II. PUBLICATION LIST
(APRIL 2019 – MARCH 2020)

1. Slow Neutron Physics and Neutron Scattering

Papers

Potential-Dependent Structure of the Ionic Layer at the Electrode Interface of an Ionic Liquid Probed Using Neutron Reflectometry
N. Nishi, J. Uchiyashiki, Y. Ikeda, S. Katakura, T. Oda, M. Hino and N. L. Yamada
The Journal of Physical Chemistry C **123 (14)** (2019) 9223- 9230.

Current status of the neutron resonance spin echo spectrometer on BL06“VIN ROSE”at MLF, J-PARC
H. Endo, T. Oda, M. Hino and T. Hosobata
Physica B: Condensed Matter **564** (2019) 91- 93.

Elliptic neutron-focusing supermirror for illuminating small samples in neutron reflectometry
T. Hosobata, N. L. Yamada, M. Hino, H. Yoshinaga, F. Nemoto, K. Hori, T. Kawai, Y. Yamagata, M. Takeda and S. Takeda
Optics Express **19** (2019) 26807.

A study of TOF-MIEZE reflectometry for nanomagnetic dynamics
M. Hino, T. Oda, H. Endo, N. L. Yamada, H. Seto, H. Ohshita and Y. Kawabata
Journal of Physics: Conference Series **1316** (2019).

Experimental test of ^{3}He neutron-spin filter in MIEZE spectrometer
H. Hayashida, M. Hino, H. Endo, T. Oku, T. Okudaira, K. Sakai and T. Oda.
Journal of Physics: Conference Series **1316** (2019) 012013.

Focusing and imaging of cold neutrons with a permanent magnetic lens
J. T. Cremer, H. Filter, J. Klepp, P. Geltenbort, C. Dewhurst, T. Oda and R. H. Pantell.
Review of Scientific Instruments **91(1)** (2020) 013704.

Structural and electrochemical features of $(Li_2S)_x(SiS_2)_{100-x}$ superionic glasses
K. Mori, K. Iwase, Y. Oba, K. Ikeda, T. Otomo and T. Fukunaga
Solid State Ionics **344** (2020) 115141.

Proceedings

小角 X 線散乱法による DN-polymers の構造解析 /
SAXS study of the DN-polymers under different temperature and humidity atmosphere
T. Tominaga, R. Inoue, N. Sato and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb5-6, 2020) 19. (in Japanese)

X 線小角散乱法による潤滑油中の添加剤の解析/
Structural analysis of lubricant additive using small-angle X-ray scattering
Y. Oba, M. Hino, N. Adachi, Y. Todaka, R. Inoue and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 20. (in Japanese)

核共鳴小角散乱による電子状態の微細構造観測手法の開発/
Nuclear resonant small-angle scattering for investigation of microstructures in electronic states
S. Kitao, M. Kurokuzu, Y. Kobayashi, M. Seto, Y. Yoda and S. Kishimoto
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 32. (in Japanese)

MPPC を使用した二次元中性子検出器 Mpix の性能評価 /
Performance evaluation of a two-dimensional neutron detector with MPPC (Mpix)
H. Ohshita, H. Endo, T. Seya, Y. Yasu, M. Hino and T. Oda
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 40. (in Japanese)

中性子準弾性散乱測定を用いた溶媒依存性主鎖らせん反転を示す高分子の分子ダイナミクスの解明/
Elucidation of the molecular dynamics of the macromolecules exhibiting the solvent-depeibiting helix inversion by using quasielastic neutron scattering measurement
Y. Nagata, M. Suginome, M. Sugiyama, R. Inoe, N. Sato and K. Morishima
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 43. (in Japanese)

X 線小角散乱法および動的光散乱法による潤滑油中粘度指数向上剤の構造解析/
Structural analyses of viscosity index improvers in lubricant oil by means of dynamic light scattering and small angle X-ray scattering
R. Takahashi, T. Hirayama, N. Sato, M. Sugiyama, Y. Takashima, T. Nakano and Y. Oba
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 44. (in Japanese)

中性子と X 線を利用した複合イメージング手法の高度化/
Development of hybrid imaging technique using neutrons and X-ray
D. Ito, R. Okumura, K. Ito and Y. Saito
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 52. (in Japanese)

X 線・中性子反射率法による潤滑界面の平均構造評価/
Investigation of lubrication interface by X-ray and neutron reflectometry
M. Hino, N. Adachi,Y. Todaka, Y. Oba, T. Hirayama, T. Oda, K. Oda, H. Endo and T. Hirayama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 55. (in Japanese)

実験手法と計算機手法の融合による溶液散乱法の最前線/
Mariage of computational and experimental techniques for solution small-angle scattering
R. Inoue, M. Sugiyama, N. Sato, K. Morishima, A. Okuda and R. Urade
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 56. (in Japanese)

箱型自己集合体の水中における動的特性/
Dynamic property of a box-shaped self-assembly in water
N. Sato, Y. Y. Zhang, Q. Jiang, T. Kojima, K. Morishima, T. Koide, M. Tachikawa, M. Sugiyama and S. Hiraoka
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 57. (in Japanese)

小角散乱と超遠心分析の協奏的解析（AUC-SAS)による弱会合性タンパク質複合体の構造解析/
Structural analysis of weakly bound protein complex with concerted use of small angle scattering and analytical ultracentrifugation (AUC-SAS)
Ken Morishima, Maho Yagi-Utsumi, Rintaro Inoue, Nobuhiro Sato, Aya Okuda, Reiko Urade, Koichi Kato, and Masaaki Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 58. (in Japanese)

X 線小角散乱による大豆タンパク質の構造解析/
Nanostructural analysis of soy bean proteins by small-angle X-ray scattering
N. Sato, R. Urade, A. Okuda, K. Morishima, R. Inoue and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 59. (in Japanese)

KUR-IBS を用いた多層膜中性子ミラー開発の現状/
Current status of multilayer neutron mirror development with KUR-IBS
M. Hino, T. Oda, F. Funama, H. Yoshinaga, Y. Kawabata, T. Hosobata, M. Takeda, S. Ikebe and Y. Yamagata, H. Endo and N. L. Yamada
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 60. (in Japanese)

強相関 f 電子系金属間化合物の結晶・磁気構造の研究/
Magnetic and crystal structure analyses on strongly correlated f-electron systems
Chihiro Tabata
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 64-65. (in Japanese)

Reviews

100nm 未満の空間分解能を発揮する超微粒子原子核乳剤を用いた冷・超冷中性子検出器
長縄直崇
日本中性子科学会誌 波紋 **29(3)** (2019) 133-137. (in Japanese)

2. Nuclear Physics and Nuclear Data

Papers

Neutron total cross section measurements of polyethylene using time-of-flight method at KURNS-LINAC
J. Lee, J. Nishiyama, J. Hori, R. Kimura, T. Sako, A. Yamada and T. Sano
Journal of Nuclear Science and Technology **57(1)** (2019) 1-8.

Measurements of Spallation Products Induced by Heavy Ions
H. Yashima and T. Nakamura
RADIOISOTOPES **68(8)** (2019) 567-573.

X-ray pumping of the ^{229}Th nuclear clock isomer
T. Masuda, A. Yoshimi, A. Fujieda, H. Fujimoto, H. Haba, H. Hara, T. Hiraki, H. Kaino, Y. Kasamatsu, S. Kitao, K. Konashi, Y. Miyamoto, K. Okai, S. Okubo, N. Sasao, M. Seto, T. Schumm, Y. Shigekawa, K. Suzuki, S. Stellmer, K. Tamasaku, S. Uetake, M. Watanabe, T. Watanabe, Y. Yasuda, A. Yamaguchi, Y. Yoda, T. Yokokita, M. Yoshimura and K. Yoshimura
Nature **7773** (2019) 238-242.

Conceptual study on parasitic low-energy RI beam production with in-flight separator BigRIPS and the first stopping examination for high-energy RI beams in the parasitic gas cell
T. Sonoda, I. Katayama, M. Wada, H. Iimura, V. Sonnenschein, S. Iimura, A. Takamine, M. Rosenbusch, T. M. Kojima, D. S. Ahn, N. Fukuda, T. Kubo, S. Nishimura, Y. Shimizu, H. Suzuki, H. Takeda, M. Tanigaki, H. Tomita, K. Yoshida and H. Ishiyama
Progress of Theoretical and Experimental Physics **11** (2019) 113D02.

IMPROVEMENT OF GAMMA-RAY SUBTRACTION PROCEDURE FOR A CURRENT-MODE NEUTRON DETECTOR WITH A PAIR OF 6Li- AND 7Li-GLASS SCINTILLATORS
T. Matsumoto, A. Masuda, H. Harano, J. Hori and T. Sano
Radiation Protection Dosimetry ncz**266** (2019) 1-6.

Experimental study of multiplex energy recovery internal target ring
H. Okita, A. Taniguchi, Y. Kuriyama, T. Uesugi, Y. Ishi, Y. Mori, M. Muto, Y. Ono, N. Ikeda, Y. Yonemura,A. Sato, M. Kinsho, Y. Miyake, M. Yoshimoto and K. Okabe
Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment **953** (2019) 162988.

Proceedings

Measurement of Temperature-dependent Thermal Neutron Spectrum in CaH2 Moderator Material for Space Reactor
J. Lee, T. Sano, J. Hori, T. Sako, R. Kimura, A. Yamada and J. Nishiyama
International Conference on Nuclear Data for Science and Technology (ND2019) Beijing, China (May19-24, 2019).

Neutron Capture Cross Section Measurement of Minor Actinides in Fast Neutron Energy Region for Study on Nuclear Transmutation System
T. Katabuchi, J. Hori, N. Iwamoto, O. Iwamoto, A. Kimura, S. Nakamura, Y. Shibahara, K. Terada, K. Tosaka, S. Endo, G. Rovira, Y. Kodama and H. Nakano
Proceedings of the 2019 Symposium on Nuclear Data Fukuoka, Japan (Nov.28-29, 2019).

MCS Multi-group Cross Sections Generationfor Fast Reactor Analysis
T. D. C. Nguyen, H. Lee, X. Du, V. Dos, T. Q. Tran and D. Lee
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 2-5.

A Systematic Way to Determine Neutron Generation Size in Monte Carlo Simulation Accelerated by the CMFD
T. D. C. Nguyen, H. Lee, X. Du, V. Dos, T. Q. Tran and D. Lee
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 6-9.

Validation of Activation Analysis Methodon RWRVI of Kori Unitl using MCCARD/ORIGEN2
Y. l. Kim, S. H. Jang, D. H. Lee and H. J. Shim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 10-13.

Uncertainty Quantification of Neutronics Characteristics in Thermal Systems using Random Sampling andContinuous Energy Monte-Carlo Methods
H. Oike, R. Kondo, T. Endo amd A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 14-17.

Peak Power Characteristics of Postulated Criticality in Fuel Debris
Y. Yamane
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 31-33.

DevelopmentoflNtegral Kinetic Model with Delayed Neutrons Effect for Criticality Accident Analysis of Fukushisma Daiichi NPP Fuel Debris
H. Takezawa, D. Tuya and T. Obara
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 34-35.

Radiation Dose by Criticality Accidents of Fuel Debris in Water
K. Fukuda, J. Nishiyama and T. Obara
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 36-39.

Development of Criticality Safety Evaluation Method Based on the Actual Dynamic Behavior of the Fuel Debris in Water
T. Muramoto, J. Nishiyama and T. Obara
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 40-43.

Treatment of R-matrix Limited Formula in FRENDY
K. Tada and S. Kunieda
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 229-232.

Validation of New Fission Yield by Analysis of Post-Irradiation Examination
A. lso, S. Takeda and T. Kitada
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 233-235.

Continuous Thermal Neutron Scattering Data Processing Capability in RMC Code
L. Zheng, K. Wang and W. Wang
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 236-239.

Thermal neutron Scattering Data Generation Function in the nuclear Data Processing Code NECP-Atlas
Y. Tang, T. Zu, S. Yi, J. Xu and L. Cao
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 240-243.

Quantification of Effectiveness of lntegral Data Using Active Sub-Space in nuclear Data Testing
D. Imazato and G. Chiba
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 244-247.

Estimated Criticality Lower-Limit Multiplication Factor Considering Neutronic Similarity and Uncertainties of Effective Multiplication Factor Using the Bootstrap Method(1) Teory
T. Hayashi, F. Nishioka, T. Endo and A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 250-253.

Estimated Criticality Lower-Limit Multiplication Factor Considering Neutronic Similarity and Uncertainties of Effective Multiplication Factor Using the Bootstrap Method (2) Application
F. Nishioka, T. Hayashi, T. Endo and A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 254-257.

Covariance-Oriented Sample Transformation Method for Uncertainty Analysis
Z. Sui, L. Cao and C. Wan
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 258-261.

Effectiveness of Subcritical Measurement at Solid Moderated KUCA Corefor Reducing nuclear Data-Induced Uncertainties in Other Light Water Reactor Analysis
T. Endo and A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 262-265.

Benchmark Study of Nuclear Processed Systems with NCA Data
S. Wada, K. Yoshida and T. Sugita
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 266-269.

Sensitivity Analysis for Generalized Response with RMC code
G. Shi, C. Jia, Q. Cheng and K. Wang
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 270-273.

Uncertainty Analysis of neutron Parameters for NESTOR
H. Liao, Q. Li, Y. Yu and Y. Hu
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 274-277.

Comparison of Methods of Generating Covariance Matrix of Fission Yield
K. Honta and G. Chiba
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 278-281.

App1ication of Surrogate Modeling with Singular Value Decomposition for Design Basis Accident Aiming Statistical Safety Analysis
M. Matsushita, T. Endo and A.Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 282-285.

Preliminary Performance Assessment of the GPU Acceleration Modulein a Pinwise Core Thermal Hydraulics Code ESCOT
K. M. Kim, N. Choi, J. Lee and H. G. Joo
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 288-291.

BEAVRS Benchmark Analysisbya Whole Core Transport Code nTER
H. Park and J. Y. Cho
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 292-295.

Initial Assessment of Anderson Acceleration on Pinwise Coupled Neutronics/Thermal-Hydraulics Code nTER/ESCOT
J. Lee, J. Y. Cho and H. G. Joo
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 296-299.

Pin-By-Pin Multi-physics Analysis and Evaluation of the Critical Heat Flux(CHF) in a PWR Core
J. Kim, K. S. Chaudri and Y. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 300-303.

Functional Expansion Tallies in Monte Carlo High Fidelity LWR Analysis
Bamidele Ebiwonjumi, Hyunsuk Lee, Peng Zhang and D. Lee
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 304-307.

Hybrid Parallelism of Internal Coupling Method between Monte Carlo Code RMC and Sub-channel Thermal-Hydraulic Code CTF
K. Li, S. Liu, J. Guo and K. Wang
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 308-311.

NECP-X and CTF Solutions to VERA Benchmark
B. Wang, Z. Liu and L. Cao
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 312-315.

