga

Medical Education Research Co., Inc., (2013) (in Japanese).

## 7. Neutron Capture Therapy

### Papers

Relative Biological Effects of Neutron Mixed-Beam Irradiation for Boron Neutron Capture Therapy on Cell Survival and DNA Double-Strand Breaks in Cultured Mammalian Cells

K. Okumura, Y. Kinashi, Y. Kubota, E. Kitajima, R. Okayasu, K. Ono and S. Takahashi

J. Radiat. Res., **54** (2013) 79-75.

\* Interference in DNA Replication can Cause Mitotic Chromosomal Breakage Unassociated with Double-Strand Breaks

M. Fujita, H. Sasanuma, NK. Yamamoto, H. Harada, A. Kurosawa, N. Adachi, M. Omura, M. Hiraoka, S. Takeda and K. Hirota

PLoS One, **8** (2013) e60043.

Sonoporation as an Enhancing Method for Boron Neutron Capture Therapy for Squamous Cell Carcinomas

N. Yamamoto, T. Iwagami, I. Kato, S. Masunaga, Y. Sakurai, S. Iwai, M. Nakazawa, K. Ono and Y. Yura

Radiat. Oncol., **8** (2013) 280.

Boron Neutron Capture Therapy Outcomes for Advanced or Recurrent Head and Neck Cancer

M. Suzuki, I. Kato, T. Aihara, J. Hiratsuka, K. Yoshimura, M. Niimi, Y. Kimura, Y. Ariyoshi, S. Haginomori,

Y. Sakurai, Y. Kinashi, S. Masunaga, M. Fukushima, K. Ono and A. Maruhashi

J. Radiat. Res., **55** (2014) 146-153.

The Acceleration of Boron Neutron Capture Therapy Using Multi-Linked Mercaptoundecahydrododecaborate (BSH) Fused Cell-Penetrating Peptide

H. Michiue, Y. Sakurai, N. Kondo, M. Kitamatsu, F. Bin, K. Nakajima, Y. Hirota, S. Kawabata, T. Nishiki, I. Ohmori, K. Tomizawa, S. Miyatake, K. Ono and H. Matsui  
Biomaterials, **35** (2014) 3396-3405.

- \* Optimization of Biguanide Derivatives as Selective Antitumor Agents Blocking Adaptive Stress Responses in the Tumor Microenvironment

K. Narise, K. Okuda, Y. Enomoto, T. Hirayama and H. Nagasawa  
Drug Des. Devel. Ther., **8** (2014) 701-717.

- \* Combination of Hybrid Peptide with Biodegradable Gelatin Hydrogel for Controlled Release and Enhancement of Anti-tumor Activity *in vivo*

A. Gaowa, T. Horibe, M. Kohno, K. Sato, H. Harada, M. Hiraoka, Y. Tabata and K. Kawakami  
J. Control. Release, **176** (2014) 1-7.

Synthesis and Biological Evaluation of Ammonioundecahydro-closo-dodecaborate(1-) Containing Amino Acids Derivatives for BNCT

Y. Hattori, S. Kusaka, S. Ueda, M. Mukumoto, Y. Ohta, H. Takenaka, K. Uehara, T. Asano, M. Suzuki, S. Masunaga, K. Ono, S. Tanimori and M. Kirihata  
J. Pept. Sci., **2013** (2014) 177-180.

High Linear-Energy-Transfer Radiation can Overcome Radioresistance of Glioma Stem-Like Cells to Low Linear-Energy-Transfer Radiation

Y. Hirota, S. Masunaga, N. Kondo, S. Kawabata, H. Hirakawa, H. Yajima, A. Fujimori, K. Ono, T. Kuroiwa and S. Miyatake  
J. Radiat. Res., **55** (2014) 75-83.

Development of a Simple and Rapid Method of Precisely Identifying the Position of <sup>10</sup>B Atoms in Tissue: an Improvement in Standard Alpha Autoradiography

H. Tanaka, Y. Sakurai, M. Suzuki, S. Masunaga, K. Takamiya, A. Maruhashi and K. Ono  
J. Radiat. Res., **55** (2014) 373-380.

HIF-1-Mediated Metabolic Reprogramming Reduces ROS Levels and Facilitates the Metastatic Colonization of Cancers in Lungs

T. Zhao, Y. Zhu, A. Morinibu, M. Kobayashi, K. Shinomiya, S. Itasaka, M. Yoshimura, G. Guo, M. Hiraoka and H. Harada  
Sci. Rep., **4** (2014) 3793.

