

VII. PUBLICATIONS
(APRIL 2012 – MARCH 2013)

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 Technical Report of the KURRI (KURRI-TR)

- KURRI-TR-444 Experimental Benchmarks for Accelerator-Driven System (ADS) at Kyoto University Critical Assembly (2012)
- KURRI-TR-445 Materials Irradiation Experiments by KUR and Post Irradiation Materials Tests (2013)

The KUR Report (KURRI-KR)

- KURRI-KR-171 Proceeding of the 20th Technical Meeting on Nuclear Reactor and Radiation for KURRI Engineers and the 11th Technical Official Group Section V Meeting in Kyoto University (2012)
- KURRI-KR-172 Activity Report of the Subcommittee on Multidisciplinary Nuclear Science and Technology (April 2010-March 2012) (2012)
- KURRI-KR-173 Meeting on the Future Project of the Kyoto University Research Reactor Institute (2012)
- KURRI-KR-174 Specialists' Meeting on the Chemistry and Technology of Actinide Elements 2011 (2012)
- KURRI-KR-175 Proceedings of the Specialist Research Meeting on "The Introduction of Total Micro-element Analysis System and its Application in Kyoto University Reactor & The Latest Study on Analysis of Trace Amount of Elements Using Activation Analysis" (2012)
- KURRI-KR-176 Proceedings of the 47th KURRI Scientific Meeting (2013)
- KURRI-KR-177 Proceedings of the Specialist Research Meeting on "Science and Engineering of Unstable Nuclei and Their Uses on Condensed Matter Physics" (2013)
- KURRI-KR-178 Proceedings of the 1st Integration Meeting of KUR Research Program for Scientific Basis of Nuclear Safety 2012 (2012)
- KURRI-KR-179 Proceedings of the 2nd Integration Meeting of KUR Research Program for Scientific Basis of Nuclear Safety 2012 (2013)
- KURRI-KR-180 Proceedings of the 3rd Integration Meeting of KUR Research Program for Scientific Basis of Nuclear Safety 2012 (2013)
- KURRI-KR-181 Historical Review of Nuclear Disasters during the Process of Nuclear Development Program by the Former USSR (2013)
- KURRI-KR-182 Symposium on the Present and Future Statuses of Criticality Safety Research (2013)
- KURRI-KR-183 Laboratory Instruction for Nuclear Engineering Application Experiments (2013)
- KURRI-KR-184 Proceedings of the Specialist Research Meeting on "Abnormal Protein Aggregation and the Folding Diseases, and their Protection and Repair System 2012" (2013)
- KURRI-KR-185 Proceedings of the Specialist's Meeting on Radioactive Wastes Management 2012 (2013)

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

- KURRI-KR (CD)-39 Proceedings of Workshop on Reactor Physics (2013)
- KURRI-KR (CD)-40 Current Status on Research and Development of Accelerator-Driven System and Nuclear Transmutation Technology in Asian Countries (2013)
- KURRI-KR (CD)-41 Workshop on Materials Irradiation Effects and Applications (2013)

Publication List (April 2012—March 2013)

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

1. Slow Neutron Physics and Neutron Scattering

Papers

Polarization of Very Cold Neutron Using a Permanent Magnet Quadrupole

T. Yoshioka, K. Mishima, T. Ino, K. Taketani, S. Muto, T. Morishima, H.M. Shimizu, T. Oku, J. Suzuki, T. Shinohara, K. Sakai, H. Sato, K. Hirota, Y. Otake, M. Kitaguchi, M. Hino, Y. Seki, Y. Iwashita, M. Yamada, M. Ichikawa, T. Sugimoto, S. Kawasaki, S. Komamiya, H. Otono, Y. Kamiya, S. Yamashita and P. Geltenbort
Nucl. Inst. Meth. A, Suppl. 1, **634** (2011) 17-20.

A Transport Optics for Pulsed Ultracold Neutron Sources

H.M. Shimizu, Y. Iwashita, M. Kitaguchi, K. Mishima and T. Yoshioka
Nucl. Inst. Meth. A, Suppl. 1, **634** (2011) 25-27.