CRITICAL EXPERIMENT OF THORIUM LOADED THERMAL CORES AT KUCA (1) A NEW CRITICAL EXPERIMENT OF THORIUM LOADED CORE WITH HARDER NEUTRON SPECTRUM IN KUCA
T. Sano, J. Hori, J. Lee, Y. Takahashi, K. Takahashi and H. Unesaki
Physics of Reactor Conference 2020 (PHYSOR2020) Cambridge, UK (Mar. 2020).

CRITICAL EXPERIMENT OF THORIUM LOADED THERMAL CORES AT KUCA (2) CRITICALITY ANALYSIS OF THORIUM LOADED CORES IN KUCA
H. Unesaki, J. Hori, Y. Takahashi, J. Lee and T.Sano
Physics of Reactor Conference 2020 (PHYSOR2020) Cambridge, UK (Mar. 2020).

Experimental Study on Neutron Correlation Analysis for a Subcritical System Driven by a Pulsed Spallation Neutron Source in KUCA
K. Nakajima, K. Takahashi, A. Sakon, S. Hohara, T. Sano, M. Yamanaka, C.H. Pyeon and K. Hashimoto
Physics of Reactor Conference 2020 (PHYSOR2020) Cambridge, UK (Mar. 2020).

短寿命 RI を用いた核分光と核物性研究/
Nuclear spectroscopy and condensed matter physics using short-lived nuclei
Y. Ohkubo, A. Taniguchi, M. Tanigaki, M. Shibata, Y. Kojima, W. Sato, and S. Komatsuda
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 10-14. (in Japanese)

Reviews

燃料デブリ核特性評価に関わる核データニーズ－中性子照射ガンマ線スペクトル測定－
名内泰志
核データニュース **122** (2019) 54-66.

3. Reactor Physics and Reactor Engineering

Papers

AN IMPROVED PRESSURE CALCULATION METHOD FOR SIMULATIONS OF GAS－LIQUID TWO-PHASE FLOWS ON UNSTRUCTURED MESHES
K. Ito, T. Kunugi, T. Ezure, M. Tanaka, D. Ito and Y. Saito
Multiphase Science and Technology **31(2)** (2019) 109-131.

Benchmarks of Criticality in Solid-Moderated and Solid-Reflected Core in at Kyoto University Critical Assembly
M. Yamanaka and C. H. Pyeon
Nuclear Science and Engineering **193** (2019) 404-416.

Experimental Analysis of Unique Combination-Number for the Third- and Fourth-order Neutron-Correlation Factors in the Zero Power Reactor Noise
T. Endo, A. Yamamoto, M. Yamanaka and C. H. Pyeon
Journal of Nuclear Science and Technology **56(4)** (2019) 322-336.

Measurements of the ²⁴³Am Neutron Capture and Total Cross Sections with ANNRI at J-PARC
A. Kimura, S. Nakamura, K. Terada, T. Nakao, K. Mizuyama, N. Iwamoto, O. Iwamoto, H. Harada,T. Katabuchi, M. Igashira, T. Sano, Y. Takahashi, C. H. Pyeon, S. Fukutani, T. Fujii, T. Yagi, K. Takamiya and J. Hori
Journal of Nuclear Science and Technology **56** (2019) 479-492.

Proton Beam Characteristics with Wavelength Shifting Fiber Detector at Kyoto University Critical Assembly
M. Yamanaka, K. W. Jang, S. H. Shin, C. H. Pyeon and B. Lee
Japanese Journal of Applied Physics **58** (2019) 036002-1_036002-6.

A Monte Carlo technique for sensitivity analysis of alpha-eigenvalue with the differential operator sampling method
T. Yamamoto and T. Sakamoto
Annals of Nuclear Energy **127** (2019) 178-187.

Effect of Neutron Spectrum on Subcritical Multiplication Factor in Accelerator-Driven System
N. Aizawa, M. Yamanaka, T. Iwasaki and C. H. Pyeon
Progress in Nuclear Energy **116** (2019) 158-167.

Experiments on gas entrainment phenomena due to free surface vortex induced by flow passing beside stagnation region
T. Ezure, K. Ito, M. Tanaka, H. Ohshima and Y. Kameyama
Nuclear Engineering and Design **350(15)** 90-97.

First Nuclear Transmutation of ^{237}Np and ^{241}Am by Accelerator-Driven System at Kyoto University Critical Assembly
C. H. Pyeon, M. Yamanaka, A. Oizumi, M. Fukushima, G. Chiba, K. Watanabe, T. Endo, W. F. G. van Rooijen, K. Hashimoto, A. Sakon, N. Aizawa, Y. Kuriyama, T. Uesugi and Y. Ishi
Journal of Nuclear Science and Technology **56(8)** (2019) 684-689.

Integral Experiments on Critical Irradiation of ^{237}Np and ^{241}Am Foils at Kyoto University Critical Assembly
C. H. Pyeon, M. Yamanaka, T. Sano and K. Takamiya
Nuclear Science and Engineering **193(9)** (2019) 1023-1032.

Calculation of the Cross and Auto Power Spectrum Densities for Low Neutron Counting from Pulse Mode Detectors
A. Talamo, Y. Gohar, T. Yamamoto, M. Yamanaka and C. H. Pyeon
Annals of Nuclear Energy **131** (2019) 138-147.

Removal of Scale from Feed-water in Thermal Power Plant by Magnetic Separation
-Analysis of Oxygenated Treatment Scale-
M. Hiramatsu, J. Yamamoto, Y. Akiyama, F. Mishima, S. Nishijima, H. Okada, N. Hirota, T. Yamaji, H. Matsuura, S. Namba, T. Sekine, Y. Kobayashi and M. Seto
Journal of Physics: Conference Series **1293(1)** (2019) 012079.

Visualization of phase distribution in lead−bismuth eutectic during one-dimensional solidification process
D. Ito, H. Sato, Y. Saito, J. D. Parker, T. Shinohara and T. Kai
Journal of Visualization **22(5)** (2019) 889-895.

An Impact of Inherent Neutron Source on Subcriticality Measurement in A Highly Enriched Uranium Core of Kyoto University Critical Assembly
A. Sakon, T. Sano, S. Hohara, C. H. Pyeon and K. Hashimoto
Journal of Nuclear Science and Technology **56** (2019) 935-944.

Decomposition of neutron noise in a reactor into higher-order mode components and investigation of the space and frequency dependence
T. Yamamoto and H. Sakamoto
Progress in Nuclear Energy **117** (2019) 103098.

Two-step Monte Carlo sensitivity analysis of alpha- and gamma-eigenvalues with the differential operator sampling method
T. Yamamoto and H. Sakamoto
Annals of Nuclear Energy **133** (2019) 100-109.

Application of Linear Combination Method to Pulsed-Neutron Source Measurement at Kyoto University Critical Assembly
R. Katano, M. Yamanaka and C. H. Pyeon
Nuclear Science and Engineering **193** (2019) 1394-1402.

Experimental study on local interfacial parameters in upward air-water bubbly flow in a vertical 6 × 6 rod bundle
X. Han, X. Shen, T. Yamamoto, K. Nakajima, H. Sun and T. Hibiki
International Journal of Heat and Mass Transfer **444** (2019) 118696.

Feasibility Study on Application of an Artificial Neural Network for Automatic Design of a Reactor Core at the Kyoto University Critical Assembly
S. H. Kim, S. G. Shin, S. S. Han, M. H. Kim and C. H. Pyeon
Progress in Nuclear Energy **119** (2020) 103183.

Calculation of the Prompt Neutron Decay Constant of the KUCA Facility Configurations Driven by a Californium of Spallation External Neutron Sources
A. Talamo, Y. Gohar, M. Yamanaka and C. H. Pyeon
Journal of Nuclear Science and Technology **57** (2020) 145-156.

Estimation of Kinetics Parameters by Monte Carlo Fixed-Source Calculations for Accelerator-Driven System
H. J. Shim, D. H. Kim, M. Yamanaka and C. H. Pyeon
Journal of Nuclear Science and Technology **57(2)** (2020) 177-186.

Experimental Analyses of beff / L in Accelerator-Driven System at Kyoto University Critical Assembly
M. Yamanaka, C. H. Pyeon, T. Endo, K. Watanabe, G. Chiba and W. F. G. van Rooijen
Journal of Nuclear Science and Technology **57(2)** (2020) 205-215.

Measurement of Prompt Neutron Decay Constant with Spallation Neutrons at Kyoto University Critical Assembly using Linear Combination Method
R. Katano, M. Yamanaka and C. H. Pyeon
Journal of Nuclear Science and Technology **57** (2020) 169-176.

Nuclear Data-Induced Uncertainty Quantification of Prompt Neutron Decay Constant based on Perturbation Theory for ADS Experiments at KUCA
T. Endo, K. Watanabe, G. Chiba, M. Yamanaka, W. F. G. van Rooijen and C. H. P yeon
Journal of Nuclear Science and Technology **57** (2020) 196-204.

Paralyzable and Non-Paralyzable Dead-Time Corrections for the Neutron Detectors of the KUCA Facility using External Neutron Sources
A. Talamo, Y. Gohar, M. Yamanaka and C. H. Pyeon
Journal of Nuclear Science and Technology **57** (2020) 157-168.

Real-Time Subcriticality Monitoring System based on A Highly Sensitive Optical Fiber Detector in An Accelerator-Driven System at the Kyoto University Critical Assembly
K. Watanabe, T. Endo and M. Yamanaka and C. H. Pyeon
Journal of Nuclear Science and Technology **57** (2020) 136-144.

Special Issue on Accelerator-Driven System Benchmarks at Kyoto University Critical Assembly
C. H. Pyeon, A. Talamo and M. Fukushima
Journal of Nuclear Science and Technology **57** (2020) 133-135.

Subcriticality Estimation by Extended Kalman Filter Technique in Transient Experiment with External Neutron Source at Kyoto University Critical Assembly
M. Yamanaka, K. Watanabe and C. H. Pyeon
European Physical Journal Plus **135** (2020) 256-256.

Data Assimilation Using Subcritical Measurement of Prompt Neutron Decay Constant
T. Endo and A. Yamamoto
Nuclear Science and Engineering Selected papers from the 2019 M&C Conference (2020) 1-16.

Measurement of A Very Large Negative Reactivity Inserted by Rapid Withdrawal of A Partial Fuel Loading in Kyoto University Critical Assembly
A. Sakon, T. Sano, K. Takahashi, K. Nakajima, S. Hohara, C. H. Pyeon and K. Hashimoto
Journal of Nuclear Science and Technology **57** (2020) 335-343.

Proceedings

Parametric analysis of bubble and dissolved gas behavior in primary coolant system of sodium-cooled fast reactors
K. Matsushita, K. Ito, T. Ezure and M. Tanaka
27th International Conference on Nuclear Engineering: Nuclear Power Saves the World!, ICONE 2019
Ibaraki ; Japan (May19-24, 2019).

Study on numerical simulation of void fraction profile in LBE two-phase flow
K. Maeda, G. Ariyoshi, D. Ito, K. Ito and Y. Saito
27th International Conference on Nuclear Engineering: Nuclear Power Saves the World!, ICONE 2019
Ibaraki ; Japan (May19-24, 2019).

Study on evaluation method for entrained gas flow rate by free surface vortex
K. Ito, D. Ito, Y. Saito, T. Ezure, K. Matsushita, M. Tanaka and Y. Imai
18th International Topical Meeting on Nuclear Reactor Thermal Hydraulics, NURETH 2019 Portland, Oregon, USA (Aug.18-23, 2019) 6632-6642.

Two-phase flow structure in a particle bed packed in a confined channel
D. Ito, T. Kurisaki, K. Ito, Y. Saito, Y. Imaizumi, K.-I. Matsuba and K. Kamiyama
18th International Topical Meeting on Nuclear Reactor Thermal Hydraulics, NURETH 2019 Portland, Oregon, USA (Aug.18-23, 2019) 6430-6439.

Measurement of Gamma Rays from Radiative Capture of Uranium-238 and Decay of Short Lived Fission Products from Subcritical System
Y. Nauchi, T. Sano, H. Unesaki, S. Sato, M. Suzuki and H. Ohta
11th International Conference on Nuclear Criticality safety (ICNC2019）Paris, France (Sept.15-20, 2019).

Conversion from Prompt Neutron Decay Constant to Subcriticality Using Point Kinetics Parameters Based on Alpha- and keff-eigenfunctions
Y. Nauchi, T. Sano, H. Unesaki, S. Sato, M. Suzuki and H. Ohta
11th International Conference on Nuclear Criticality safety (ICNC2019）Paris, France (Sept.15-20, 2019).

Measurements of subcriticality in dollar units using time-domain decomposition based integral method
A. Nonaka, T. Endo, A. Yamamoto, M. Yamanaka, T. Sano and C.H. Pyeon
11th International Conference on Nuclear Criticality safety (ICNC2019）Paris, France (Sept.15-20, 2019).

水平管群内空気-水二相流の熱流動特性に及ぼすピッチ直径比の影響に関する研究/
Effect of Pitch-to-Diameter Ratio on Heat Transfer and Flow Characteristics of Air-Water TwoPhase Flow in Horizontal Tube Bundle
荒木 峡也, 村川 英樹, 杉本 勝美, 浅野 等, 伊藤 大介/
K. Araki, H. Murakawa, K. Sugimoto, H. Asano and D. Ito
第 24 回 動力・エネルギー技術シンポジウム[in Japanese] Tokyo, Japan (July20-21, 2019) E144.

Experimental Analyses of Spallation Neutrons By 100 MeV Protons and Lead－Bismuth Target at Kyoto University Criticality Assembly
K. Morioka, M. Yamanaka, K. Sugiura and C.H. Pyeon
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 19-21.

Applicability of Extended Kalman Filter Teclmique to Reactivity Monitoring at Kyoto University Criticality Assembly
M. Yamanaka and C. H. Pyeon
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 22-25.

Core Design of Accelerator Driven System with Reactivity Control Method using Thorium
K. Nakamura, H. Saito, N. Aizawa and T. Iwasaki
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 26-29.

BEAVRS Benchmark Simulation by using NECP－Bamboo
J. Yang, H. Wu and Y. Li
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 47-50.

Optimization and Verification of PWR Pin-by-pin Fuel Management Calculation Code NECP －Bamboo2.0
S. Wang, L. Cao, Y. Li and W. Yang
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 51-54.

Application of cosKERNEL Code for NPP Shielding Calculation
W. Song, Y. Sun, S. Li, X. Wang, H. Yu and Y. Chen
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 55-57.

GPU/CPU Concurrent Heterogeneous Parallel MOC Calculation with Asynchronous Communication Scheme
L. Liang, P. Song, Q. Zhang, Z. Zhang and Q. Zhao
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 58-61.

Impact of Diffusion Coefficient and Correction Term on the Convergenceof CMFD Acceleration for MOC
Y. Oshima, T. Endo and A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 62-65.

Application of Improved Tone
X. Du, S. Choi, J. Choe, W. Lee and D. Lee
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 66-69.