The Dependency of Compound Biological Effectiveness Factors on the Type and the Concentration of Administered Neutron Capture Agents in Boron Neutron Capture Therapy

S. Masunaga, Y. Sakurai, H. Tanaka, K. Tano, M. Suzuki, N. Kondo, M. Narabayashi, Y. Nakagawa, T. Watanabe, A. Maruhashi and K. Ono  
Springer Plus, **3** (2014) 128.

## Proceedings

Future of Accelerator Based BNCT Neutron Irradiation System Using Liquid Lithium Target -The Usage of Neutrons by <sup>7</sup>Li(p,n)<sup>7</sup>Be Near Threshold Reactions -

T. Kobayashi, N. Hayashizaki, T. Katabuchi, K. Miura and M. Aritomi

7th Young Researchers' Boron neutron Capture Therapy Meeting (YBNCT-7), Granada, Sept. 22-26 (2013) 62.

Study on the Evaluation of <sup>10</sup>B Concentration Using Proton-Induced Prompt Gamma Ray Analysis for BNCT  
H. Tanaka, Y. Sakurai, R. Uchida, T. Kawamura, H. Tsuchida, M. Suzuki, S. Masunaga, N. Kondo, M. Narabayashi,  
K. Ono and A. Marunashi  
7th Young Researchers' Boron neutron Capture Therapy Meeting (YBNCT-7), Granada, Sept. 22-26 (2013) 57.

Monte Carlo Investigation on Measuring Spatial Distribution of Neutrons and Gamma Rays Using Multi Imaging  
Plate System  
K. Tanaka, Y. Sakurai, S. Endo and J. Takada  
7th Young Researchers' Boron neutron Capture Therapy Meeting (YBNCT-7), Granada, Sept. 22-26 (2013) 53.

A Study of Boron-dose Estimation Using Boron Concentration in Plasma  
Y. Sakurai, H. Tanaka, M. Suzuki, S. Masunaga, Y. Kinashi, N. Kondo, M. Narabayashi, N. Fujimoto, A. Marunashi  
and K. Ono  
7th Young Researchers' Boron neutron Capture Therapy Meeting (YBNCT-7), Granada, Sept. 22-26 (2013) 48.

Boron-Neutron Capture Therapy for Newly Diagnosed Head and Neck Cancer in Initial Treatment  
T. Aihara, N. Morita, N. Kamitani, H. Kumada, N. Fukumitsu, Y. Sakurai, K. Onishi, M. Suzuki, J. Hiratsuka and  
H. Sakurai  
7th Young Researchers' Boron Neutron Capture Therapy Meeting (YBNCT-7), Granada, Sept. 22-26 (2013) 26-27.

## 8. Neutron Radiography and Radiation Application

### Papers

Attempts for Simultaneous Observation of Image and Elemental Component in a Pottery Sample Using Neutrons  
S. Sekimoto, Y. Saito, D. Ito, Y. Homura, M. Ebihara and Y. Kawabata  
Phys. Procedia, **43** (2013) 352-359.

Neutron Radiography and Numerical Simulation of Mixing Behavior in a Reactor for Supercritical Hydrothermal  
Synthesis  
K. Sugioka, K. Ozawa, T. Tsukada, S. Takami, T. Adschiri, K. Sugimoto, N. Takenaka and Y. Saito  
AIChE J., **60** (2014) 1168-1175.

Effect of Ultraviolet and Radiation on Surface Wettability  
D. Ito, D. Nishi and Y. Saito  
J. Multiphase Flow, **27** (2014) 555-561 (in Japanese).

### Proceedings

Spatio-Temporal Measurement of Liquid Film Thickness in Tight-Lattice Double Subchannels  
D. Ito and H. M. Prasser  
The 15th International Topical Meeting on Nuclear Reactor Thermalhydraulics, Pisa, Italy, Jun. 12-15 (2012)  
NURETH15-226.

Measurement of Water Distribution and Analysis of Gas-Velocity Distribution in Operating PEFC  
H. Murakawa, S. Koh, K. Sugimoto, H. Asano, N. Takenaka and Y. Saito  
The 8th International Conference on Multiphase Flow (ICMF) 2013, Jeju, Korea May 26-31 (2013) ICMF2013-848.