Demonstration of Magnetic Field Imaging in a Permalloy Film with Neutron Spin Phase Contrast Imaging

H. Hayashida, D. Yamazaki, T. Ebisawa, R. Maruyama, K. Soyama, S. Tasaki, M. Hino and M. Matsubayashi
Nucl. Inst. Meth. A, Suppl. 1, **634** (2011) 90-93.

Development of Thin Film Neutron Focusing Lenses

T. Ino, T. Shinohara, T. Adachi, K. Hirota, M. Hino, T. Oku, K. Taketani, K. Mishima, T. Yoshioka, Y. Arimoto, S. Muto, J. Suzuki and H.M. Shimizu
Nucl. Inst. Meth. A, Suppl. 1, **634** (2011) 94-96.

A High S/N Ratio Spin Flip Chopper System for a Pulsed Neutron Source

K. Taketani, T. Ebisawa, M. Hino, K. Hirota, T. Ino, M. Kitaguchi, K. Mishima, S. Muto, H. Oide, T. Oku, H. Otono, K. Sakai, T. Shima, H.M. Shimizu, S. Yamashita and T. Yoshioka
Nucl. Inst. Meth. A, Suppl. 1, **634** (2011) 134-137.

The Performance of Magnetic Lens for Focusing VCN-SANS

M. Yamada, Y. Iwashita, T. Kanaya, M. Ichikawa, H. Tongu, S.J. Kennedy, H.M. Shimizu, K. Mishima, N.L. Yamada, K. Hirota, J.M. Carpenter, J. Lal, K. Andersen, P. Geltenbort, B. Guerard, G. Manzin, M. Hino, M. Kitaguchi, M. Bleuel and NOP Collaboration
Nucl. Inst. Meth. A, Suppl. 1, **634** (2011) 156-160.

Recovery of Reduced Fringe Visibility due to Finite Crossing Angle between Two Paths of a Neutron Interferometer

K. Taketani, M. Hino and H. M. Shimizu
Physica B, **406** (2011) 2377-2380.

Measurement of the Neutron Beampolarization of BL05/NOP Beamline at J-PARC

T. Ino, Y. Arimoto, T. Yoshioka, K. Mishima, K. Taketani, S. Muto, H.M. Shimizu, H. Kira, Y. Sakaguchi, T. Oku, K. Sakai, T. Shinohara, J. Suzuki, H. Otono, H. Oide, S. Yamashita, S. Imajo, H. Funahashi, M. Yamada, Y. Iwashita, M. Kitaguchi, M. Hino, Z. Suzuki, T. Sanuki, T. Seki, K. Hirota, K. Ikeda, H. Sato, Y. Otake, H. Ohmori, T. Morishima and T. Shima
Physica B, **406** (2011) 2424-2428.

A Compact TOF-SANS Using Focusing Lens and Very Cold Neutrons

M. Yamada, Y. Iwashita, T. Kanaya, N.L. Yamada, H.M. Shimizu, K. Mishima, M. Hino, M. Kitaguchi, K. Hirota, P. Geltenbort, B. Guerard, G. Manzin, K. Andersen, J. Lal, J.M. Carpenter, M. Bleuel and S.J. Kennedy
Physica B, **406** (2011) 2453-2457.

High Resolution NRSE Spectrometer with 2D-Focusing Supermirrors
M. Kitaguchi, M. Hino, Y. Kawabata, S. Tasaki, R. Maruyama and T. Ebisawa
Physica B, **406** (2011) 2470-2472.

Structural Parameters of Pr₃MgNi₁₄ during Hydrogen Absorption-Desorption Process
K. Iwase, N. Terashita, K. Mori and T. Ishigaki
Inorg. Chem., **51** (2012) 11805-11810.

