

II. PUBLICATION LIST
(APRIL 2022 – MARCH 2023)

1. Slow Neutron Physics and Neutron Scattering

Papers

Local structure analysis of disordered materials via contrast variation in scanning transmission electron microscopy
Kimoto Koji, Shiga Motoki, Kohara Shinji, Kikkawa Jun, Cretu Ovidiu, Onodera Yohei, Ishizuka Kazuo
AIP Advances 12(9) (2022) 095219 (doi) 10.1063/5.0104798

A novel nuclear emulsion detector for measurement of quantum states of ultracold neutrons in the Earth's gravitational field

Muto N., Abele H., Ariga T., Bosina J., Hino M., Hirota K., Ichikawa G., Jenke T., Kawahara H., Kawasaki S., Kitaguchi M., Micko J., Mishima K., Naganawa N., Nakamura M., Roccia S., Sato O., Sedmik R.I.P., Seki Y., Shimizu H.M., Tada S., Umemoto A.

Journal of Instrumentation 17(7) (2022) P07014 (doi) 10.1088/1748-0221/17/07/P07014

Microscopic observation of the effects of elongation on the polymer chain dynamics of crosslinked polybutadiene using quasi-elastic γ -ray scattering

Mashita Ryo, Saito Makina, Yoda Yoshitaka, Kishimoto Hiroyuki, Seto Makoto, Kanaya Toshiji

Journal of Synchrotron Radiation 29(5) (2022) 1180- 1186 (doi) 10.1107/S1600577522007998

Time-resolved resonant soft X-ray scattering combined with MHz synchrotron X-ray and laser pulses at the Photon Factory

Fukaya Ryo, Adachi Jun-ichi, Nakao Hironori, Yamasaki Yuichi, Tabata Chihiro, Nozawa Shunsuke, Ichiyanagi Kouhei, Ishii Yuta, Kimura Hiroyuki, Adachi Shin-ichi

Journal of Synchrotron Radiation 29(6) (2022) 1414-1419 (doi) 10.1107/S1600577522008724

Rayleigh Scattering of Synchrotron Mössbauer Radiation Using a Variable Bandwidth Nuclear Bragg Monochromator
Mitsui Takaya, Masuda Ryo, Kitao Shinji, Kobayashi Yasuhiro, Seto Makoto

Journal of the Physical Society of Japan 91(6) (2022) 64001 (doi) 10.7566/JPSJ.91.064001

Characterization of Precipitated Phase in Cu–Ni–Si Alloy by Small-Angle X-ray Scattering, Small Angle Neutron Scattering and Atom Probe Tomography

Sasaki Hirokazu, Akiya Shunta, Oba Yojiro, Onuma Masato, Giddings A.D., Ohkubo Tadakatsu

MATERIALS TRANSACTIONS 63(10) (2022) 1384-1389 (doi) 10.2320/matertrans.MT-D2022003

Study on the reusability of fluorescent nuclear track detectors using optical bleaching

Muneem Abdul, Yoshida Junya, Ekawa Hiroyuki, Hino Masahiro, Hirota Katsuya, Ichikawa Go, Kasagi Ayumi, Kitaguchi Masaaki, Kodaira Satoshi, Mishima Kenji, Nabi Jameel-Un, Nakagawa Manami, Sakashita Michio, Saito Norihito, Saito Takehiko R., Wada Satoshi, Yasuda Nakahiro

Radiation Measurements 158 (2023) 106863 (doi) 10.1016/j.radmeas.2022.106863

Extracting time series matching a small-angle X-ray scattering profile from trajectories of molecular dynamics simulations
Shimizu Masahiro, Okuda Aya, Morishima Ken, Inoue Rintaro, Sato Nobuhiro, Yunoki Yasuhiro, Urade Reiko, Sugiyama Masaaki

Scientific Reports 12(1) (2022) 9970 (doi) 10.1038/s41598-022-13982-9

Proceedings

Development of a program for MRI by means of beta-NMR method

T. Sugisaki, Y. Kimura, G. Takayama, M. Tanaka, Y. Mizoi, M. Mihara, M. Fukuda, Y. Otani, M. Fukutome, R. Taguchi, T. Izumikawa, N. Noguchi, K. Takatsu, T. Ohtsubo, K. Matsuda, A. Kitagawa, S. Sato

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 45-49 (in Japanese)

Laser spectroscopy at KISS

Y. Hirayama, M. Mukai, Y.X. Watanabe, P. Schury, H. Choi, J.Y. Moon, T. Hashimoto, S. Iimura, M. Oyaizu, S.C. Jeong, T. Niwase, M. Tajima, A. Taniguchi, M. Wada, H. Miyatake

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 40-44 (in Japanese)

Structural Analysis of Additive in Lubricants by Means of Small Angle X-ray Scattering
Tomoko Hirayama, Sohei Nambo, Naoki Yamashita, Yoriyuki Takashima, Nobuhiro Sato, Masaaki Sugiyama
Proceedings of the 57th KURNS Scientific Meeting Online/Kumatori, Japan (Feb. 14-15, 2023) 17 (in Japanese)

2. Nuclear Physics and Nuclear Data

Papers

Reprint of The improvement of the energy resolution in epi-thermal neutron region of Bonner sphere using boric acid water solution moderator

Ueda H., Tanaka H., Sakurai Y.