Effect of Ultraviolet and Radiation on Surface Wettability  
D. Ito, D. Nishi, K. Hase and Y. Saito  
The 12th International Symposium on Fluid Control, Measurement and Visualization, Nara, Japan, Nov. 18-23,  
(2013)

## Reviews

Neutron Imaging Research in KUR (Kyoto University Reactor)

Y. Saito and Y. Kawabata

J. Jpn. Soc. Precis. Eng., **79** (2013) 822-825.

## 9. TRU and Nuclear Chemistry

### Papers

Experimental Demonstration of Mode-Selective Phonon Excitation of 6H-SiC by a Mid-infrared Laser with Anti-Stokes Raman Scattering Spectroscopy

K. Yoshida, T. Sonobe, H. Zen, K. Hachiya, K. Okumura, K. Mishima, M. Inukai, H. Negm, T. Konstantin, M. Omer, T. Kii, K. Masuda and H. Ohgaki

Appl. Phys. Lett., **103** (2013) 182103.

Nuclear Field Shift in Natural Environments

F. Moynier, T. Fujii, G. A. Brennecke and S. G. Nielsen

Compt. Rend. Geosci., **345** (2013) 150-159.

*Ab Initio* Calculations of the Fe(II) and Fe(III) Isotopic Effects in Citrates, Nicotianamine, and Phytosiderophore, and New Fe Isotopic Measurements in Higher Plants

F. Moynier, T. Fujii, K. Wang and J. Foriel

Compt. Rend. Geosci., **345** (2013) 230-240.

Correlation between Release of Deuterium and Annihilation of Irradiation Defects Produced by Gamma-Ray in  $\text{Li}_2\text{TiO}_3$

K. Toda, M. Kobayashi, T. Fujishima, H. Uchimura, R. Miura, T. Fujii, H. Yamana, Y. Oya and K. Okuno

Fusion Eng. Des., **88** (2013) 2369-2372.

A Zn Isotope Perspective on the Rise of Continents

M. L. Pons, T. Fujii, M. Rosing, G. Quitté, P. Télouk and F. Albarède

Geobiol., **11** (2013) 201-214.

Copper Isotope Fractionation between Aqueous Compounds Relevant to Low Temperature Geochemistry and Biology

T. Fujii, F. Moynier, M. Abe, K. Nemoto and F. Albarède

Geochim. Cosmochim. Acta, **110** (2013) 29-44.

Thermodynamic and Kinetic Properties of Oxide Ions in a LiCl-KCl-CsCl Eutectic Melt

Y. Kado, T. Goto and R. Hagiwara

J. Electrochem. Soc., **160** (2013) pp.E90-E93.

Spectrophotometric and Electrochemical Study of Neptunium Ions in Molten NaCl-CsCl Eutectic

A. Uehara, T. Nagai, T. Fujii, O. Shirai and H. Yamana

J. Nucl. Mater., **437** (2013) 166-170.

Synthesis and Investigation of Uranyl Molybdate  $\text{UO}_2\text{MoO}_4$

T. Nagai, N. Sato, S. Kitawaki, A. Uehara, T. Fujii, H. Yamana and M. Myochin

J. Nucl. Mater., **433** (2013) 397-403.

Reduction Behavior of  $\text{UO}_2^{2+}$  in Molten LiCl-RbCl and LiCl-KCl Eutectics by Using Tungsten

T. Nagai, A. Uehara, T. Fujii and H. Yamana

J. Nucl. Mater., **439** (2013) 1-6.

#### Raman Spectroscopic Study of Uranyl Complex in Alkali Chloride Melts

T. Fujii, T. Uda, Y. Iwadate, T. Nagai, A. Uehara and H. Yamana

J. Nucl. Mater., **440** (2013) 575-579.

#### Quantitative Analysis of Neodymium, Uranium, and Palladium in Nitric Acid Solution by Reflection Absorption Spectrophotometry

T. Fujii, S. Egusa, A. Uehara, H. Yamana and Y. Morita

J. Radioanal. Nucl. Chem., **295** (2013) 2059-2062.

#### Quantitative Analysis of Trivalent Uranium and Lanthanides in a Molten Chloride by Absorption Spectrophotometry

T. Fujii, T. Uda, K. Fukasawa, A. Uehara, N. Sato, T. Nagai, K. Kinoshita, T. Koyama and H. Yamana

J. Radioanal. Nucl. Chem., **296** (2013) 255-259.

#### Nuclear Field Shift Effect in Isotope Fractionation of Thallium

T. Fujii, F. Moynier, A. Agranier, E. Ponzevera, M. Abe, A. Uehara and H. Yamana

J. Radioanal. Nucl. Chem., **296** (2013) 261-265.

#### Heterogeneous Distribution of Natural Zinc Isotopes in Mice

F. Moynier, T. Fujii, A. S. Shaw and M. L. Borgne

Metallomics, **5** (2013) 693-699.