Crystal Structure of GdNi₃ with Superlattice Alloy and its Hydrogen Absorption-Desorption Property
K. Iwase, K. Mori, A. Hoshikawa and T. Ishigaki
Int. J. Hydrogen Energy, **37** (2012) 15170-15174.

Crystal Structure and Cyclic Properties of Hydrogen Absorption-Desorption in Pr₂MgNi₉
K. Iwase, N. Terashita, K. Mori, S. Tsunokake and T. Ishigaki
Int. J. Hydrogen Energy, **37** (2012) 18095-18100.

Hydration Properties and Compressive Strength Development of Low Heat Cement
K. Mori, T. Fukunaga, M. Sugiyama, K. Iwase, K. Oishi and O. Yamamuro
J. Phys. Chem. Solids, **73** (2012) 1274-1277.

Present Status of Neutron Fundamental Physics at J-PARC
Y. Arimoto, H. Funahashi, N. Higashi, M. Hino, K. Hirota, S. Imajo, T. Ino, Y. Iwashita, R. Katayama, M. Kitaguchi, K. Mishima, S. Muto, H. Oide, H. Otono, Y. Seki, T. Shima, H.M. Shimizu, K. Taketani, T. Yamada, S. Yamashita and T. Yoshioka
Prog. Theor. Exp. Phys., **2** (2012) B007 (1-11).

Direct Observation of Supercooled Water in Mortar Materials by Quasi-elastic Neutron Scattering
K. Mori, K. Iwase, M. Sugiyama, T. Fukunaga and O. Yamamuro
Trans. Mat. Res. Soc. Japan, **37** (2012) 139-142.

Thickness and Density of Adsorbed Additive Layer on Metal Surface in Lubricant by Neutron Reflectometry
T. Hirayama, T. Torii, Y. Konishi, M. Maeda, T. Matsuoka, K. Inoue, M. Hino, D. Yamazaki and M. Takeda
Tribol. Int., **54** (2012) 100-105.

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

Nanostructure Characterization of Co-Pd-Si-O Soft Magnetic Nanogranular Film Using Small-Angle X-ray and Neutron Scattering
Y. Oba, M. Ohnuma, S. Ohnuma, M. Furusaka, S. Koppoju and S. Takeda
J. Magn. Magn. Mater., **334** (2013) 45-51.

Reviews

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

2. Nuclear Physics and Nuclear Data

Papers

Emission Probabilities of Some Intense Prompt γ Rays of ^{24}Na , ^{28}Al , ^{52}V , ^{56}Mn , ^{60}Co , ^{142}Pr , ^{187}W and ^{198}Au with Thermal Neutron Capture Determined Using γ Rays Following β Decay

M. Shibata, I. Miyazaki, H. Hayashi, A. Tojo, M. Furuta, Y. Kojima, A. Taniguchi and K. Kawade
Ann. Nucl. Energy, **43** (2012) 106-113.

Neutron-Capture Cross-Sections of ^{244}Cm and ^{246}Cm Measured with an Array of Large Germanium Detectors in the ANNRI at J-PARC/MLF

A. Kimura, T. Fujii, S. Fukutani, K. Furutaka, S. Goko, K. Y. Hara, H. Harada, K. Hirose, 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
J. Nucl. Sci. Technol., **49** (2012) 708-724.

Fission Cross-Section Measurements of ^{237}Np , ^{242}mAm , and ^{245}Cm with Lead Slowing-Down Neutron Spectrometer

K. Hirose, T. Ohtsuki, Y. Shibasaki, N. Iwasa, J. Hori, S. Sekimoto, K. Takamiya, H. Yashima, K. Nishio and Y. Kiyanagi
J. Nucl. Sci. Technol., **49** (2012) 1057-1066.

Relative Intensities of Prompt γ -Rays from the $^{35}\text{Cl}(n,\gamma)^{36}\text{Cl}$ Reaction with Thermal Neutrons as Secondary γ -Ray Intensity Standards

M. Shibata, A. Tojo, I. Miyazaki, M. Furuta, H. Hayashi, Y. Kojima, Y. Shima and A. Taniguchi
Appl. Radiat. Isot., **73** (2013) 60-67.