Application of the SuPer-Homogenization Method in Fast Reactor Analysis System SARAX
L. Wei, Y. Zheng, B. Xiao, L. Xu and H. Wu
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 70-73.

Progress on Multi-physics Calculations of Nuclear Reactor Cores with the IGA Method
W.F.G. van Rooijen
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 74-77.

Research on a Method for Self-Shielding Calculations Based on IGA-Method
M. Nezondet and W.F.G. van Rooijen
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 78-81.

Study on Effective Cross Section of Pu Spot in MOX fuel
T. Kawano, S. Takeda, T. Kitada, Y. Ohoka, S. Matsuoka and H. Nagano
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 82-85.

Modification of MOC for Considering Double Heterogeneity due to Pu Spots in MOX Fuel
A. Ogawa, H. Yamaguchi, S. Takeda, T. Kitada, Y. Ohoka, S. Matsuoka and H. Nagano
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 86-89.

Homogenization Analysis of double-Heterogeneous Fuel and Bumable Poison
L. Lou, Y. Dong, C. Xiaoming, Y. Yingrui and P. Xingjie
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 90-93.

Prediction Analysis of $^{243}Am/^{235}U$ Solid Fission Rate Ration at KUCA solid Moderator Core
T. Sano, J. Hori and Y. Takahashi
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 94-97.

Effect of neutron Absorber on Production of Plutonium238 for BWR Assembly
H. Ohuchi, S. Takeda and T. Kitada
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 99-102.

Study on the Optimization of Assembly Design of Single-Pass Supercritical Water-Cooled Fast Reactor
L. Huang, Z. Liu and X. Wang
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 103-107.

Application of Direct Simulation Method for neutron Space-Time Kinetics Based on RMC
J. Lijun, S. Xiaotong, G. Xiaoyu and W. Kan
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 108-111.

Core Design of a Molten Salt Reactor with Chloride Fuel
M. Watanabe and W.F G. van Rooijen
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 112-115.

Monte Carlo Based Analysis for CANDLE Burning Reactor
H. H. Nguyen, J. Nishiyama and T. Obara
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 116-118.

Verification of FRBurner Module of CBZ Code System Based on OECD/NEA Benchmark Report
J. Fan and G. Chiba
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 127-130.

Development of a Steady-State Core Analysis Code System for VVER
L. Yu , G. Chen, J. Bao, L. Wei, Z. Liao and S. Zhang
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 131-134.

BEAVRS Benchmark Evaluations with Studsvik CMS5 Code Package
T. Bahadir and M. Yamasaki
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 135-138.

An Improved Chebyshev Rational Approximation Method Base on Order Reduction of Krylov Subspace Method
Y. Hu, Q. Luo, D. Yao, Y. Yu, H. Liao and B. Zhou
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 139-142.

Improvement of Optimally-Weighted Predictor-Corrector Method for Nuclear Fuel Burnup Calculations
J. Sasuga, G. Chiba, Y. Ohoka, K. Yamamoto and H. Nagano
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 143-146.

Robustness of the GPS Functions in Pinwise Neutronics Analysis of PWRs
H. Yu and Y. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 147-150.

APEC-corrected NEM Analysis of the VERA Core
S. Jang, K. Lee and Y. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 151-154.

Discontinuity Factor；A Discontinuity Condition for Angular Flux?
A. Yamamoto and T. Endo
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 155-157.

Calculation of Higher Eigen-modes of the Forward and Adjoint neutron Diffusion Equations Using IRAM Algorithm Based on Domain Decomposition
W. Wu, Y. Yu, Q. Luo, D. Yao, Q. Li and X. Chai
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 158-161.

Performance of the RSE（Resonace calculation using energy Spectral Expansion） Method for Heterogeneous Pin-cell Geometry
R. Kondo, T. Endo, A. Yamamoto, S. Takeda, H. Koike, K. Yamaji and D. Sato
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 162-165.

Application of Singular Value Decomposition and Low Rank Approximation for Compression of Macroscopic and Microscopic Cross Section Table for Core Calculations
M. Yamamoto, T. Endo and A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 166-169.

Compression of Multi-Physics SimUlation OutPut Data Using Principle Component Analysis
A. Cherezov, J. Park, H. Kim, N. S. M. Ali and D. Lee
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 170-174.

Refinement of Convolutional Neural Network for Neutronic Design Parameter Prediction of a Loading Pattern
H. Jang, H. C. Shin and H. C. Lee
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 175-178.

Experimental Validation for the Pi n- wise Isotope Prediction Methodology
M. Lee, T. Noh and M. H. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 179-182.

The neutron Streaming Correction Method in the Homogenization of Pebble-bed HTGR Reflector
Y. Wen, D. She, L. Shi and J. Zhao
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 183-186.

App1ication of neutron Balance Analysis in Enhancing the Temperature Reactivity Feedback of Gas-cooled Fast Reactor
C. Zhang, Y. Zheng and L. Wei
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 187-190.

Innovative Design Concepts of Bumable Poison Rods for PWR
A. Dandi and M. H. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 191-195.

Research on Core Design of Pebble Bed Advanced High Temperature Reactor
W. Lianjie, S. Wei, X. Bangyang, Z. Yang and Y. Rui
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 196-199.

C5G7-TD Benchmark Analysis using Multigrid Amplitude Function Method
K. Tsujita, T. Endo and A. Yamamoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 201-204.

Fast (Floating Absorber for Safety at Transient) for the Improved Safety of MOX -loaded Sodium-cooled Fast Reactors
C. Kim and Y. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 205-208.

A Comparative Study on the lQS (Improved Quasi-Static) and PCQS (Predictor Cor Mtor Qusai-Static) Methods
T. Oh, Y. Chung and Y. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 209-212.

Point Kinetics Analysis for Source-jerk Experimentat AGN-201K
S. Lim, H. J. Shim and M. H. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 213-215.

A Subcriticality Measurement of AGNー201K Reactor Using the Rossi-q Method
S. Moon, J. H. Kim, M. H. Kim and S. G. Hong
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 217-220.

Experiment using a Random Selection Method for AGN-201K
J. H. Kim, S. H. Moon, S. G. Hong and M. H. Kim
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 221-224.

Education on Reactor Physics and Fuel Cycle using Experimental Facilities of the Nuclear Industry
K. Yoshioka, T. Sugita, S. Wada, R. Kimura, Y. Yamashita, H. Kumanomido, T. Masuyama, M. Akiyama, H. Miyadera and K. Hiraiwa
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 225-227.

Neutron Correlation Analysis for a Subcritical Reactor System Driven by a Pulsed Spallation Neutron Source in KUCA
K. Nakajima, A. Sakon, S. Hohara, K. Takahashi, M. Yamanaka, T. Sano, C.H. Pyeon and K. Hashimoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019).

A Correlation Characteristics of Spurious Counts of Fission Counter Installed in Kyoto University Reactor for Reactor Operation
S.y. Hohara, A. Sakon, T. Sano, K. Nakajima, K. Takahashi and K. Hashimoto
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019).

ポンプ内気泡挙動の数値解析とX線イメージング/
Numerical simulation and X-ray imaging of entrapped gas bubble behavior in coolant pump
R. Xiong, K. Ito, D. Ito and Y. Saito
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 33. (in Japanese)

球充填層内における気液二相流特性に対する配管径の影響 /
Effect of pipe diameter on gas-liquid two-phase flow characteristics in a spherical packed bed
A. Ishikuro, D. Ito, K. Ito and Y. Saito
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 34. (in Japanese)

A two-phase flow database in a light-water-reactor-simulated rod bundle
X. Han, X. Shen, T. Yamamoto, K. Nakajima and T. Hibiki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 46. (in Japanese)

熱電変換 ー基礎,応用,材料ー/
Thermoelectrics -fundamental, applications and materials-
K. Kurosaki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 66-67. (in Japanese)

核破砕中性子源を用いた加速器駆動システムに関する基礎研究/
Basic Basic research of accelerator-driven riven system with spallation neutrons
C. H. Pyeon, M. Yamanaka, K. Hashimoto, N. Aizawa, K. Watanabe, G. Chiba and and A. Oizumii
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 68-70. (in Japanese)

Reactor Noise Analysis for a Graphite-moderated and -reflected core in KUCA
A. sakon, K. nakajima, K. takahashi, S. hohara, T. sano, Y. fukaya and K. hashimoto
PHYSOR 2020: Transition to a Scalable Nuclear Future Cambrige, United Kingdom (Mar., 2020).

4. Material Science and Radiation Effects

Papers

Effect of Y_2O_3 particles on the helium ion irradiation damage of W-2%Y_2O_3 composite prepared by wet chemical method
Y. Gang, L.L. Ma, T.X. Yue, Z. Xiang, Q. Xu, Z.X. Yong, L.E. Yang, C.X. Zhong, C.J. Gui and W.Y. Cheng
Materialia **6** (2019) 100268.

Microstructure and Its High Temperature Oxidation Behavior of W-Cr Alloys Prepared by Spark Plasma Sintering
Q.Q. Hou, K. Huang, L.M. Luo, X.Y. Tan, X. Zan, Q. Xu, X.Y. Zhu and Y.C. Wu
Materialia **6** (2019) 100332.

固体電解質を用いた起電力法による高温溶融塩の熱力学量の測定/
Measurement of Thermodynamic Properties in Molten Salts by EMF Method Using a Solid Electrolyte
関本 英弘/ H. Sekimoto
溶融塩および高温化学/ Molten Salsts **62(2)** (2019) 68-74. (in Japanese)

A first-principles theoretical study on the potential thermoelectric properties of MgH_2 and CaH_2
Y. Wang, Y. Ohishi, K. Kurosaki and H. Muta
Materials Research Express **6(5)** (2019) 055510.

Nanostructured bulk Si for thermoelectrics synthesized by surface diffusion/sintering doping
S-a Tanusilp, N. Sadayori and K. Kurosaki
RSC Advances **9(27)** (2019) 15496-15501.

Release Kinetics of Tritium Generation in Neutron Irradiated Biphasic Li_2TiO_3-Li_4SiO_4 Ceramic Breeder
Q.L. Zhou, A. Togari, M. Nakata, M.Z. Zhao, F. Sun, Q. Xu, Y. Oya
Journal of Nuclear Materials **522** (2019) 286-293.

Thermal Stability of Microstrcutures and Mechanical Properties in a Fe-Based Fe-Cr-Mn-Cu-Mo Multi-Component Alloy
Z.H. Zhong, Q. Xu, K. Mori and M. Tokitani
Philosophical Magazine **99** (2019) 1515-1527.

混合アニオン層状化合物 $Sr_2CrFeAsO_{3-\delta}$の子磁気相図/Electronic and Magnetic Phase Diagram of Mixed Anion Layered Compound $Sr_2CrFeAsO_{3-\delta}$
山口道太郎, 藤岡弘孝, 大塚貴史, 瀬戸誠, 北尾真司, 的場正憲, 神原陽一/
M. Yamaguchi, H. Fujioka, T. Otsuka, M. Seto, S. Kitao, M. Matoba and Y. Kamihara
日本磁気学会論文特集号/Transaction of the Magnetics Society of Japan Special Issues **3(1) (2019)** 28-33.
(in Japanese)

Fabrication and Thermoelectric Property of $Bi_{0.88}Sb_{0.12}$/InSb Eutectic Alloy by Melt Spinning and Spark Plasma Sintering
N.M. Natashah, Y. Ohishi, K. Kurosaki and H. Muta
MATERIALS TRANSACTIONS **60(6)** (2019) 1072-1077/.

Light emission from treated surfaces of poly (ethylene terephthalate)
H. Nakamura, T. Kamata, N. Sato and K. Mori
Review of Scientific Instruments **90(6)** (2019) 063104.

Si-Based Materials for Thermoelectric Applications
S-a Tanusilp and K. Kurosaki
Materials **12** (2019) 1943.

Density and viscosity of liquid ZrO_2 measured by aerodynamic levitation technique
T. Kondo, H. Muta, K. Kurosaki, F. Kargl, A. Yamaji, M. Furuya and Y. Ohishi
Heliyon **7** (2019) e02049.

Crystal structure and hydrogen absorption- desorption property of La_5Co_{19}
K. Iwase, T. Ueno and K. Mori
International Journal of Hydrogen Energy **44(41)** (2019) 23172-23178.

Direct observation of interlayer molecular translational motion in a smectic phase and determination of the layer order parameter
M. Saito, J. Yamamoto, R. Masuda, M. Kurokuzu, Y. Onodera, Y. Yoda and M. Seto
Physical Review Research **1** (2019) 012008.

First-principles calculation study of Mg_2XH_2 (X=Fe, Ru) on thermoelectric properties
Y. Wang, Y. Ohishi, K. Kurosaki and H. Muta
Materials Research Express **8** (2019) 085536.

Magnetic Field Induced Triple-q Magnetic Order in Trillium Lattice Antiferromagnet EuPtSi Studied by Resonant X-ray Scattering
C. Tabata,T. Matsumura, H. Nakao, S. Michimura, M. Kakihana, T. Inami, K. Kaneko, M. Hedo, T. Nakama and Y. Ōnuki
Journal of the Physical Society of Japan **88(9)** (2019) 093704.

Newly developed Laboratory-based Size exclusion chromatography Small-angle x-ray scattering System (La-SSS)
R. Inoue, T. Nakagawa, K. Morishima, N. Sato, A. Okuda, R. Urade, R. Yogo, S. Yanaka, M. Yagi-Utsumi, K. Kato, K. Omoto, K. Ito and M. Sugiyama
Scientific Reports **9(1)** (2019) 12610.

Time response of poly (ethylene naphthalate) light emission to charged particles
H. Nakamura and K. Mori
Physica Scripta **94(10)** (2019) 105302.

^{125}Te-Mössbauer study of $Fe_{1.1}Te$ and $FeTe_{0.5}Se_{0.5}$ superconductor
S. Kitao, M. Kurokuzu, Y. Kobayashi and M. Seto
Hyperfine Interactions **240(1)** (2019) 112.

Development of a measurement system enabling the reconstruction of γ-ray time spectra by simultaneous recording of energy and time information
H. Tajima, S. Kitao, R. Masuda, Y. Kobayashi, T. Masuda, K. Yoshimura and M. Seto
Japanese Journal of Applied Physics **58(10)** (2019) 108001.

The First Observation of Pure Nuclear Bragg Reflection from Natural Iron α-Fe_2O_3 by Synchrotron Mössbauer Diffraction
S. Nakamura, T. Mitsui, Y. Kobayashi and S. Shimomura
Journal of the Physical Society of Japan **88(10)** (2019) 103702.

A new and practical Se(IV) removal method using Fe^{3+} type cation exchange resin
D. Kawamoto, Y. Yamanishi, H. Ohashi, K. Yonezu, T. Honma, T. Sugiyama, Y. Kobayashi, Y. Okaue, A. Miyazaki and T. Yokoyama
Journal of Hazardous Materials **378** (2019) 120593.