#### Raman Spectroscopic Study of Rare Earth Chlorides in Alkali Chloride Eutectic Melts

T. Uda, T. Fujii, Y. Iwadate, A. Uehara and H. Yamana

Z. Anorg. Alleg. Chem., **639** (2013) 765-769.

### Proceedings

#### Microwave Material Processing for Distributed Energy System

T. Sonobe, K. Hachiya, T. Mitani, N. Shinohara, and H. Ohgaki

Zero-Carbon Energy Kyoto 2011, Kyoto (2011/8/18-19) 111-117.

### 10. Health Physics and Waste Management

#### Papers

#### Light Propagation Characteristics of High-Purity Polystyrene

H. Nakamura, Y. Shirakawa, H. Kitamura, N. Sato, O. Shinji, K. Saito and S. Takahashi

Appl. Phys. Lett., **103** (2013) 161111.

#### Source Discrimination of Heavy Metals in Sediment and Water of To Lich River in Hanoi City Using Multivariate Statistical Approaches

N. T. Thuong, M. Yoneda, M. Ikegami and M. Takakura

Environ. Monit. Assess., **185** (2013) 8065-8075.

#### Comparison of the Possibility of Lead Exposure from Playsets of Preschools in Yangon and Kyoto

M. Yoneda, C. Thin Kyi and M. Ikegami

ICME, (2013).

#### Risk Assessment on Cancer by Internal Exposure from the Intake of Soil/Foods and External Exposure

A. Fujinaga, M. Yoneda and M. Ikegami

J. Jpn. Soc. Civil Eng. Ser. G (Environmental Research), **69** (2013) p.105-114 (in Japanese).

Mechanism of Wavelength Conversion in Polystyrene Doped with Benzoxanthene: Emergence of a Complex  
H. Nakamura, Y. Shirakawa, H. Kitamura, N. Sato, O. Shinji, K. Saito and S. Takahashi  
Sci. Rep., **3** (2013) 2502.

Senses Alone Cannot Detect Different Properties

H. Nakamura, Y. Shirakawa, T. Yamada, P. Nguyen and S. Takahashi  
Phys. Educ., **48** (2013) 556.

Relevance of Degree of Radiation Contamination of Soil and Air Radiation dose Rate in Heighorhood of Fukushima Daiichi Nuclear Power Plant

M. Ohtaki, K. Otani, T. Imanaka, S. Endo and M. Hoshi  
Proc. Inst. Statistical Mathematics, **61** (2013) 247-256 (in Japanese).

A Fast Response Radiation Detector Based on a Response Prediction Method for Decontamination

Y. Shirakawa, H. Nakamura, T. Kamata and K. Watai  
Radiat. Meas., **49** (2013) 115-119.

Blended Polyethylene Terephthalate and Polyethylene Naphthalate Polymers for Scintillation Base Substrates

H. Nakamura, Y. Shirakawa, H. Kitamura, T. Yamada, Z. Shidara, T. Yokozuka, P. Nguyen, T. Takahashi and S. Takahashi  
Radiat. Meas., **159** (2013) 172-175.

Radiation Counting Characteristics on Surface-modified Polyethylene Naphthalate Scintillators

Y. Shirakawa, H. Nakamura, T. Kamata, K. Watai, M. Mitsunaga, Z. Shidara and F. Murakawa  
Radioisotopes, **62** (2013) 879-884.

Poly (Ether Sulfone) as a Scintillation Material for Radiation Detection

H. Nakamura, Y. Shirakawa, H. Kitamura, N. Sato and S. Takahashi  
Appl. Radiat. Isot., **86** (2014) 36-40.

Life Coping with Radioactive Contamination

T. Imanaka  
J. Ruaral Planning, **32** (2014) 449-451 (in Japanese).

External dose Assessment for Inhabitants in Iitate Village Until Evacuation after the Fukushima-1 NPP Accident

T. Imanaka  
Kagaku, **84** (2014) 322-332 (in Japanese).

Detection of Alpha Particles with Undoped Poly (Ethylene Naphthalate)

H. Nakamura, Y. Shirakawa, H. Kitamura, N. Sato and S. Takahashi  
Nucl. Instrum. Methods Phys. Res. A, **739** (2014) 6-9.