Measurements of Cross Sections for Production of Light Nuclides by 300 MeV Proton Bombardment of Cu and Y

S. Sekimoto, T. Omoto, H. Joto, T. Utsunomiya, H. Yashima, K. Ninomiya, K.C. Welten, M.W. Caffee, Y. Matsushi, H. Matsuzaki, R. Nakagaki, T. Shima, N. Takahashi, A. Shinohara, H. Matsumura, D. Satoh, Y. Iwamoto, M. Hagiwara, K. Nishiizumi and S. Shibata
Nucl. Inst. Meth. B, **294** (2013) 475-478.

3. Reactor Physics and Reactor Engineering

Papers

Monte Carlo Algorithm for Buckling Search and Neutron Leakage-corrected Calculations

T. Yamamoto
Ann. Nucl. Energy, **47** (2012) 14-20.

Monte Carlo Method with Complex Weight for Neutron Leakage-corrected Calculations and Anisotropic Diffusion Coefficient Generations

T. Yamamoto
Ann. Nucl. Energy, **50** (2012) 141-149.

One-Dimensional Interfacial Area Transport of Vertical Upward Bubbly Flow in Narrow Rectangular Channel

X. Shen, T. Hibiki, T. Ono, K. Sato and K. Mishima
Int. J. Heat Fluid Flow, **36** (2012) 72-82.

Development of Erbium-Credit Super-High-Burnup Fuel: Evaluation of Minimum Erbium Content for Criticality Safety Analyses

M. Yamasaki, H. Unesaki, A. Yamamoto, T. Takeda and M. Mori
Nucl. Technol., **180** (2012) 18-27.

Subcritical Multiplication Parameters of the Accelerator-Driven System with 100 MeV Protons at the Kyoto University Critical Assembly

J. Y. Lim, C. H. Pyeon, T. Yagi and T. Misawa
Sci. Technol. Nucl. Install., **2012** (2012) 1-9.

Cross-Power Spectral Analysis between Beam Current and Neutron Detection Signals for a Thermal Accelerator-Driven System

A. Sakon, K. Hashimoto and C.H. Pyeon
Trans. Am. Nucl. Soc., **107** (2012) 1032-1034.

Energy-Higher Order Mode Analyses in Feynman-Alpha Method

T. Yamamoto
Ann. Nucl. Energy, **57** (2013) 84-91.

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.

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.

Pseudo Dynamic Visualization of Boiling Two-phase Flow under Oscillatory Flow Condition

H. Umekawa, T. Ami, S. Fujiyoshi and Y. Saito
Phys. Procedia, **43** (2013) 269-276.

Proceedings

Sensitivity Analysis of Kyoto University Research Reactor Using JENDL-4.0

T. Sano, K. Nakajima and H. Unesaki
2011 Symposium on Nuclear Data, Tokai-mura, Japan, Nov.16-17, 2011, 195.

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

C.H. Pyeon, T. Yagi, J.Y. Lim and T. Misawa
Proc. Int. Conf. on Advanced in Reactor Physics – Linking Research, Industry, and Education (PHYSOR2012), Knoxville, Tennessee, Apr. 15-20, 2012.

Bubble Measurements in a Liquid-Metal Two-Phase Flow by Using 4-Sensor Probe

Y. Saito and K. Mishima
Proc. 6th Japanese-European Two-Phase Flow Group Meeting, Kumamoto, Japan, Sept. 23-27, 2012.

Neutronic Analysis for Utilization of Low Enriched Uranium Fuel at Light Water Moderated / Reflected Core of Kyoto University Critical Assembly (KUCA)

H. Unesaki, T. Misawa, C. Pyeon, T. Sano, Y. Takahashi and K. Nakajima

34th International Meeting on Reduced Enrichment for Research and Test Reactors, Warsaw, Poland, Oct. 14-17, 2012, CD-ROM.