Thermophysical and mechanical properties of CrB and FeB
Y. Ohishi, M. Sugizaki, Y. Sun, H. Muta and K. Kurosaki
Journal of Nuclear Science and Technology **56(9-10)** (2019) 859-865.

Design of S–S bond containing maleimide-conjugated closo-dodecaborate (SSMID): identification of unique modification sites on albumin and investigation of intracellular uptake
S. Ishii, S. Sato, H. Asami, T. Hasegawa, J. Y. Kohno and H. Nakamura
Organic & Biomolecular Chemistry **17** (2019) 5496-5499.

Dynamic motion and freezing of polaronic local structures in a colossal-magnetoresistive perovskitemanganite $La_{0.7}Ca_{0.3}MnO_3$ detected with radioactive nuclei
W. Sato, S. Komatsuda, H. Shimizu, R. Moriichi, S. Abe, S. Watanabe, S. Komatsu, T. Terai, S. Kawata and Y. Ohkubo
Physical Review B**100** (2019) 184111.

Mössbauer Spectroscopy Study of $K_xFe_{2-y}Se_2$ under Pressure
Y. Yamamoto, T. Mitsui, S. Kitao, M. Seto, N. Mizobata, T. Ozaki, H. Yamaoka and J. Mizuki
Journal of the Physical Society of Japan **12** (2019) 124703.

Positive Weiss Temperature in Layered Antiferromagnetic FeNiN for High-Performance Permanent Magnets ACS
S. Goto, H. Kura, H. Yanagihara, E. Kita, M. Tsujikawa, R. Sasaki, M. Shirai,Y. Kobayashi,T. Honda and K. Ono
Applied Nano Materials **2(11)** (2019) 6909-6917.

Positron annihilation study on the phase transition of thermally aged Fe-Cr binary alloys at 748K
R. Kasada and K. Sato
Philosophical Magazine Letters **99(10)** (2019) 360-371.

Thermal and mechanical properties of U_3Si and USi_3
A. Mohamad, W. Silpawilawan, H. Muta, K. Kurosaki and Y. Ohishi
Annals of Nuclear Energy **133** (2019) 186-193.

Effect of Annealing on the Microstructure Behavior of D+-Irradiated W-2vol.%TiC Composite Prepared by Wet-Chemical Method
Y.X. Zhang, X.Y. Tan, X. Zan, L.M. Luo, Y. Xu, Q. Xu, K. Tokunaga, X.Y. Zhu and Y.C. Wu
Fusion Engineering and Design **148** (2019) 111321.

Effect of Interaction between H and He on Micro-Defects in Fe9Cr Alloy Investigated by Slow Positron Beam
L. Li, S.X. Jin, P. Zhang, D.D. Wang, X.Z. Cao, L.P. Guo, Q. Xu, J. Li, T.M. Zhang, L.B. Li, B.Y. Wang
Journal of Nuclear Materials **526** (2019) 15174.

Microscopic molecular translational dynamics in cholesteric and cholesteric blue phases
M. Saito, J. Yamamoto, R. Masuda, M. Kurokuzu, Y. Yoda and M. Seto
Hyperfine Interactions **241(1)** (2019) 14.

Microstructural Evolution in W-1%TiC Alloy Irradiated He ions at High Temperatures
Q. Xu, H.Y. Chen, L.M. Luo, M. Miyamoto, M. Tokitani and Y.C. Wu
Tungsten **1** (2019) 229-235.

Microstructure Evolution of the W-TiC Composite Conducted by Dual-Effects from Thermal Shock and He-Ion Irradiation
Y.F. Zhou, X.Y. Tan, L.M. Luo, Y. Xu, X. Zan, Q. Xu, K. Tokunaga, X.Y. Zhu and Y.C. Wu
Tungsten **1** (2019) 213-219.

Negative ionic states of tin in the oxide superconductor $Sr_{3-x}SnO$ revealed by Mössbauer spectroscopy
A. Ikeda, S. Koibuchi, S. Kitao, M. Oudah, S. Yonezawa, M. Seto and Y. Maeno
Physical Review B **100(24)** (2019) 245145.

Neutron Transmission Spectrum of Liquid Lead Bismuth Eutectic
Y. Oba, D. Ito, Y. Saito, Y. Onodera, J. D. Parker, T. Shinohara and K. Oikawa
Materials Research Proceedings **15** (2019) 160-164.

Origin of the mixed alkali effect in silicate glass
Y. Onodera, Y. Takimoto, H. Hijiya, T. Taniguchi, S. Urata, S. Inaba, S. Fujita, I Obayashi, Y. Hiraoka and S. Kohara
NPG Asia Materials **11(1)** (2019) 75.

Simulation for the correlation of positron annihilation rate with charge density near defects in iron
L. Xiaoshuang, L. Xiangyu, W. Baoyi, L. Eryang, J. Shuoxue, Z. Yujie, Z.Te, C. Xingzhong, C. Guodong and Q. Xu
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms **461 (2019)** 88-92.

Slow-positron beamline temperature rise reduction at Kyoto University Research Reactor
A. Yabuuchi, R. Naka, K. Sato, Q. Xu and A. Kinomura
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms **461** (2019) 137-141.

Swamps of Hydrogen in Equiatomic FeCuCrMnMo Alloys: First-Principles Calculations
X. L. Ren, P. H. Shi, W. W. Zhang, X. Y. Wu, Q. Xu and Y. X. Wang
Acta Materialia **180** (2019) 189-198.

Synchrotron-radiation-based Mössbauer absorption spectroscopy with high resonant energy nuclides
R. Masuda, K. Kusada, T. Yoshida, S. Michimura, Y. Kobayashi, S. Kitao, H. Tajima, T. Mitsui, H. Kobayashi, H. Kitagawa and M. Seto
Hyperfine Interactions **240(1)** (2019) 120.

Understanding diffraction patterns of glassy, liquid and amorphous materials via persistent homology analyses
Y. Onodera, S. Kohara, S. Tahara, A. Masuno, H. Inoue, M. Shiga, A. Hirata, K. Tsuchiya, Y. Hiraoka, I. Obayashi, K. Ohara, A. Mizuno and O. Sakata
Journal of the Ceramic Society of Japan **127** (2019) 853-863.

Chemical Environment and Magnetic Moment Effects on Point Defect Formation in CoCrNi-Based Concentrated Solid-Solution Alloys
H.Q. Guan, S.S. Huang, J.H. Ding, F.Y. Tian, Q. Xu and J.J. Zhao
Acta Materialia **187** (2020) 122-134.

Contribution of cadmium to the total amount of positron creation in a reactor-based slow positron beamline
A. Yabuuchi, T. Yoshiie and A. Kinomura
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms **463** (2020) 40-49.

Influence of Helium Ion Irradiation Damage Behavior after Laser Tnermal Shock of W-2%Vol Y_2O_3 Composites
G. Yao, X.Y. Tan, L.M. Luo, X. Zan, Y. Xu, Q. Xu, X.Y. Zhu, K. Tokunaga and Y.C. Wu
Progress in Nuclear Energy **121** (2020) 103241.

Significant growth of vacancy-type defects by post-irradiation annealing in neon ion-irradiated tungsten probed by a slow positron beam
A. Yabuuchi, M. Tanaka and A. Kinomura
Journal of Nuclear Materials **531** (2020) 152018-1_152018-5.

Vacancy formation enthalpy in CoCrFeMnNi high-entropy alloy
K. Sugita, N. Matsuoka, M. Mizuno and H. Araki
Scripta Materialia **176** (2020) 32-35.

Deuterium irradiation resistance and relevant mechanism in W−ZrC/Sc_2O_3 composites prepared by spark plasma sintering
G. Yao, H.Y. Chen, M.Q. Fu, L.M. Luo, X. Zan, Q. Xu, K. Tokunaga, X.Y. Zhu and Y.C. Wu
Progress in Nuclear Energy **120** (2020) 103215.

Evolution of Defects with Isochronal Annealing in Helium-Irradiated 316L Studied by Slow Positron Beam
L.G. Song, B.Y. Wang, T. Zhu, Y.H. Gong, Q. Xu, L.P. Guo, S.X. Jin, P. Zhang, Y.M. Song and X.Z. Cao
Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms **467** (2020) 80-85.

A Power Metallurgy Route to Fabricate CNT-Reinforced Molybdenum-Hafnium-Carbon Composites
Y. Wei, L.M. Luo, H.B. Liu, X. Zan, J.P. Song, Q. Xu, X.Y. Zhu and Y.C. Wu
Materials & Design **190** (2020) 108635.

Crystal structure, microhardness, and toughness of biomineral $CaCO_3$
K. Iwase and K. Mori
Crystal Growth & Design **20(3)** (2020) 2091-2098.

Effect of C on the Formation of Cu Precipitates and Vacancy Clusters in Neutron-Irradiated Fe-Cu Alloys
S. Huang and Q. Xu
Journal of Nuclear Materials **533** (2020) 152085.

Transport Parameters and Permeation Behavior of Hydrogen Isotopes in the First Wall Materials of Future Fusion Reactors
Y. Xu, Z.S. Wu, L.M. Luo, X. Zan, X.Y. Zhu, Q. Xu and Y.C. Wu
Fusion Engineering and Design **155** (2020) 111563.

Proceedings

Effect of gamma irradiation dose on radiation damage in polystyrene and fused quartz
S. Konishi, H. Minagawa, S. Nakagawa, Q. Xu, and H. Tsuchida
Proceedings of 4th Japan-China Joint Workshop on Positron Science Nara, Japan (Oct.28-Nov.2, 2019).

Development of AMOC measurement system for radiation damage in materials under ion irradiation
H. Minagawa, S. Konishi, S. Nakagawa and H. Tsuchida
Proceedings of 4th Japan-China Joint Workshop on Positron Science Nara, Japan (Oct.28-Nov.2, 2019).

Vacancy migration behavior in a CoCrFeMnNi high entropy alloy
K. Sugita, R. Ogawa, M. Mizuno, H. Araki, A. Yabuuchi and A. Kinomura
MATERIALS RESEARCH MEETING 2019 Yokohama, Japan (Oct.10-14, 2019).

Irradiation-induced vacancy defects and its recovery behavior in 5N-purity tungsten and 3N-purity tantalum
M. Tanaka, A. Yabuuchi and A. Kinomura
18th International Conference on Positron Annihilation (ICPA-18) Orlando, USA (Dec.27, 2019)
050014-1_050014-4.

Magnetic Doppler broadening measurement on Gadolinium-doped GaN
M. Maekawa, S. Sakai, S. Hagiwara, A. Miyashita, K. Wada, A. Kawasuso, A. Yabuuchi and S. Hasegawa
18th International Conference on Positron Annihilation (ICPA-18) Orlando, USA (Dec.27, 2019)
050007-1_050007-4.

粒子線照射された化合物合金中の欠陥による水素捕獲/
Hydrogen trapping behavior at defects introduced by irradiation into compound alloys
F. Hori, A. Takano, K. Sugita, Y. Sumikura, Q. Xu and K. Ohsawa
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 26. (in Japanese)

中性子放射化分析法による岩絵具に含まれる微量元素分析/
Analysis of trace elements in natural mineral pigments by instrumental neutron activation analysis
N. Hagura, Y. Okada, T. Uchiyama and Y. Minai
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 29. (in Japanese)

イオン濃度調整による γ線照射還元 Cu 系合金ナノ粒子の合成制御 /
Synthesis of Cu base alloy nanoparticles by gamma-ray irradiation reduction with various ion concentration ratio
Y. Uchimura, S. Toda, T. Yamada, T. Matsui, Q. Xu and F. Hori
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 35. (in Japanese)

ジルコニウムとトランスフェリンの錯生成に関する研究 /
Study on complexation of zirconium and transferrin
T. Suzuki, T. Kobayashi and T. Sasaki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 36. (in Japanese)

ガンマ線環境下の伝送線路において生成する励起電流の評価/
Estimation of the current generated in cables under gamma-ray irradiation
Y. Gotoh, Y. Okuno, N. Sato, M. Akiyoshi, M. Imaizumi, T. Kobayashi and T. Okamoto
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 50. (in Japanese)

Positron Annihilation Spectroscopy Characterization of Formation of Helium/Hydrogen-Vacancy Nano-Clusters in FeCr Alloy
T. Zhu, B.Y. Wang, X.N. Lian, S.X. Jin, R.S. Yu, X.Z. Cao and Q. Xu
Proceeding of the 15th Workshop on Slow Positron Beam Techniques and Applications (Sept.2-6, 2019) 235-237.

Reviews

マルチキャピラリーX 線レンズを用いた顕微メスバウアー分光/
Mössbauer microspectrometer with a multicapillary X-ray lens
篠田 圭司, 小林 康浩/
K. Shinoda and Y. Kobayashi
岩石鉱物科学/
Japanese Magazine of Mineralogical and Petrological Sciences **47(4)** (2019) 163-167. (in Japanese)

量子ビーム実験と構造モデリングによる亜鉛リン酸塩ガラスの熱膨張係数異常の起源の解明
小野寺陽平, 小原真司, 正井博和
放射光 **32** (2019) 67-74. (in Japanese)

混合アニオン層状化合物 $Sr_2CrFeAsO_{3-\delta}$ の電子磁気相図/
Electronic and Magnetic Phase Diagram of Mixed Anion Layered Compound $Sr_2CrFeAsO_{3-\delta}$
日本磁気学会論文特集号/
山口 道太郎, 藤岡 弘孝, 大塚 貴史, 瀬戸 誠, 北尾 真司, 的場 正憲, 神原 陽一/
Transaction of the Magnetics Society of Japan Special Issues **3(1)** (2019) 28-33. (in Japanese)

Synchrotron Radiation-Based Quasi-Elastic Scattering Using Mössbauer Gamma Ray with neV-Energy Resolution
M. Saito, T. Kanaya and R. Mashita
High-Resolution Inelastic X-Ray Scattering [Working Title] (2019).

Books

錯体化合物事典
大川尚士,海崎純男,齋藤太郎,佐々木陽一,中村　晃,宗像　惠,山内　脩,脇田久伸
錯体化学会
朝倉出版 (2019). (in Japanese)

基礎高分子科学
井上倫太郎
高分子学会
東京化学同人(2020). (in Japanese)

Other

Hydrogen trapping of defects introduced by irradiation in intermetallics
F. Hori, Y. Sumikura, K. Sugita, A. Takano, A. Iwase, M. Maekawa, A. Kawasuso, Q. Xu and K. Ohsawa
QST Takasaki Annual Report 2018 QST-M-**23** (2020) 39.

Synthesis of Au stabilized Cu nanoparticles by gamma-ray irradiation reduction method
F. Hori, Y. Uchimura, S. Toda, T. Matsui, A. Iwase, N. Taguchi, S. Tanaka and Q. Xu
Photon Factory Activity Report 2018 (2019) 36-39.