Characterizing Radiation Spectra with Stacked Plastic Sheets

H. Nakamura, Y. Shirakawa, N. Sato and S. Takahashi  
Phys. Educ., **49** (2014) 135.

Development of Prediction Models for Radioactive Caesium Distribution within the 80-KM Radius of the Fukushima Daiichi Nuclear Power Plant

S. Kinase, T. Takahashi, S. Sato, R. Sakamoto and K. Saito  
Rad. Prot. Dos., **160** (2014) 318-321.

## Proceedings

Cesium Deposition Mapping of Iitate Village using NNSA Released Data

S. Sawano, T. Imanaka, G. Hayashi, K. Ichikawa and H. Kido  
14 th Workshop on Environmental Radioactivity, Tsukuba, Japan, Feb. 26-28 (2013) 136-144.

Radiation Exposure at Every House Position in Iitate Village from Deposited Radioactive Contamination  
T. Imanaka, G. Hayashi, N. Sawano, K. Ichikawa and H. Kido  
14 th Workshop on Environmental Radioactivity, Tsukuba, Japan, Feb. 26-28 (2013) 145-150.

The Simulation of Atmospheric Dispersion of Radionuclides from Fukushima Daiichi Nuclear Power Plant in Iitate village

H. Kido, M. Kanno, N. Kurosawa, T. Imanaka, G. Hayashi, N. Sawano and K. Ichikawa  
14 th Workshop on Environmental Radioactivity, Tsukuba, Japan, Feb. 26-28 (2013) 151-157.

Application to the Environmental Radioactivity Analysis with GIS Technology

G. Hayashi, T. Imanaka and N. Sawano  
14 th Workshop on Environmental Radioactivity, Tsukuba, Japan, Feb. 26-28 (2013) 158-167.

Evaluation of Adsorption Properties of Cesium by Adsorbent in Seawater

M. Ikegami, S. Fukutani and A. Koyama  
35th Symposium on Environmental & Sanitary Engineering Research, Kyoto, Japan July 25-26 (2013) p.180-183.

Risk Assessment of Intake of Foods and Soil, and Air Radiation Dose After Fukushima Nuclear Disaster

A. Fujinaga, M. Yoneda and M. Ikegami  
Proc. 21th International Conference on Nuclear Engineering (ICONE-21), Century City Chengdu International Convention and Exhibition Center July 29- Aug. 2 (2013).

Risk Assessment of Contaminated Soil by Radionuclides with Consideration of Foods

A. Fujinaga, M. Yoneda and M. Ikegami  
19th Symposium on Soil and Groundwater Contamination and Remediation, Kyoto, Japan, Jun. 13-14 (2013).

Change in Elution of Cs in Heat-Treated Soil

M. Ikegami, S. Fukutani, M. Yoneda, Y. Shimada and Y. Matsui  
2nd Symposium on Remediation of Radioactive Contamination in the Environment, Tokyo, Japan, Jun. 5-7 (2013).

## Books

How Far is Radioactivity Safety?

H. Koide and Y. Kobayashi  
Gento-sya, (2013) (in Japanese).

Depleted Uranium Bomb

N. Kazashi, K. Furiu, M. Satoh, H. Koide and N. Toyoda  
Iwanami-Shoten, (2013) (in Japanese).

## Reviews

Standard Limits for Radionuclides in Foods

T. Takahashi  
Food Hyg. Saf. Sci., **54** (2013) 97-101 (in Japanese).

## Others

Workshop Report on Atomic Bomb Dosimetry- Residual Radiation Exposure: Recent Research and Suggestions for Future Studies

G. D. Kerr, S. D. Egbert, I. Al-Nabulsi, H. L. Beck, H. M. Cullings, S. Endo, M. Hoshi, T. Imanaka, D. C. Kaul, S. Maruyama, G. I. Reeves, W. Ruehm, A. Sakaguchi, S. L. Simon, G. D. Spriggs, D. O. Stram, T. Tonda, J. F. Weiss, R. L. Weitz and R. W. Young  
Health Phys., **105** (2013) 140-149.