Cross-Power Spectral Analysis between Beam Current and Neutron Detection Signals for a Thermal Accelerator-Driven System

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

Proc. Winter Mtg. of the Am. Nucl. Soc., San Diego, California, Nov. 11-15, 2012.

Subcriticality Measurement by Neutron Source Multiplication Method with Detected-Neutron Multiplication Factor

T. Endo, A. Yamamoto, C.H. Pyeon and T. Yagi

Proc. Winter Mtg. of the Am. Nucl. Soc., San Diego, California, Nov. 11-15, 2012.

Application of Multi-Target to the Accelerator-Driven System Experiments in the Kyoto University Critical Assembly

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

Proc. Winter Mtg. of the Am. Nucl. Soc., San Diego, California, Nov. 11-15, 2012.

New Four-Sensor Probe Theory for Multi-Dimensional Two-Phase Flow Measurement

X. Shen and H. Nakamura

8th Japan-Korea Symposium on Nuclear Thermal Hydraulics and Safety (NTHAS8), Beppu, Japan, Dec. 9-12, 2012, Paper No.: N8P1006.

Interfacial Area Transport Model Development for the Two-Phase Flow in Research Reactor Fuel Element

X. Shen and T. Hibiki

47th Annual Conf. Kyoto University Research Reactor Institute, Kumatori, Japan Jan. 29-30, 2013, 166-171.

Others

Reactor Physics Experiment Course Using Kyoto University Research Reactor

K. Nakajima, T. Yamamoto, T. Sano, Y. Takahashi, Y. Fujihara and J. Zhang

2nd Asian Symposium on Material Testing Reactors (ASMTR), (2012).

Current Status and Future Works of Kyoto University Research Reactor

T. Sano, Y. Fujihara, Y. Takahashi, J. Zhang, T. Yamamoto and K. Nakajima

2nd Asian Symposium on Material Testing Reactors (ASMTR), (2012).

Current Research Activities on the Accelerator-Driven System in the Kyoto University Critical Assembly

C.H. Pyeon, T. Yagi, T. Misawa, H. Unesaki and K. Nakajima

The 4th International Symposium of Kyoto University Global COE Program, Zero-Carbon Energy 2012, (2012).

Measuring Apparatus and Computer Program for Parameters of Liquid-Gas Two-Phase Flow

X. Shen

Japanese Patent, Patent Number: 2012-111619, (2012).

Present Status of Research Reactor and Future Prospects

K. Nakajima

2012 Symposium on Nuclear Data, (2012).

4. Material Science and Radiation Effects

Papers

- * Release Kinetics of Tritium Generated in Lithium-enriched $\text{Li}_{2+x}\text{TiO}_3$ by Thermal Neutron Irradiation
M. Kobayashi, K. Kawasaki, T. Fujishima, Y. Miyahara, Y. Oya and K. Okuno
Fusion Eng. Des., **87** (2012) 471–475.

- Defect Structures before Steady-State Void Growth in Austenitic Stainless Steels
T. Yoshiie, K. Sato, X. Cao, Q. Xu, M. Horiki and T.D. Troev
J. Nucl. Mater., **429** (2012) 185-189.

- Development of Advanced Materials for Spallation Neutron Sources and Radiation Damage Simulation Based on Multi-Scale Models
M. Kawai, H. Kurishita, H. Kokawa, S. Watanabe, N. Sakaguchi, K. Kikuchi, S. Saito, T. Yoshiie, H. Iwase, T. Ito, S. Hashimoto, Y. Kaneko, M. Futakawa, S. Ishino and JSPS Grant Team
J. Nucl. Mater., **431** (2012) 16-25.

- Positron Annihilation Lifetime Measurements of Austenitic Stainless and Ferritic/Martensitic Steels Irradiated in the SINQ Target Irradiation Program
K. Sato, Q. Xu, T. Yoshiie, Y. Dai and K. Kikuchi
J. Nucl. Mater., **431** (2012) 52-56.