後藤康仁,奥野泰希,佐藤信浩,秋吉優史,今泉　充,小林知洋,岡本　保
放射線環境下のセンサ出力を伝送する線路において生成するガンマ線励起電流の評価
電子情報通信学会 技術研究報告 119(305) (2019) 39-42. (in Japanese)

5. Geochemistry and Environmental Science

Papers

EFFECT ON MICROBIAL PRODUCTS ON CAESIUM ELUTION BEHAVIOUR FROM CLAY MINERALS
T. Kimura, S. Fukutani, K. Yamaji, M. Ikegami and M. Yoneda
Radiation Protection Dosimetry **184(3-4)** (2019) 385-387.

Gastrointestinal Absorption Rate in Rats for Radiocesium in Soil Collected near Fukushima Power Plant or Doped Artificially with $^{134}CsCl$
K. Iwata, T. Takahashi, S. Tanaka, T. Kubota, S. Fukutani, Y. Kinashi, M. Konno, Mitsuyuki,S. Mizuno and S. Takahashi
Japanese Journal of Health Physics **54(1)** (2019) 66-71.

Scaling Relationships of Source Parameters of Inland Crustal Earthquakes in Tectonically Active Regions
K. Miyakoshi, K. Somei, K. Yoshida, S. Kurahashi, K. Irikura and K. Kamae
Pure and Applied Geophysics **1** (2019) 13.

Vertical Migration of ^{137}Cs in Japanese Orchards after the Fukushima Daiichi Nuclear Power Plant Accident
M. Sato, K. Matsuoka, T. Takase, N.I. Kobayashi, H. Kikunaga, D. Takata, K. Tanoi, T. Ohtsuki, S. Kusaba and K. Yamaguchi
The Horticulture Journal **88 (2)** (2019) 150-163.

Y. Ohtsuka, M. Aoyama, Y. Takaku, Y. Igarashi, M. Hattori, K. Hirose and S. Hisamatsu
$^{240}Pu/^{239}Pu$ and $^{242}Pu/^{239}Pu$ atom ratios of Japanese monthly atmospheric deposition samples during 1963–1966
Scientific Reports **9(1)** (2019) 8105.

Correlation between Different Type of Caesium Carrier in The Radiocaesium Interception Potential Measurement for Forest Soils
H.A Pratama, M. Yoneda, Y. Shimada, S. Fukutani and M. Ikegami
Journal of Physics: Conference Series **1198(2)** (2019) 022026.

Aerosol mixing state revealed by transmission electron microscopy pertaining to cloud formation and human airway deposition
J. Ching, K. Adachi, Y. Zaizen, Y. Igarashi and M. Kajino
npj Climate and Atmospheric Science **2** (2019) 22.

人工構造物周辺の地下水流動及び水質変動解析
谷口文紀, 藤川陽子, 国分宏城, 橋本芳, 村沢直治, 尾崎博明
第 25 回地下水･土壌汚染とその防止対策に関する研究集会講演集 **25** (2019) 455-459. (in Japanese)

地下水中の放射性セシウム―福島県浜通り,中通りおよび会津での調査結果
藤川陽子, 谷口文紀, 国分宏城, 橋本芳, 村沢直治, 静間清
第 25 回地下水･土壌汚染とその防止対策に関する研究集会講演集 **25** (2019) 408-412. (in Japanese)

振動計測に基づく傾斜基盤上に建つ免震建物の振動性状に関する検討/
Dynamic Properties of a Seismically-Isolated Building Constructed on Soil with Inclined Bedrock from Vibration Measurements
西浦 遼, 永野正行, 飛田喜則, 上林宏敏/
R. Nishimura, M. Nagano, Y. Tobita and H. Uebayashi
日本地震工学会論文集/
Journal of Japan Association for Earthquake Engineering **19(6)** (2019) 181-192. (in Japanese)

福島第一原子力発電所事故により 1 号機から放出された放射性エアロゾルの物理・化学的性状の解明/
Investigation of Physical and Chemical Characteristics of Radioactive Aerosols Emitted From Reactor Unit 1 by Fukushima Daiichi Nuclear Power Plant Accident
S. Onozaki, Y. Abe, I. Nakai, K. Adachi, Y. Igarashi, Y. Oura, M. Ebihara, T. Miyasaka, H. Nakamura, K. Sueki, H. Tsuruta and Y. Moriguchi
BUNSEKI KAGAKU **68(10)** (2019) 757-768. (in Japanese)

S. Yokoyama, T. Takahashi, M. Ota, H. Kakiuchi, S. Sugihara, S. Hirano, N. Momoshima, T. Tamari, N. Shima, M. Atarashi-Andoh, S. Fukutani, S. Nakasone, M. Furukawa, M. Tanaka and N. Akata
Development of Field Estimation Technique and Improvement of Environmental Tritium Behavior Model
Plasma and Fusion Research **14** (2019) 3405099-1_3405099-4.

Petit-spot volcanoes on the oldest portion of the Pacific plate
N. Hirano, S. Machida, H. Sumino, K. Shimizu, A. Tamura, T. Morishita, H. Iwano, S. Sakata, T. Ishii, S. Arai, S. Yoneda, T. Danhara and T. Hirata
Deep Sea Research Part I: Oceanographic Research Papers **159** (2019) 103142.

Tritium separation from heavy water using a membrane containing deuterated manganese dioxide Journal of
H. Koyanaka, S. Fukutani and H. Miyatake
Radioanalytical and Nuclear Chemistry **322(3)** (2019) 1889-1895.

放射性核種の大気放出と大気中動態の理解の現状/
Recent Understanding on the Release of Radionuclides and Their Behavior in the Atmosphere
山澤弘実, 五十嵐康人/
H. Yamazawa and Y. Igarashi
RADIOISOTOPES **69** (2019) 19-30. (in Japanese)

Proceedings

Petit-spot and seamount rejuvenation overprinting western Pacific plate
N. Hirano and H. Sumino
AGU Fall Meeting 2019 San Francisco, California, USA (Dec.9-13, 2019) V11E-0142.

Performance of a 500 L SNAP reactor placed in the downstream of biological filtration system for removal of arsenic from groundwater
Y. Fujikawa, Ph. D. Hung, D. Hira, T. Fujii, H. Ozaki and K. Furukawa
Proceedings of 4th International Symposium IANAS2019 Osaka, Japan (Nov.13-15, 2019) 226-231.

Microbiome analysis of samples from a single stage partial nitritation - anammox reactor used for treatment of groundwater
Y. Fujikawa, D. Hira, I. Suzuki, Ph. D. Hung, T. Fujii, K. Kokubun and K. Furukawa,
Proceedings of 4th International Symposium IANAS2019 Osaka, Japan (Nov.13-15, 2019) 274-279.

福島原発事故で放出された放射性微粒子の分析および模擬生成実験/
Analysis and simulated generation
experiment for radioactive particles released by the Fukushima nuclear accident
Makoto Inagaki, Ryo Sato, Shun Sekimoto, Koichi Takamiya, Yuichi Oki, Tsutomu Ohtsuki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 30. (in Japanese)

核分裂生成物と溶液エアロゾル粒子の静電相互作用による吸着挙動/
Attachment behavior of fission products on solution aerosol by electrostatic interaction
Y. Takeuchi, T. Takeuchi, K. Takamiya, M. Inagaki, S. Sekimoto, Y. Oki and T. Ohtsuki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 53. (in Japanese)

核分裂生成物と溶液エアロゾル粒子の静電相互作用による吸着挙動/
Attachment behavior of fission products on solution aerosol by electrostatic interaction
T. Takeuchi, Y. Takeuchi, K. Takamiya, M. Inagaki, S. Sekimoto, Y. Oki and T. Ohtsuki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 54. (in Japanese)

放射性物質の大気沈着・拡散および陸域からの再浮遊について/
Atmospheric deposition and diffusion of radioactive materials from the F1NPP accident and their resuspension
Y. Igarashi
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 71-73. (in Japanese)

Reviews

Accurate determination of three halogen elements (Cl, Br, and I)in U.S. Geological Survey geochemical reference materials by radiochemicalneutron activation analysis and an exhaustive comparison with literaturedata: a review
S. Sekimoto and M. Ebihara
Journal of Nuclear and Radiochemical Science **20** (2020) 12-19.

山澤弘実, 五十嵐康人/
H. Yamazawa and Y. Igarashi
放射性核種の大気放出と大気中動態の理解の現状/
Recent Understanding on the Release of Radionuclides and Their Behavior in the Atmosphere
RADIOISOTOPES **69(1)** (2019) 19-30. (in Japanese)

木村建貴, 福谷 哲, 山路 恵子, 池上 麻衣子/
T. Kimura, S. Fukutani, K. Yamaji and M. Ikegami
シデロホアによる粘土鉱物中セシウムの脱離現象に関する研究/
A STUDY OF CESIUM ELUTION BEHAVIOR FROM CLAY MINERALS TRIGGERED BY SIDEROPHORES
土木学会論文集 G（環境）/
Journal of Japan Society of Civil Engineers, Ser. G (Environmental Research) 7 (2019) 503-508. (in Japanese)

A review of Cs-bearing microparticles in the environment emitted by the Fukushima Dai-ichi Nuclear Power Plant accident
Y. Igarashi, T. Kogure, Y. Kurihara, H. Miura, T. Okumura, Y. Satou, Y. Takahashi and N. Yamaguchi
Journal of Environmental Radioactivity 205-206 (2019) 101-118.

Books

Environmental Contamination from the Fukushima Nuclear Disaster
Part I. Dynamics of Radioactive Materials in the Environment:1. Introduction – basic concepts regarding the Fukushima accident, radiation and radioactivity
T. Nakajima, T. Ohara, M. Uematsu, Y. Onda, M. Ebihara, A. Shinohara, Y. Hamajima, Y. Igarashi, T. Aono, M. Aoyama, M. Takigawa and K. Saito, T. Nakajima, T. Ohara, M. Uematsu and Y. Onda
Cambridge University Press (2019).

大気環境の事典
原発事故による環境影響
五十嵐康人
大気環境学会（編）
朝倉書店(2019). (in Japanese)

6. Life Science and Medical Science

Papers

Catalytic Hydrolysis of Phosphate Monoester by Supramolecular Phosphatases Formed from a Monoalkylated Dizinc(II) Complex, Cyclic Diimide Units, and Copper(II) in Two-Phase Solvent System
A.B Rahman, H. Imafuku, Y. Miyazawa, A. Kafle, H. Sakai, Y. Saga and S. Aoki
Inorganic Chemistry **58(9)** (2019) 5603-5616.

Structural Insights into the Inhibition of Amyloid Fibril Formation by Fibrinogen via Interaction with Prefibrillar
N. Yamamotoi, T. Akai, R. Inoue, M. Sugiyama, A. Tamura and E. Chatani
Intermediates Biochemistry **58(24)** (2019) 2769-2781.

Structural characterization of the N-terminal kinase-interacting domain of an Hsp90-cochaperone Cdc37 by CD and solution NMR spectroscopy
F. Ihama, M. Yamamoto, C. Kojima, T. Fujiwara, K. Matsuzaki, Y. Miyata and M. Hoshino
Biochimica et Biophysica Acta (BBA) - Proteins and Proteomics **1867(9)** (2019) 813-820.

Catalytic Hydrolysis of Phosphate Monoester by Supramolecular Complexes Formed by the Self-Assembly of a Hydrophobic Bis(Zn2+-cyclen) Complex, Copper, and Barbital Units That Are Functionalized with Amino Acids in a Two-Phase Solvent System
Y. Miyazawa, A.B. Rahman, Y. Saga, H. Imafuku, Y. Hisamatsu and S. Aoki
Micromachines **710(7)** (2019) 452.

Design, Synthesis, DNA/HSA Binding, and Cytotoxic Activity of Half-Sandwich Ru(II)-Arene Complexes Containing Triarylamine–Thiosemicarbazone Hybrids
M. Muralisankar, R. Dheepika, J. Haribabu, C. Balachandran, S. Aoki, N.S.P. Bhuvanesh and S. Nagarajan
ACS Omega **4(7)** (2019) 11712-11723.

Dynamic Views of the Fc Region of Immunoglobulin G Provided by Experimental and Computational Observations
S. Yanaka, R. Yogo, R. Inoue, M. Sugiyama, S.G. Itoh, H. Okumura, Y. Miyanoiri, H. Yagi, T. Satoh, T. Yamaguchi and K. Kato.
Antibodies **8(3)** (2019) 39.

NHC-catalyzed green synthesis of functionalized chromones: DFT mechanistic insights and in vitro activities in cancer cells
N. Murugesh, J. Haribabu, K. Arumugam, C. Balachandran, R. Swaathy, S. Aoki, A. Sreekanth, R. Karvembu and S. Vedachalam.
New Journal of Chemistry **43** (2019) 13509-13525.

Design, synthesis, and anticancer activity of iridium(III) complex-peptide hybrids that contain hydrophobic acyl groups at the N-terminus of the peptide units
K. Naito, K. Yokoi, C. Balachandran, Y. Hisamatsu and S. Aoki.
Journal of Inorganic Biochemistry **199** (2019) 110785.

A New Class of β–Pyrrolidino-1,2,3-Triazole Derivatives as β-Adrenergic Receptor Inhibitors: Synthesis, Pharmacological, and Docking Studies
M. Easwaramoorthi, J.A Rajendran, K.C. Rao, C. Balachandran, Y. Arun, S.M. Mahalingam, N. Arumugam, A. Almansour, R.S. Kumar, D.M. Al-thamili and S. Aoki
Molecules **24(19)** (2019) 3501.

Cisplatin Facilitates Radiation-Induced Abscopal Effects in Conjunction with PD-1 Checkpoint Blockade Through CXCR3/CXCL10-Mediated T-cell Recruitment
R. Luo, E. Firat, S. Gaedicke, E. Guffart, T. Watanabe and G. Niedermann
Clinical Cancer Research **23** (2019) 7243-7255.

Purified F-ATP synthase forms a Ca^{2+}-dependent high-conductance channel matching the mitochondrial permeability transition pore
A. Urbani, V. Giorgio, A. Carrer, C. Franchin, G. Arrigoni, C. Jiko, K. Abe, S. Maeda, K. Shinzawa-Itoh, J.F.M. Bogers, D.G.G McMillan, C. Gerle, I. Szabò and P. Bernardi
Nature Communications **1** (2019) 4341.

Crystal structure of pantoate kinase from Thermococcus kodakarensis
A. Kita, A. Kishimoto, T. Shimosaka, H. Tomita, Y. Yokooji, T. Imanaka, H. Atomi and K. Miki
Proteins: Structure, Function, and Bioinformatics **88(5)** (2020) 718-724.

Regulation of plant ER oxidoreductin 1 (ERO1) activity for efficient oxidative protein folding
M. Matsusaki, A. Okuda, K. Matsuo, K. Gekko, T. Masuda, Y. Naruo, A. Hirose, K. Kono, Y. Tsuchi and R. Urade
Journal of Biological Chemistry **49** (2019) 18820-18835.

The design and green synthesis of novel benzotriazoloquinolinyl spirooxindolopyrrolizidines: antimycobacterial and antiproliferative studies
V. Pogaku, V.S. Krishna, C. Balachandran, K. Rangan, D. Sriram, S. Aoki and S. Basavoju
New Journal of Chemistry **44** (2019) 17511-17520.