## 11. Accelerator Physics

### Papers

Serpentine Acceleration in Zero-Chromatic FFAG Accelerators  
E. Yamakawa, T. Uesugi, J.-B. Lagrange, Y. Kuriyama, Y. Ishi and Y. Mori  
Nucl. Instrum. Methods. Phys. Res. Sec., A, **716** (2013) 46-53.

Saturation of the Laser-Induced Narrowband Coherent Synchrotron Radiation Process: Experimental Observation at a Storage Ring  
M. Hosaka, N. Yamamoto, Y. Takashima, C. Szwej, M. Le Parquiere, C. Evain, S. Bielawski, M. Adachi, H. Zen, T. Tanikawa, S. Kimura, M. Katoh, M. Shimada and T. Takahashi  
Phy. Rev. ST Accel. Beams, **16** (2013) 20701.

### Proceedings

Validation of the Strong Ground Motion and Wide Area Simulation of the Longperiod Ground Motion Forthe 2011 Tohoku Earthquake  
S. Machida, C. Gabor, D.J. Kelliher, C.R. Prior, C.T. Rogers, S.L. Sheehy, Y. Ishi, J.-B. Lagrange, Y. Mori and T. Uesugi  
Proc. of Int. Cyclotron Conf., TRIUMF Canada (2013) 387.

Advanced FFAGOptics, Design and Experiment  
J.-B. Lagrange and Y. Mori  
Proc. of Int. Cyclotron Conf., TRIUMF Canada (2013) 120.

## 12. Others

### Papers

Evaluation of Amplification Characteristics and Dynamic Properties of Skyscrapers Based on Strong Motion Records  
H. Uebayashi and M. Nagano  
AIJ J. Technol. Des., **Vol. 19** (2013) 435-440 (in Japanese).

Construction of a Car-borne Survey System for Measurement of dose Rates in air; KURAMA-II, and its Application  
S. Tsuda, T. Yoshida, Y. Nakahara, T. Sato, A. Seki, N. Matsuda, M. Ando, H. Takemiya, M. Tanigaki, K. Takamiya, N. Sato, R. Okumura, Y. Kobayashi, H. Yoshinaga, H. Yoshino, Y. Uchihori, M. Ishikawa, K. Iwaoka and K. Saito  
JAEA-Technology, **2013-037** (2013) 1-54 (in Japanese).

Assessing the Impact of the Fukushima Nuclear Disaster on Policy Dynamics and the Public Sphere  
H. A. Hassard, J. K. Y. Swee, M. Ghanem and H. Unesaki  
Procedia Environ. Sci., **17** (2013) 566–575.

- \* Neutron-Reflectometry Study of Alcohol Adsorption on Various DLC Coatings  
M. Kalin, R. Simič, T. Hirayama, T. Geue and P. Korelis  
Appl. Surf. Sci., **288** (2014) 405-410.

Development and Applications of an Autonomous Radiation Measurement System with GPS, KURAMA  
M. Tanigaki  
Chem. Eng., **59** (2014) (in Japanese).

- \* Tribology of Oil-Compatible Concentrated Polymer Brushes under Boundary to Hydrodynamic Lubrication  
N. Yamashita, T. Hirayama, T. Matsuoka and Y. Tsujii  
Extended Abstract of ASIATTRIB2014, (2014).

Proposal of Simplified Strong Ground Motion Prediction Method for Synthetic Procedure Using Fault Model Reflecting Nonlinear Site Effect  
T. Ikeda, K. Konagai, K. Kamae, K. Irikura, T. Kiyota and K. Meguro  
J. Jpn. Soc. Civ. Eng., **70** (2014) (in Japanese).

- \* Fatty Acid Adsorption on Several DLC Coatings Studied by Neutron Reflectometry  
R. Simič, M. Kalin, T. Hirayama, P. Korelis and T. Geue  
Tribol. Lett., **53** (2014) 199-206.

## Proceedings

Development of the Car-Borne Survey System KURAMA

M. Tanigaki, Y. Kobayashi, R. Okumua, N. Sato, K. Takamiya, H. Yoshinaga and H. Yoshino

9th International Workshop on Personal Computers and Particle Accelerator Controls (PCaPAC 2012), Kolkata, India (Dec. 4-7, 2012) 248-250.