- Effects of Alloying Elements on Thermal Desorption of Helium in Ni Alloys
Q. Xu, X.Z. Cao, K. Sato and T. Yoshiie
J. Nucl. Mater., **431** (2012) 57-59.

- Irradiation Effects on Thermal Diffusivity and Positron Annihilation Lifetime in Ceramics Induced by Neutron and 30 MeV Electron
M. Akiyoshi, H. Tsuchida, I. Takagi, T. Yoshiie, Q. Xu, K. Sato and T. Yano
J. Nucl. Sci. Technol., **49** (2012) 595-601.

- Axial Ligand Effects on Vibrational Dynamics of Iron in Heme Carbonyl Studied by Nuclear Resonance Vibrational Spectroscopy
T. Ohta, J.G. Liu, M. Saito, Y. Kobayashi, Y. Yoda, M. Seto and Y. Naruta
J. Phys. Chem. B, **116** (2012) 13831-13838.

- Effect of Carbon on Hydrogen Behaviour in Tungsten: First-Principle Calculations
X.D. Ou, L.Q. Shi, K. Sato, Q. Xu and Y.X. Wang
Nucl. Fusion, **52** (2012) 123003(6pp).

- Nucleation of He Bubbles in Amorphous FeBSi Alloy Irradiation with He Ions
Q. Xu, K. Sato and T. Yoshiie
Phil. Mag. Lett., **92** (2012) 527-533.

- * Size Estimation of Embedded Cu Nanoprecipitates in Fe by Using Affinitively Trapped Positrons
T. Toyama, Z. Tang, K. Inoue, T. Chiba, T. Ohkubo, K. Hono, Y. Nagai and M. Hasegawa
Phys. Rev. B, **86** (2012) 104106 (1-7).

Characteristic Local Association of In Impurities Dispersed in ZnO

W. Sato, S. Komatsuda and Y. Ohkubo

Phys. Rev. B, **86** (2012) 235209 (1-5).

Slow Processes in Supercooled o-Terphenyl: Relaxation and Decoupling

M. Saito, S. Kitao, Y. Kobayashi, M. Kurokuzu, Y. Yoda and M. Seto

Phys. Rev. Lett., **109** (2012) 115705 (1-5).

Colloid Formation Rates of Radionuclides Produced from Cu Foils in Water Bombarded with 120-GeV Protons

H. Matsumura, S. Sekimoto, H. Yashima, A. Toyoda, Y. Kasugai, N. Matsuda, K. Oishi, K. Bessho, Y. Sakamoto, H. Nakashima, D. Boehnlein, G. Lautenschlager, A. Leveling, N. Mokhov and K. Vaziri

Prog. Nucl. Sci. Technol., **3** (2012) 127-130.

Application of Aerosol Formation to Radiation Dosimetry in High-Dose Radiation Fields

N. Osada, Y. Oki, K. Yamasaki and S. Shibata

Prog. Nucl. Sci. Technol., **3** (2012) 90-93.

Radiation Synthesis of Binary Hydrogels with Thermoresponsive Pores

N. Sato, M. Ueda, T. Matsuyama and M. Sugiyama

Trans. Mat. Res. Soc. Japan, **37** (2012) 127-130.

Nuclear Resonance Vibrational Spectroscopy and DFT Study of Peroxo-Bridged Biferric Complexes: Structural Insight into Peroxo Intermediates of Binuclear Non-heme Iron Enzymes

K. Park, T. Tsugawa, H. Furutachi, Y. Kwak, L.V. Liu, S.D. Wong, Y. Yoda, Y. Kobayashi, M. Saito, M. Kurokuzu, M. Seto, M. Suzuki and E.I. Solomon

Angew. Chem. Int. Ed., **52** (2013) 1294-1298.