Ubiquitin carboxyl-terminal hydrolase L1 promotes hypoxia-inducible factor 1-dependent tumor cell malignancy in spheroid models
X. Li, A. Hattori, S. Takahashi, Y. Goto, H. Harada and H. Kakeya
Cancer Science **111** (2019) 239-252.

Increased 14C-acetate accumulation in IDH-mutated human glioblastoma: implications for detecting IDH-mutated glioblastoma with 11C-acetate PET imaging
S. Koyasu, Y. Shimizu, A. Morinibu, T. Saga, Y. Nakamoto, K. Togashi and H. Harada
Journal of Neuro-Oncology **145(3)** (2019) 441-447.

Structural Studies of Overlapping Dinucleosomes in Solution
A. Matsumoto, M. Sugiyama, Z. Li, A. Martel, L. Porcar, R. Inoue, D. Kato, A. Osakabe, H. Kurumizaka and H. Kono
Biophysical Journal **118(9)** (2019) 2209-2219.

Adding Indoximod to Hypofractionated Radiotherapy with Anti-PD-1 Checkpoint Blockade Enhances Early NK and CD8+ T-Cell−Dependent Tumor Activity
T. Watanabe, S. Gaedicke, E. Guffart, E. Firat and G. Niedermann
Clinical Cancer Research **26(4)** (2020) 945-956.

One-pot synthesis of cyclic oligosaccharides by the polyglycosylation of monothioglycosides
H. Someya, T. Seki, G. Ishigami, T. Itoh, Y. Saga, Y. Yamada and S. Aoki
Carbohydrate Research **487** (2020) 107888.

Supramolecular tholos-like architecture constituted by archaeal proteins without functional annotation
M. Yagi-Utsumi, A. Sikdar, C. Song, J. Park, R. Inoue, H. Watanabe, R.N. Burton-Smith, T. Kozai, T. Suzuki, A. Kodama, K. Ishii, H. Yagi, T. Satoh, S. Uchiyama, T. Uchihashi, K. Joo, J. Lee, M. Sugiyama, K. Murata and K. Kato
Scientific Reports **10** (2020) 1540-1540.

Unprecedented formation of palladium(II)-pyrazole based thiourea from chromone thiosemicarbazone and [PdCl2(PPh3)2]: Interaction with biomolecules and apoptosis through mitochondrial signaling pathway
J. Haribabu, C. Balachandran, M.M. Tamizh, Y. Arun, N. S.P. Bhuvanesh, S. Aoki and R. Karvembu
Journal of Inorganic Biochemistry **205** (2020) 110988.

Current status and near future plan of neutron protein crystallography at J-PARC
I. Tanaka, T. Chatake, S. Fujiwara, T. Hosoya, K. Kusaka, N. Niimura, T. Yamada and N. Yano
Methods in Enzymology **634** (2020) 101-123.

Disturbance in the regulation of miR 17-92 cluster on HIF-1-α expression contributes to clinically relevant radioresistant cells: an in vitro study
M.H. Roudkenar, M. Fukumoto, A.M. Roushandeh, Y. Kuwahara, Y. Uroshihara, H. Harada and M. Fukumoto
Cytotechnology **20(1)** (2020) 141-153.

A single Asp isomer substitution in an αA-crystallin-derived peptide induces a large change in peptide properties
K. Magami, I. Kim and N. Fujii
Experimental Eye Research **192** (2020) 107930.

Proceedings

Development of a proton range-verification method using ionoacoustic waves generated from spherical metal markers
T. Takayanagi,T. Uesaka, Y. Nakamura, M. B. Unlu, Y. Kuriyama, T. Uesugi, Y. Ishi, K. Umegaki, H. Shirato and T. Matsuura
The 58th Annual Conference of the Particle Therapy Co-Operative Group (PTCOG58) Manchester, UK (June10-15, 2019).

Development of Glass-Beads Filters for the Isolation, Culture, and Re-collection of Cancer Cells
S. Aoki, B. Shashni, S. Ariyasu, H. Takemura, K. Akimoto, N. Aikawa, K. Iwasaki, T. Nakanishi, A. Yasumori, T. Osaki and N. Itoh
International e-Conference on Cancer Research 2019 (e-ICCR 2019) London, United Kingdom (June10-11, 2019).

CTCs extraction method based on frequency-domain filtering from microscope images
K. Yoshida, Y. J. Chen, L. S. Lu, S. Aoki, and N. Aikawa,
23rd IEEE International Conference on Signal Processing: Algorithms, Architectures, Arrangements, and Applications Poznan, Poland (Sept.18-20, 2019) 186-191.

Hydrogen/deuterium exchange behavior in tetragonal hen egg-white lysozyme crystals analyzed by the neutron diffraction methods
A. Kita and Y. Morimoto
6th International Symposium on Diffraction Structure Biology Osaka, Japan (Oct.17-20, 2019).

Hydrogen/deuterium exchange behavior in tetragonal hen egg-white lysozyme crystals
A. Kita and Y. Morimoto
16th Conference of the Asian Crystallographic Association Singapore (Dec.17-20, 2019).

Structural analysis of ligand binding mechanism of L-lactate oxidase from Aerococcus viridans by use of ligand soaking crystals
Y. Morimoto, N. Furubayashi, M. Kamo, Y. Umena, A. Kita, T. Matsuoka and K. Inaka
16th Conference of the Asian Crystallographic Association Singapore (Dec.17-20, 2019).

マルチドメインタンパク質のコントラスト同調中性子小角散乱解析のためのキメラ重水素化タンパク質作製法の確立/
Establishing the method of chimera-deuterated protein synthesis for contrast-matching SANS
A. Okuda, K. Morishima, N. Sato, R. Inoue, R. Urade and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 21. (in Japanese)

アミロイド核形成メカニズムの解明を目指した核形成中間体の捕捉と構造解析/
Trapping and structural analysis of nucleation intermediates aimed at clarifying amyloid nucleation mechanisms
Y. Yoshikawa, N. Yamamoto, R. Inoue, K. Morishima, M. Sugiyama, A. Tamura and E. Chatani
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 23. (in Japanese)

マルチドメイン蛋白質の階層的な動的構造とダイナミクス/
Solution structure of multi-domain protein
H. Nakagawa, T. Saio, M. Sugiyama, R. Inoue, M. Nagao and T. Tominaga
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 24. (in Japanese)

X 線小角散乱によるアミロイド線維前駆中間体発達の時分割追跡/
Monitoring structural formation of amyloid prefibrillar intermediates by small-angle X-ray scattering
N. Yamamoto, T. Akai, R. Inoue, M. Sugiyama, N. Shibayama and E. Chatani
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 25. (in Japanese)

古細菌の集合シャペロン様タンパク質 PbaA の動的構造解析/
Dynamical structure of archaeal homolog of proteasome-assembly chaperone PbaA
M. Y. Utsumi, R. Inoue, M. Sugiyama and K. Kato
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 27. (in Japanese)

Solution structure of the circadian clock protein complex characterized by a combination approach involving solution scattering and computational methods
Y. Yunoki, H. Yagi, K. Morishima, J. Matsumoto, N. Sato, L. Porcar, A. Martel, R. Inoue,T. Kazuki, H. Kono, K. Kato and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 28. (in Japanese)

メタン菌由来 sHsp の温度依存性機構の解明/
Study on the temperature dependency of sHsps from methanogens
M. Yohda, A. Kanno, R. Inoue, N. Sato, K. Morishima and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 37. (in Japanese)

溶液状態を反映した,重水素化タンパク質の中性子線結晶構造解析/
Neutron crystallographic studies for deuterated protein that reflects the solvent state
A. Kita and Y. Morimoto
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 41. (in Japanese)

海藻由来フコイダンによるアミロイド凝集抑制機構の解析/
Inhibitory mechanism of amyloid fibril formation by sea-weed fucoidan
M. Hoshino, Y. Kato, K. Morishima, R. Inoue, M. Subiyama and H. Yagi
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 42. (in Japanese)

小角散乱法と分析超遠心によるタンパク質溶液散乱からの凝集除去解析/
Aggregation elimination analysis of protein solution scattering with small angle scattering and analytical ultracentrifugation
Y. Miyamoto, K. Morishima, R. Inoue, N. Sato, A. Okuda, R. Urade and M. Sugiyama
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 48. (in Japanese)

植物小胞体での新生タンパク質の酸化的フォールディング機構/
Mechanism of oxidative folding in plant endoplasmic reticulum
R. Urade
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 61-63. (in Japanese)

休止期腫瘍細胞特性と癌幹細胞性との関連性解析と癌治療への応用
増永慎一郎,真田悠生,田野恵三
第 22 回菅原・大西記念癌治療増感シンポジウム 奈良(Feb.8-9, 2020). (in Japanese)

IDO inhibition strongly enhances effects of combined hRT and PD1/PD-L1 checkpoint blockade
T. Watanabe and G. Niedermann
Radiotherapy and Oncology Milan, Italy (Apr.26-30, 2019) S72-S73.

Indoximod Strongly Enhances Effects of Combined Hrt and PD1/PD-L1 Checkpoint Blockade
T. Watanabe and G. Niedermann
International Journal of Radiation Oncology, Biology, Physics Chicago, USA (Sept.15-19, 2020) E652.

Book

タンパク質のアモルファス凝集と溶解性―基礎研究からバイオ産業・創薬研究への応用まで―
黒田 裕, 有坂文雄, 白木賢太郎, 岩下和輝, 三村真大, 宗 正智, 後藤祐児, 今村比呂志, 渡邊秀樹, 千賀由佳子, 本田真也, 太田里子, 杉山正明, 城所俊一, 若山諒大, 内山 進 , デミエン ホール, 廣田奈美, 五島直樹, 河村義史, 廣瀬修一,野口 保, 丹羽達也, 田口英樹, 伊豆津健一, 津本浩平, 伊倉貞吉, 池口雅道, 荒川 力, 江島大輔, 浅野竜太郎, 赤澤陽子, 萩原義久, 小澤大作, 武内敏秀, 永井義隆, 安藤昭一朗, 石原智彦,小野寺 理 ,加藤昌人, 米田早紀, 鳥巣哲生, 黒谷篤之, 柴田寛子, 石井明子, 黒田裕, 有坂文雄
第Ⅱ編 第 4 章 小角散乱法
(株)シーエムシー出版 (2019). (in Japanese)

Reviews

杉山 正明, 井上 倫太郎, 中川 洋, 齋尾 智英
中性子溶液散乱 : 現在・過去・未来
(特集 波紋刊行 30 年記念特集 これからの中性子科学コミュニティの在り方とは)
波紋 : Neutron network news **30(1)** (2020) 16-25. (in Japanese)

低酸素バイオロジーの創造と進展
原田浩
放射線生物研究 **55(1)** (2020) 61-67. (in Japanese)

水晶体内クリスタリン中のアスパラギン酸残基の異性化/
The spontaneous isomerization of aspartate residues in lens crystallin
高田匠, 藤井紀子/
T. Takata and N. Fujii
生化学/
Journal of Japanese Biochemical Society **91(3)** (2019) 322-328. (in Japanese)

がん治療における Particle Therapy の現状と展望
石川仁, 中井啓, 野中哲生, 櫻井英幸
癌と化学療法 **46(8)** (2019) 1219-1225. (in Japanese)
ヒト水晶体加齢モデル蛋白質の熱安定性とシャペロン様機能の測定
高田匠, 藤井紀子
Jasco Report **61(2)** (2019) 1-6. (in Japanese)

ストレス誘発細胞老化は炎症・がん細胞増殖促進に関与する/
Stress-induced Cellular Senescence Contributes to Chronic Inflammation and Cancer Progression Thermal
小橋川 新子, 坂口 義彦, 増永 慎一郎, 森 英一朗/
S. Kobashikawa, Y. M. SakaguchiI, S. Masunaga and E. Mori
Medicine **35(4)** (2019) 41-58. (in Japanese)

7. Neutron Capture Therapy

Papers

Design, Synthesis, and Evaluation of Lipopeptide Conjugates of Mercaptoundecahydrododecaborate for Boron Neutron Capture Therapy
A. Isono, M. Tsuji, Y. Sanada, A. Matsushita, S. Masunaga, T. Hirayama and H. Nagasawa
ChemMedChem **14(8)** (2019) 823-832.

Development of proton beam irradiation system for small animals using FFAG accelerator
H. Tanaka, T. Takata, Y. Ishi, T. Uesugi, Y. Kuriyama, T. Watanabe, Y. Sakurai, S. Kawabata, S.-I. Masunaga and M. Suzuki.
Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment **922** (2019) 230-234.

Depth distributions of RBE-weighted dose and photon-isoeffective dose for boron neutron capture therapy
T. Sato, S.-I. Masunaga, H. Kumada and N. Hamada
Radiation Protection Dosimetry **183(1-2)** (2019) 247-250.

Intracellular target delivery of cell-penetrating peptide-conjugated dodecaborate for boron neutron capture therapy (BNCT)
I. Nakase, M. Katayama, Y. Hattori, M. Ishimura, S. Inaura, D. Fujiwara, T. Takatani- Nakase, I. Fujii, S. Futaki and M. Kirihata
Chemical Communications **55(93)** (2019) 13955-13958.

Preparation of pentagamaboronon-0 and its fructose and sorbitol complexes as boron carrier for boron neutron capture therapy (BNCT) application
E. Meiyanto, R.A. Susidarti, R.Y. Utomo, L. Qodria, R.D. Ramadani, Y. Ohta, Y. Hattori and M. Kirihata
Research in Pharmaceutical Sciences **14(4)** (2019) 286.

A design study of application of the CsI self-activation method to the neutron rem-counter technique
T. Ueki, A. Nohtomi, G. Wakabayashi, J. Fukunaga, T. Kato and S. Ohga
Radiation Measurements **128** (2019) 106181.

Usefulness of combination with both continuous administration of hypoxic cytotoxin and mild temperature hyperthermia in boron neutron capture therapy in terms of local tumor response and lung metastatic potential
S.I. Masunaga, Y. Sakurai, H. Tanaka, T. Takata, M. Suzuki, Y. Sanada, K. Tano, A. Maruhashi and K. Ono
International Journal of Radiation Biology **95(12)** (2019) 1708-1717.

In Vitro Evaluation System of Pharmacokinetics and Irradiation Effect in Boron Neutron Capture Therapy (BNCT) Using Three-Dimensional Artificial Human Tumor Tissue Model
S. Ishiyama, Y. Asano, M. Suzuki, A. Mitsuru and H. Shimoda
Journal of Cancer Therapy **10(10)** (2019) 835-845.

Radiation Sensitivity of *in Vitro* Evaluation System of Pharmacokinetics in Boron Neutron Capture Therapy (BNCT) Using Three-Dimensional Artificial Human Tumor Tissue Model
S. shiyama and M. Suzuki
Journal of Cancer Therapy **10(12)** (2019) 1025-1035.