Thailand's Security of Energy Supply: Import Dependency Vulnerability Assessment

K. Kamonphorn and H. Unesaki

Joint Symposium "Energy Science in the Age of Global Warming" of the Kyoto University Global COE Program and the JGSEE/CEE-KMUTT, Bangkok, Thailand, May 22-23 (2012) 57-64.

Validation of the Strong Ground Motion and Wide Area Simulation of the Longperiod Ground Motion Forthe 2011 Tohoku Earthquake

H. Kawabe, K. Kamae and H. Uebayashi

The 41st Symposium on Ground Vibrations, Architectural Institute of Japan Hall, Nov. 26 (2013) 3-10.

Long period Ground Motion Simulation of the 2011 Tohoku Earthquake

H. Kawabe, K. Kamae and H. Uebayashi

International Workshop of Japan Association for Earthquake Engineering on the Effects of Surface Geology on Strong Ground Motion, National Graduate Institute for Policy Studies, Sept. 24 (2013) 61-73.

## Books

We Never Give Up the No Nukes

A. Yasutomi, H. Koide, T. Nakajima and U. Hasegawa

Asashi-Shoten, (2013) (in Japanese).

The State Depended on Nukes

Group of Reporters on Nuclear Power Plant and H. Koide

Fusou-sya, (2013) (in Japanese).

Irenology for Nuclear Power Phase-out

Peace Research Center of International Christian University and H. Koide

Houritu Bunka-sya, (2013) (in Japanese).

I was Exposed to the Atomic Bomb in the Packed Train

T. Yonezawa and H. Koide

Syogakukan, (2013) (in Japanese).

Environment and a Human being (9th Edition)

S. Kino, H. Koide, M. Harada, A.M. Smith, S. Kitano, Y. Futaki and J. Hanai

Tokyo Kyogaku-sya, (2013) (in Japanese).

Nuclear Power Plant Zero

H. Koide

Gento-sya Runessance, (2014) (in Japanese).

Out of Control

H. Koide and H. Takano

Kaden-Sya, (2014) (in Japanese).

A Nuclear Power Plant is a Dinosaur which Ruins and Dies.

I. Mito and H. Koide

Ryokufu Syuppan, (2014) (in Japanese).

Development of a Carborne Survey System, KURAMA, in Radiation Monitoring and dose Estimation of the Fukushima Nuclear Accident

M. Tanigaki (Sentaro Takahashi, ed.)

Springer, (2014).

To People of 100 Years After

H. Koide

Syuei-sya, (2014) (in Japanese).

Report on the Great East Japan Earthquake Disaster -Fundamental Aspects 1 The Earthquake and Ground Motion-  
Joint Editorial Committee for the Report on the Great East Japan Earthquake Disaster (K. Kamae et al.)

Japan Association for Earthquake Engineering, (Mar. 2014) (in Japanese).

Report on the Great East Japan Earthquake Disaster -Fundamental Aspects 1 The Earthquake and Ground Motion-  
Joint Editorial Committee for the Report on the Great East Japan Earthquake Disaster (H. Uebayashi et al.)

Japan Association for Earthquake Engineering, Mar. (2014) (in Japanese).

Extreme Ground Motions and Seismic Performance Evaluation of Buildings

Research Committee on Seismic Load (H. Uebayashi *et al.*)

Architectural Institute of Japan, September. (2013) (in Japanese).

## Reviews

Truth of Nuclear Power Generation

H. Koide

Jinken21, No.224 (2013) 31-44 (in Japanese).

Tanaka Shozo and Nuclear Power

H. Koide

KyuGen (Booklet of the University of Tanaka Shozo), 12 (2013) 2-22 (in Japanese).

Urgent and Important Matter of the Fukushima Daiichi Nuclear Power Plant?

H. Koide

Masukomi Shimin, 539 (2013) 2-15 (in Japanese).

From Nuclear to New&Clear

H. Koide

One Way, 2012.9-2013.8 (2013) 34-70 (in Japanese).

History and Resistance Related to Tanaka Shozo

H. Koide

Sekai, no.845 (2013) 55-65 (in Japanese).

What has Happened in the Fukushima Daiichi Nuclear Power Plant?

H. Koide

Sekai, no.848 (2013) 82-90 (in Japanese).

Lives of Today and Future

H. Koide

Shinryu-Kaihou, No.22 (2013) 4-17 (in Japanese).