Modulation of Spin-Crossover Behavior in an Elongated and Flexible Hofmann-Type Porous Coordination Polymer

R. Ohtani, M. Arai, A. Hori, M. Takata, S. Kitao, M. Seto, S. Kitagawa and M. Ohba

J. Inorg. Organomet. Polym. Mater., **23** (2013) 104-110.

Effects of Li_4TiO_4 Structure on Tritium Release Kinetics from Lithium-Enriched $\text{Li}_{2+x}\text{TiO}_3$

M. Kobayashi, K. Kawasaki, K. Tatenuma, M. Hara, M. Matsuyama, T. Fujii, H. Yamana, Y. Oya and K. Okuno

J. Plasma Fusion Res., **10** (2013) 7-11.

Proceedings

Neutron Irradiation Effects in Aluminum Stabilizer of Superconducting Cable for COMET Experiment at J-PARC

M. Yoshida, T. Nakamoto, T. Ogitsu, Q. Xu, M. Aoki, M. Iio, T. Itahashi, Y. Kuno, Y. Kuriyama, S. Mihara, Y. Mori, H. Nishiguchi, B. Qin, A. Sato, K. Sato, M. Sugano, T. Yoshiie and K. Yoshimura

24th Int. Cryogenic Engineering Conference and International Cryogenic Material Conference 2012 (ICEC24-ICMC2012), Fukuoka, Japan, May 14-18, 2012, 685-688.

Irradiation Effects in Superconducting Magnet Materials at Low Temperature

M. Yoshida, T. Nakamoto, T. Ogitsu, M. Iio, S. Mihara, H. Nishiguchi, M. Sugano, K. Yoshimura, Q. Xu, Y. Kuriyama, Y. Mori, B. Qin, K. Sato and T. Yoshiie

Int. Particle Accelerator Conference 2012 (IPAC2012), New Orleans, Louisiana, USA, May 20-25, 2012, 3551-3553.

Millimeter Wave Absorption Bands of Silver/Copper Iodides-Phosphate Glasses

T. Awano and T. Takahashi

13th Asian Conference on Solid State Ionics, Sendai, Japan, Jul. 17-20, 2012, 569-576.

* Path Finder Radiation Test Suitable for Micro or Nano Satellite

Y. Okumura, M. Cho and H. Masui

4th UN-Japan Nano-Satellite Symposium, DVD, Oct. 12, 2012.

* Path Finder Radiation Test Suitable for Micro or Nano Satellite

Y. Okumura, M. Cho and H. Masui

The Japan Society for Aeronautical and Space Sciences Western Branch Collection of Lectures, DVD, Nov. 12, 2012, JSASS-2012-S032. (in Japanese)

Terahertz Absorption Spectra of Bile Acids

M. Kawase, K. Takahashi, T. Takahashi, H. Iwasaki, S. Tsuji, K. Yamamoto and M. Tani

Int. Symp. on Frontiers in Terahertz Technology 2012, Nara, Japan, Nov. 26 – 30, 2012, Pos1. 47.

Broadband Spectroscopy of Nanoporous-Gold Promoter

S. Kuwano-Nakatani, Y.H. Han, T. Takahashi and T. Awano

Proc. 4th Int. Conf. on Metamaterials, Photonic Crystals and Plasmonics, Arab, Emirates, Mar. 18-22, 2013, pp.210-215.

Reviews

Energy Domain Synchrotron Radiation Mössbauer Spectroscopy (in Japanese)

T. Mitsui and M. Seto

Houshakou (J. Jpn. Soc. Synchr. Rad. Res.), **25** (2012) 166-175.

Slow Dynamics Observed by γ Ray Produced by Synchrotron Radiation (in Japanese)

M. Saito and M. Seto

Kotai Butsuri (Solid State Phys.), **47** (2012) 747-756.

Hybrid Composite with Arbitrary Shape and Size - Ionic Diffusion into Polymeric Matrixes Introduced by Iodine (in Japanese)

A. Kawaguchi

Plastics (Nihon Kougyou Shuppan), **63** (11) (2012) 51-55.

Condensed Matter Physics Using Nuclear Resonant Scattering

M. Seto

J. Phys. Soc. Jpn., **82** (2013) 021016 (13 pages).

5. Geochemistry and Environmental Science

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