Boron neutron capture therapy (BNCT): a unique role in radiotherapy with a view to entering the accelerator-based BNCT era
M. Suzuki
International Journal of Clinical Oncology **25(1)** (2020) 43-50.

Boron nitride (^{10}BN) a prospective material for treatment of cancer by boron neutron capture therapy (BNCT)
M. Kaur, P. Singh, K. Singh, U.S. Gaharwar, R. Meena, M. Kumar, F. Nakagawa, S. Wu, M. Suzuki, H. Nakamura and A. Kumar
Materials Letters **259** (2020) 126832.

Poly(vinyl alcohol) boosting therapeutic potential of p-boronophenylalanine in neutron capture therapy by modulating metabolism
T. Nomoto, Y. Inoue, Y. Yao, M. Suzuki, K. Kanamori, H. Takemoto, M. Matsui, K. Tomoda and N. Nishiyama
Science Advances **6(4)** (2020) eaaz1722.

Design and construction of an accelerator-based boron neutron capture therapy (AB-BNCT) facility with multiple treatment rooms at the Southern Tohoku BNCT Research Center
T. Kato, K. Hirose, H. Tanaka, T. Mitsumoto, T. Motoyanagi, K. Arai, T. Harada, A. Takeuchi, R. Kato, S. Yajima and Y. Takai
Applied Radiation and Isotopes **156** (2020) 108961.

Enhanced MRI-Guided Gadolinium (III) Neutron Capture Therapy by Polymeric Nanocarriers Promoting Tumor Accumulation and Intracellular Delivery
C. Qin, X. Hou, T. Khan, N. Nitta, M. Yanagawa, Y. Sakurai, M. Suzuki, S.-I. Masunaga, H. Tanaka, Y. Sakurai, H. Takahashi, I. Aoki, H. Yanagie and H. Cabral
ChemNanoMat**6 (3)** (2020) 412-419.

Growth and scintillation properties of a new red-emitting scintillator Rb2HfI6 for the fiber-reading radiation monitor
S. Kodama, S. Kurosawa, Y. Morishita, H. Usami, T. Torii, M. Hayashi, M. Sasano, T. Azuma, H. Tanaka, V. Kochurikhin, J. Pejchal, R. Kra , M. Yoshino, A. Yamaji, S. Toyoda, H. Sato, Y. Ohashi , Y. Yokota, K. Kamada, M. Nikl and A. Yoshikawa
IEEE TRANSACTIONS ON NUCLEAR SCIENCE 2020.

Carrier proteins-based boron delivery to tumor
S. Kikuchi, S. Sato and H. Nakamura
Applied Radiation and Isotopes **157** (2020) 109011.

Evaluation of PHITS for microdosimetry in BNCT to support radiobiological research
N. Hu, H. Tanaka, T. Takata, S. Endo, S. Masunaga, M. Suzuki and Y. Sakurai
Applied Radiation and Isotopes **161** (2020) 109148.

Fiber-read radiation monitoring system using an optical fiber and red-emitting scintillator for ultra-high-dose conditions
S. Kodama, S. Kurosawa, M. Ohno, Y. Morishita, H. Usami, M. Hayashi, M. Sasano, T. Azuma, H. Tanaka, V. Kochurikhin, A. Yamaji, M. Yoshino, S. Toyoda, H. Sato, Y. Ohashi, K. Kamada, Y. Yokota and A. Yoshikawa
Applied Physics Express **13(4)** (2020) 047002.

Microdosimetric quantities of an accelerator-based neutron source used for boron neutron capture therapy measured using a gas filled proportional counter
N. Hu, H. Tanaka, T. Takata, K. Okazaki, R. Uchida and Y. Sakurai
Jounal of radiation research **61(2)** (2020) 214-220.

Clinical results: patients with head and neck squamous cell carcinoma who have no other treatment options. -Japanese experiences-
I. Kato
Neutron Capture Therapy - Principles and Applications (2nd edition): Wolfgang Sauerwein, Andrea Wittig, Ray Moss, Yoshinobu Nakagawa, Koji Ono Editors (2020) in press.

Proceedings

Synthesis and Biological Evaluation of S-Octylsulfoniododecaborate Containing L-Amino Acids for Boron Neutron Capture Therapy
Y. Hattori, M. Ishimura, Y. Ohta, H. Takenaka, K. Matsumoto, K. Uehara, T. Asano and M. Kirihata
Peptide Science 2019 Tokyo, Japan (Oct.23-25, 2019).

新規ホウ素薬剤開発に向けた研究開発/
Preclinical study for development of new drug for NCT
M. Suzuki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 1. (in Japanese)

BNCT 適応拡大に向けた探索的臨床研究/
Clinical research on explorations into new application of BNCT
M. Suzuki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 2. (in Japanese)

経路阻害剤は放射線照射と抗 PD1 抗体阻害剤の併用効果を NK 細胞・$CD8^+$T 細胞を介して増強する/
Better early NK and $CD8^+$T cell-dependent tumor control by adding IDO pathway inhibitor to hypofractionated radiotherapy plus Anti-PD1 checkpoint blockade
T. Watanabe, G. Niedermann and M.Suzuki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 3-5. (in Japanese)

BNCT に関する総合的線量評価システムの構築/
Establishment of integrated system for dose estimation in BNCT
Y. Sakurai, A. Uritani, M. Ishikawa, A. Nohtomi, S. Endo, K. Tanaka, K. Shinsho, M. Oita, S. Hayashi, H. Tanaka, S. Kurosawa, T. Tanimori, S. Nakamura, T. Takata, H. Yasuda, S. Uno, H. Michiue and I. Murata
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 6-10. (in Japanese)

ホウ素中性子捕捉療法用新規ホウ素薬剤送達ツールとしての二重特異性抗体の抗原認識能/
Recognition of double antigen by using a bispecific antibody for boron delivery in boron neutron capture therapy
T. Kanai, T. Tachibana, T. Nakanishi and T. Nagasaki
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 18. (in Japanese)

Hif-1α 遺伝子欠損が BNCT の殺細胞効果を増強する/
Disruption of Hif-1α enhances the sensitivity to BNCT in murine squamous cell carcinoma
Y. Sanada, T. Takata, Y. Sakurai, H. Tanaka, K. Tano and S. Masunaga
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 38. (in Japanese)

Reviews

中性子捕捉療法のためのホウ素薬剤研究開発の進展 : ホウ素薬剤が今後の適応疾患拡大の鍵を握る! (役に立つ放射線 : 医療への利用)/
Recent Advances in the Development of Boron Agents for Neutron Capture Therapy
中村 浩之
アトモス : 日本原子力学会誌/
Ατομοσ : journal of the Atomic Energy Society of Japan **62(1)** (2020) 18-22. (in Japanese)

皮膚悪性腫瘍に対するホウ素中性子捕捉療法（BNCT）の現状
平塚純一, 神谷伸彦, 河田裕二郎, 笹岡俊輔, 桑原千晶, 田中了
Skin Cancer **34(2)** (2019) 116-120. (in Japanese)

【α 線治療と DDS】4.ホウ素中性子捕捉療法：がん細胞内で α線を発生させる次世代放射線治療
中村浩之
DDS 学会誌 **35(2)** (2020) 129-136. (in Japanese)

【α 線治療と DDS】5.悪性軟部腫瘍への新たな治療オプションとしての中性子捕捉療法の現状と可能性
安藤 徹, 市川 秀喜, 藤本 卓也, 鈴木 実
DDS 学会誌 **35(2)** (2020) 137-145. (in Japanese)

加速器中性子源を用いた中性子捕捉療法の現状と今後の展望
中村浩之
BIO Clinica **34** (2019) 431-434. (in Japanese)

有望な放射線治療について
佐々木良平, 出水祐介, 吉村亮一, 加藤逸郎
日本口腔腫瘍学会誌 **32(4)** (2019). (in Japanese)

8. Neutron Radiography and Radiation Application

Papers

Effects of p53 Status of Tumor Cells and Combined Treatment With Mild Hyperthermia, Wortmannin or Caffeine on Recovery From Radiation-Induced Damage
S.-I. Masunaga, K. Tano, Y. Sanada, M. Suzuki, A. Takahashi, K. Ohnishi and K. Ono
World Journal of Oncology **10(3)** (2019) 132-141.

中性子イメージングを用いた高強度コンクリート内部の脱水に関する研究
小山拓, 西尾悠平, 伊藤大介, 兼松学
コンクリート工学論文集 **41** (2019) 1013-1018. (in Japanese)

An experimental setup for creating and imaging $^4He_2$* excimer cluster tracers in superfluid helium-4 via neutron-^{3}He absorption reaction
V. Sonnenschein, Y. Tsuji, S. Kokuryu, W. Kubo, S. Suzuki, H. Tomita, Y. Kiyanagi, T. Iguchi, T. Matsushita, N. Wada, M. Kitaguchi, H. Shimizu, K. Hirota, T. Shinohara, K. Hiroi, H. Hayashida, W. Guo, D. Ito and Y. Saito
Review of Scientific Instruments **91(3)** (2020) 033318.

Proceedings

Development of multiphase flow imaging technique using neutrons and x-ray
D. Ito, K. Ito and Y. Saito
Proceedings of the 10th International Conference on Multiphase Flow Rio de Janeiro, Brazil (May19-24, 2019).

Velocity vector measurement of LBE flows by using neutron imaging
Y. Saito and D. Ito
Proceedings of the 10th International Conference on Multiphase Flow Rio de Janeiro, Brazil (May19-24, 2019).

Design and Construction of an Imaging beamline at the Nagoya University Neutron Source
K. Hirota, S. Awano, T. Fujiie, S. Fukumura, M. Hishida, G. Ichikawa, S. Imajo, I. Itoh, Y. Iwashita, M. Kitaguchi, Y Kiyanagi, Y. Kuriyama, K. Morikawa, Y. Niinomi, H. M. Shimizu, K. Tsuchida, Y. Tsuchikwa, Y. Tsurita, A. Uritani, K. Watanabe, Y. Yamagata, N. Yamamoto, A. Yamazaki, S. Yoshihashi and T. Yoshioka
8th International Meeting of Union for Compact Accelerator-Driven Neutron Sources（UCANS8）Paris, France (July 8-10, 2019) .

Improvement of high-speed neutron imaging for visualization of reflooding phenomena
D. Ito, K.Ito and Y. Saito
Proceedings of Specialists Workshop on Advanced Instrumentation and Measurement Techniques for Experiments related to Nuclear Reactor Thermal Hydraulics and Severe Accidents Livorno, Italy (Oct.22-25, 2019).

Effects of water distribution on the electrical characteristics of polymer electrolyte fuel cell
H. Murakawa, S. Sakihara, A. Shirakawa, K. Sugimoto, H. Asano, D. Ito and Y. Saito
Proceedings of International Conference on Power Engineering-2019 Kunming, China (Oct.21-25, 2019) 1081-1084.

Evaluationof Meltwter Behavior During the Defrosting Process by Using X-ray radiography
T. Shiokawa, R. Matsumoto, Y. Nishiura, Y. Saito and D. Ito
Proceedings of the 2019 Energy and Refrigerating Air-Conditioning Conference Taipei, TAIWAN ERAC2019 (Oct.26-27, 2019) IS003.

X-Ray Radiography and Numerical Simulation of Gas Bubble Behavior in Centrifugal Pump
R. Xiong, K. Ito, D. Ito, Y. Saito, H. Ushifusa, M. Shinozaki, Y. Asai and M. Sato
Proceedings of the 11th International Symposium on Measurement Techniques for Multiphase Flow Zhenjiang, Jiangsu, China (Nov.3-17, 2019).

Quantitative Measurement of Reflooding Process by Using Neutron Radiography
H. Umekawa, K. Saito, H. Fujiwara, H. Sakai, T. Ami, Y. Saito and D. Ito
Proceedings of the 11th International Symposium on Measurement Techniques for Multiphase Flow Zhenjiang, Jiangsu, China (Nov.3-17, 2019).

9. TRU and Nuclear Chemistry

Papers

Measurements of thermal-neutron capture cross-section and resonance integral of neptunium-237
S. Nakamura, F. Kitatani, A. Kimura, A. Uehara and T. Fujii
Journal of Nuclear Science and Technology **56(6)** (2019) 493-502.

Enhanced Thermoelectric Properties of Ga and Ce Double-Filled p-Type Skutterudites
J. Kim, Y. Ohishi, H. Muta and K. Kurosaki
MATERIALS TRANSACTIONS **60(6)** (2019) 1078-1082.

Structural Approach to Understanding the Solubility of Metal Hydroxides
T. Kobayashi, S. Nakajima, R. Motokawa, D. Matsumura, T. Saito and T. Sasaki
Langmuir **35(24)** (2019) 7995-8006.

Iodine-rich mixed composition perovskites optimised for tin(iv) oxide transport layers: the influence of halide ion ratio, annealing time, and ambient air aging on solar cell performance
M. Ozaki, Y. Ishikura, M.A. Truong, J. Liu, I. Okada, T. Tanabe, S. Sekimoto, T. Ohtsuki, Y. Murata, R. Murdey and A. Wakamiya
Journal of Materials Chemistry A **7(28)** (2019) 16947-16953.

Leaching behavior of gamma-emitting fission products, calcium, and uranium from simulated MCCI debris in water
T. Sasaki, S. Sakamoto, D. Akiyama, A. Kirishima, T. Kobayashi and N. Sato
Journal of Nuclear Science and Technology **56(12)** (2019) 1092-1102.

Spin-triplet superconductivity in the paramagnetic UCoGe under pressure studied by ^{59}Co NMR
M. Manago, S. Kitagawa, K. Ishida, K. Deguchi, N. K. Sato and T. Yamamura
Physical Review B **100(3)** (2019) 035203.

Effects of the nuclear structure of fission fragments on the high-energy prompt fission γ-ray spectrum in $U^{235}(n_{th},f)$
H. Makii, K. Nishio, K. Hirose, R. Orlandi, R. Léguillon, T. Ogawa, T. Soldner, U. Köster, A. Pollitt, F.-J. Hambsch, I. Tsekhanovich, M. Aïche, S. Czajkowski, L. Mathieu, C. M. Petrache Astier A.,Guo S., T. Ohtsuki, S. Sekimoto, K. Takamiya, R.JW_Frost and T. Kawano.
Physical Review C **100(4)** (2019) 44610.

Neutron activation analysis of carbonate reference materials: coral (JCp-1) and giant clam (JCt-1)
S. Sekimoto, Y. Homura, V. D. Ho, M. Inagaki, N. Shirai and T. Ohtsuki
Journal of Radioanalytical and Nuclear Chemistry **322** (2019) 1579-1583.

Superconductivity at the Pressure-Induced Ferromagnetic Critical Region in UCoGe
M. Manago, S. Kitagawa, K. Ishida, K. Deguchi, N. K. Sato and T. Yamamura
Journal of the Physical Society of Japan **88(11)** (2019) 113704.

Thermodynamic interpretation of uranium(IV/VI) solubility in the presence of α-isosaccharinic acid
T. Kobayashi, T. Sasaki and A. Kitamura
The Journal of Chemical Thermodynamics **138** (2019) 151-158.

Direct observation of vanadium ion permeation behavior through Nafion 117 using ^{48}V radiotracer for all-vanadium redox flow battery
K. Shirasaki and T. Yamamura
Journal of Membrane Science **592** (2019) 117367.

Production of ^{47}Sc, ^{67}Cu, ^{68}Ga, ^{105}Rh, ^{177}Lu, and ^{188}Re using electron linear accelerator
M. Inagaki, S. Sekimoto, W. Tanaka, T. Tadokoro, Y. Ueno, Y. Kani and T. Ohtsuki
Journal of Radioanalytical and Nuclear Chemistry **3** (2019) 1703-1709.

Dispersal Rate of Radon-219 from Aqueous Radium-223 Solution Containing Sodium Chloride/Citrate
K. Nagata, K. Shirasaki, A. Toyoshima, K. Ooe, T. Yamamura, A. Shinohara and T. Yoshimura
Radiation Safety Management **19** (2020) 1-9.

Proceedings

化学交換法によるモリブデン同位体濃縮/
Isotope separation of Molybdenum by chemical exchange method
K. Tanoshiro, C.Kato, S. Fukutani, S. Sekimoto, T. Otsuki, T. Ohno, S. Umehara and T. Fujii
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 15. (in Japanese)

MA/REE 分離用抽出剤を用いた希土類元素の抽出機構に関する研究/
Research on extraction mechanism of rare earth elements using extractants for MA/REE separation
Y. Yoneda, T. Kawakami, S. Ogawa, T. Matsumura, H. Suzuki, S. Fukutani, C. Kato and T. Fujii
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 17. (in Japanese)

ノーベリウム研究に向けた2族元素の水酸化物および硫酸沈殿実験/
Hydroxide and sulfate precipitation experiment of Group 2 elements toward the chemical study of nobelium
S. Hayami, E. Watanabe, H. Ninomiya, K. Tonai, Y. Kasamatsu and A. Shinohara.
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 22. (in Japanese)

使用済み燃料再処理工程におけるモリブデンの酸化還元挙動/
Redox behavior of molybdenum in spent fuel reprocessing process
S. Shinya, S. Yatsugi, H. Sugihara, A. Uehara, C. Kato and T. Fujii
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 39. (in Japanese)

新規抽出剤を用いた硝酸溶液からのセレンの溶媒抽出特性/
Solvent extraction of selenium in nitric acid solutions using novel extractants
T. Kawakami, Y. Yoneda, S. Ogawa, T. Matsumura, Y. Tsubata, K. Morita, S. Fukutani, A. Uehara, C. Kato and T. Fujii
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 45. (in Japanese)

硝酸溶液に溶存するバナジウムの分光電気化学分析/
Spectroelectro-chemical study of vanadium in nitric acid solution
S. Yatsugi, A. Uehara, S. Sato, H. Sugihara, C. Kato and T. Fujii
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 47. (in Japanese)

模擬燃料デブリの溶出に関する実験的研究 /
Experimental study on leaching behavior from simulated fuel debris
R. Tonna, Y. Kodama, T. Kobayashi, T. Sasaki, N. Sato, A. Kirishima, D. Akiyama, S. Sekimoto and R. Okumura
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 49. (in Japanese)

化学交換法における同位体分別研究/
Study of isotope separation via chemical exchange reaction
R. Hazama, T. Yoshimoto, Y. Sakuma, T. Fujii, S. Fukutani and Y. Shibahara
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 51. (in Japanese)

10. Health Physics and Waste Management

Papers

DEVELOPMENT OF A PELTIER TYPE CLOUD CHAMBER WITH WIDE VIEW FIELD
T. Toda, M.M. Hasan, Y. Igarashi, E.W. Katengeza and T. Iimoto
Radiation Protection Dosimetry **184(3-4)** (2019) 539-542.

コロイドの存在を考慮した Cs の森林土壌中移動メカニズムに関する研究
島田 洋子, 下川 諒, 米田 稔, 池上 麻衣子, 福谷 哲, 颯田 尚哉, 菅原 大輔
土木学会論文集 G（環境） **75** (2019) 117-125. (in Japanese)

Iron oxide nanoparticle core-shell magnetic microspheres: Applications toward targeted drug delivery
S. Ayyanaar, M.P. Kesavan, C. Balachandran, S. Rasala, P. Rameshkumar, S. Aoki, J. Rajesh, T.J. Webster and G. Rajagopal
Nanomedicine: Nanotechnology, Biology and Medicine **24** (2020) 102134.

Proceedings

Current Status of KURAMA-II
M. Tanigaki
Proceedings of 17th Biennial International Conference on Accelerator and Large Experimental Physics Control Systems New York, USA (Oct.5-11, 2019) 1-3.

Nuclear Waste lnventory Calculations from Fuel Cycle with Fast Reactors by a Reactor Physics Code System CBZ
Y. Kobayashi and G. Chiba
Proceedings of Reactor Physics Asia Conference 2019 (RPHA2019) Osaka, Japan (Dec.2-3, 2019) 123-126.

堺市で観測した大気エアロゾル粒径別元素成分の長期観測結果/
Long term observation of element concentration in the atmospheric aerosols at Sakai, Osaka,1995-2017
N. Ito, A. Mizohata, Y. Iimura and R. Okumura
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 16. (in Japanese)

ヒストンバリアント H2A.B を含むヌクレオソームの自発的なヒストン交換機構解析/
Spontaneous histone exchange activity of histone variant H2A.B nucleosome
R. Hirano, Y. Arimura, T. Kujirai, R. Inoue, A. Okuda, K. morishima, M. Sugiyama and H. Kurumizaka
Proceedings of the 54th KURNS Scientific Meeting Kumatori, Japan (Feb.5-6, 2020) 31. (in Japanese)

Prediction of Municipal Solid Waste Composition and Estimation of Impact on Incineration Process in Depopulation and Aging Society
S. Hayasaki, K. Oshita, K. Kawai and M. Takaoka
The 6th 3R International Scientific Conference on Material Cycles and Waste Management Tsukuba, JAPAN (Mar.16-18).

Review

Activities and Development for NS&T HRD Focusing on Secondary School Levels in Asia Pacific Region _Case of Japan
T. Iimoto, T. Kakefu, R. Takaki, T. Toda, I. Takahashi, G. Wakabayashi, H. Iizuka, K. Makabe and T. Koashi
Journal of Radiation Emergency Medicine **8(1)** (2019) 33-38.

Application of a Hand-made Air GM Counter as a Radiation Education Training Material for Secondary School Education
E. W. Katengeza, R. A. C. N. Ranasinghe, S. Ozaki and T. Iimoto
Japanese Journal of Health Physics **54(4)** (2020) 206-211.

国際規制物資（少量核燃料物質）に係る教育のあり方/
Concept of Internal Education Regarding the Use of International Controlled Material for Small Amount of Nuclear Materials
安田 幸司, 高橋 賢臣, 飯本 武志, 木村 圭志, 稲垣 昌代, 山西 弘城 /
K. Yasuda, M. Takahashi, T. Iimoto, K. Kimura, M. Inagaki and H. Yamanishi
RADIOISOTOPES **69(2)** (2020) 55-65.

Development of radiation literacy among secondary school students in SRI LANKA
N. Ranasinghe, U. Perera, P. Mahakumara, N. Rathnaweera, P. Rathnayake, T.Toda and T. Iimoto
Journal of Environment and Safety **10(2)** (2019) 37-40.

11. Accelerator Physics

Papers

AC Losses in HTS Coils of Superferric Dipole and Combined-Function Magnets
Y. Sogabe, M. Yasunaga, Y. Fuwa, Y. Kuriyama, T. Uesugi, Y. Ishi and N. Amemiya
IEEE Transactions on Applied Superconductivity **29(5)** (2019) 8629310.

Proceedings

Beam Optics Study on FFA-MERIT Ring
H. Okita, Y. Ishi, Y. Kuriyama, Y. Mori, Y. Ono, A. Taniguchi, T. Uesugi, N. Ikeda, Y. Yonemura, M. Kinsho, K. Okabe, M. Yoshimoto, Y. Miyake, M. Muto and A. Sato
10th International Particle Accelerator Conference (IPAC2019) Melbourne, Australia (May19-24, 2019).

Remodeling of 150 MeV FFAG Main Ring at KURNS to Pion Production Ring
K. Suga, Y. Fuwa, Y. Ishi, Y. Kuriyama, Y. Mori, H. Okita and T. Uesugi
10th International Particle Accelerator Conference (IPAC2019) Melbourne, Australia (May19-24, 2019).

Longitudinal Tomography in a Scaling FFA
D.J. Kelliher, C. Brown, J.-B. Lagrange, S. Machida, C.R. Prior, C.T. Rogers, Y. Ishi, Y. Kuriyama, H. Okita, T. Uesugi and S.L. Sheehy
10th International Particle Accelerator Conference (IPAC2019) Melbourne, Australia (May19-24, 2019).

Study of Beam Injection Efficiency in the Fixed Field Alternating Gradient Synchrotron at KURNS
T. Uesugi, Y. Fuwa, Y. Ishi, Y. Kuriyama, Y. Mori, H. Okita and K. Suga
10th International Particle Accelerator Conference (IPAC2019) Melbourne, Australia (May19-24, 2019).

Updates on the Inspection System for SRF Cavities
Y. Iwashita, H. Tongu, H. Hayano and Y. Kuriyama
The 19th International Conference on RF Superconductivity (SRF2019) Dresden, Germany (Jun.30-July5, 2019).

Proposal of a 1-ampere-class deuteron single-cell linac for nuclear transmutation
H. Okuno, H. Sakurai, Y. Mori, R. Fujita and M. Kawashima
Proceedings of the Japan Academy, Series B (July, 2019) 430-439.

Recent Experimental Results of the Accelerator Drive System with a Sub-Critical Nuclear Reactor (ADS) Program
Y. Ishi, Y. Fuwa, Y. Kuriyama, Y. Mori, H. Okita, K. Suga and T. Uesugi
International Conference on Cyclotrons and their Applications（CYC2019）CapeTown, South Africa (Sept.22-27, 2019).

12. Others

Papers

複雑な 3 次元波動場の P,SV 及び SH 波への地表面地震動を用いた分離（数値実験に基づく時間ー空間領域における手法の評価）/
DECOMPOSITION OF SURFACE SEISMOGRAMS IN THE COMPLEX FULL-WAVEFIELD INTO P-, SV- AND SH-WAVES
上林宏敏/Hirotoshi UEBAYASHI
日本建築学会構造系論文集/
Journal of Structural and Construction Engineering (Transactions of AIJ) **18(5) 513** (2019) 521. (in Japanese)

Determination of the electric field gradient tensor of Fe^{3+} in the M1 site of aegirine by single crystal Mössbauer spectroscopy
K. Shinoda and Y. Kobayashi
Journal of Mineralogical and Petrological Sciences **114(3) (2019)** 130-141.

CubeSat bus interface with Complex Programmable Logic Device
T. Tumenjargal, S. Kim, H. Masui and M. Cho
Acta Astronautica **160** (2019) 331-342.

Development of Near-Infrared Fluorescent Probes with Large Stokes Shifts for Non-Invasive Imaging of Tumor Hypoxia
H. Nagasawa, K. Okuda, B. G. M. Youssif, R. Sakai, T. Ueno, T. Sakai, T. Kadonosono, Y. Okabe, O. I. A. R. Salem, A. M. Hayallah, M. A. Hussein and S. Kizaka-Kondoh
HETEROCYCLES **101(2)** (2019) 559.

PD-L1 and PD-L2 expression in the tumor microenvironment including peritumoral tissue in primary central nervous system lymphoma
M. Furuse, H. Kuwabara, N. Ikeda, Y. Hattori, T. Ichikawa, N. Kagawa, K. Kikuta, S. Tamai, M. Nakada, T. Wakabayashi, M. Wanibuchi, T. Kuroiwa, Y. Hirose and S.-I. Miyatake
BMC Cancer **20(1)** (2020) 277.

The effect of body waves on phase-velocity determined by the spatial autocorrelation (SPAC) method, evaluated using full-wave modelling
H. Uebayashi, I. Cho, M. Ohori, K. Yoshida and H. Arai
Exploration Geophysics **1** (2020) 11.

コヒーレント共鳴後方回折放射による準単色テラヘルツ光源の研究
清 紀弘, 高橋俊晴
日本赤外線学会誌 **29(2)** (2020) 49-56. (in Japanese)

Design, Synthesis, and Conformation−Activity Study of Unnatural Bridged Bicyclic Depsipeptides as Highly Potent Hypoxia Inducible Factor-1 Inhibitors and Antitumor Agents
K. Koike, M. Nagano, M. Ebihara, T. Hirayama, M. Tsuji, H. Suga and H. Nagasawa
Journal of Medicinal Chemistry **63(8)** (2020) 4022-4046.

High-count-rate ^{3}He position-sensitive detector system: NEUNET-HCR
S. Sato, T. Seya, H. Oshita, H. Kato, N. Hikida, K, Ishizawa, A. Yamaguchi and M. Matsuura
EPJ Web of Conferences **231** (2020) 05004.

Proceedings

Research of coherent edge radiation generated by electron beams oscillating free-electron lasers
N. Sei, H. Ogawa, T. Tanaka, Y. Hayakawa, T. Sakai, Y. Sumitomo, Y. Takahashi, K. Hayakawa, K. Nogami, H. Zen and H. Ohgaki
Journal of Physics: Conference Series Conference Melbourne, Australia (May19-24, 2019) 12039.

The change in characteristics of soil and Cs elution by heat treatment
M. Ikegami, K. Kuroki, S. Fukutani, Y. Shimada and M. Yoneda
5th International Conference on Environmental Radioactivity ENVIRA 2019 Czech (Sept.8-13, 2019) 25-26.

Study of gas-gain saturation and cross-talk effect by low energy proton with a prototype chamber for the COMET CDC
H. Yoshida, M. Aoki, M. Dobouchet, M. Moritsu, A. Sato, Y, Ishi, Y. Kuriyama, T. Uesugi and Y. Mori
J-PARC Symposium 2019 Tsukuba, Japan (Sept.23-26, 2019).

Books

がん生物学イラストレイテッド　第 2 版
近藤 夏子, 平田 英周, 渋谷 正史, 湯浅 保仁
第 9 章 6. 脳腫瘍
羊土社 (2019). (in Japanese)

Review

国内外の原子力教育事情(2)京都大学原子核工学専攻・原子核工学コース
高木郁二, 中島健
日本原子力学会誌（アトモス）**61** (2019) 143-145. (in Japanese)

京都大学「原子炉実験所」から「複合原子力科学研究所」へ/
From Research Reactor Institute to Institute for Integrated Radiation and Nuclear Science, Kyoto University
川端祐司/
Yuji Kawabata
保健物理/Japanese Journal of Health Physics **53(4)** (2019) 205-206. (in Japanese)