Applied Radiation and Isotopes 106 (2022) 107-110 (doi) 10.1016/j.apradiso.2015.10.010

Multibeam Laser Plasma Interaction at Gekko XII laser facility in conditions relevant for Direct-Drive Inertial Confinement Fusion

Cristoforetti G., Koester P., Atzeni S., Batani D., Fujioka S., Hironaka Y., Hüller S., Idesaka T., Katagiri K., Kawasaki K., Kodama R., Mancelli D., Nicolai Ph., Ozaki N., Schiavi A., Shigemori K., Takizawa R., Tamagawa T., Tanaka D., Tentori A., Umeda Y., Yogo A., Gizzi L.A.

High Power Laser Science and Engineering 11 (2023) e24 (doi) 10.1017/hpl.2023.13

Development of a water Cherenkov neutron detector for the active rotation method and demonstration of nuclear material detection

Tanabe Kosuke, Komeda Masao, Toh Yosuke, Kitamura Yasunori, Misawa Tsuyoshi, Tsuchiya Ken'ichi, Akiba Norimitsu, Kakuda Hidetoshi, Shibasaki Kazunari, Sagara Hiroshi

Journal of Nuclear Science and Technology 61(7) (2022) 1-13 (doi) 10.1080/00223131.2022.2143449

Spectroscopic and electric properties of the TaO⁺ molecule ion for the search of new physics: A platform for identification and state control

Sunaga Ayaki, Fleig Timo

Journal of Quantitative Spectroscopy and Radiative Transfer 288 (2022) 108229 (doi) 10.1016/j.jqsrt.2022.108229

Measurement of neutron flux parameters for implementation of k0-INAA at Kyoto University Research Reactor

Soliman Mohamed, Abdou Fatma S., Ho Van-Doanh, Sekimoto Shun, Takamiya Koichi, Mohamed Nader M. A., Ohtsuki Tsutomu

Journal of Radioanalytical and Nuclear Chemistry 331(9) (2022) 3949-3956 (doi) 10.1007/s10967-022-08391-1

In-gas-cell laser resonance ionization spectroscopy of Pt200, 201

Hirayama Y., Mukai M., Watanabe Y. X., Schury P., Nakada H., Moon J. Y., Hashimoto T., Iimura S., Jeong S. C., Rosenbusch M., Oyaizu M., Niwase T., Tajima M., Taniguchi A., Wada M., Miyatake H.

Physical Review C 106(3) (2022) 34326 (doi) 10.1103/PhysRevC.106.034326

Spin-charge coupling and decoupling in perovskite-type iron oxides (Sr_{1-x}Bax)_{2/3} La_{1/3}FeO₃

Onose M., Takahashi H., Saito T., Kamiyama T., Takahashi R., Wadati H., Kitao S., Seto M., Sagayama H., Yamasaki Y., Sato T., Kagawa F., Ishiwata S.

Physical Review Materials 6(9) (2022) 94401 (doi) 10.1103/PhysRevMaterials.6.094401

Proceedings

⁶¹Mössbauer Spectroscopy for Supramolecular Bridging Cyanide Complexes

T. Kitazawa, K. Kitase, D. Ueda, D. Fujimoto, S. Arai, Y. Kobayashi, S. Kitao, T. Kubota, M. Seto

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 1-5 (in Japanese)

Discussion of spin bistability on Fe-Ag-type cyanobridged complex type using Mössbauer effect

K. Kitase, T. Kitazawa

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 22-26 (in Japanese)

Gamma Ray Spectrum Measurement from Capture Reactions of Uranium-238 for Thermal and Resonance Energy Neutrons
Y. Nauchi, J. Hori, K. Terada, T. Sano

International conference on nuclear data (ND2022) Online (Jul. 21-29, 2022)

Local Structure of Cadmium Doped SrTiO₃
S. Komatsuda, W. Sato, A. Taniguchi, M. Tanigaki, Y. Ohkubo

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 10-14 (in Japanese)

Present Status and Approach for Industrial Application of Various-Element Mossbauer Spectroscopy using KUR, LINAC and Synchrotron Radiation

Shinji Kitao, Yasuhiro Kobayashi, Masayuki Kurokuzu, Makoto Seto, Hiroyuki Tajima, Hiroyuki Yamashita, Hidetoshi Ota, Takumi Kubota, Ryo Masuda

Proceedings of the 57th KURNS Scientific Meeting Online/Kumatori, Japan (Feb. 14-15, 2023) 22 (in Japanese)

Present Status and Future Projects for Mössbauer Spectroscopy at Institute for Integrated Radiation and Nuclear Kyoto University

S. Kitao, Y. Kobayashi, M. Kurokozu, T. Kubota, H. Tajima, T. Fujiwara, R. Masuda, M. Seto

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 6-9 (in Japanese)

Research on the chemical state of nitrogen in H₂O by μ -SR and β -NMR spectroscopy

Y. Kimura, M. Mihara, K. Matsuta, M. Fukuda, R. Wakabayashi, Y. Otani, M. Fukutome, G. Takayama, T. Minamisono, D. Nishimura, H. Takahashi, T. Izumikawa, T. Ohtsubo, N. Noguchi, M. Ogose, M. Sato, K. Takatsu, S. Momota, A. Ozawa, T. Nagamoto, A. Kitagawa, S. Sato, M.K. Kubo, K. Shimomura, A. Koda, S. Takeshita

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 50-55 (in Japanese)

β -decay spectroscopy of rare fission products with 4 π clover detector using an Isotope Separator On-Line KUR-ISOL
Search for γ -rays in the decay of ¹⁵⁵Pr

Y. Irie, S. Sakakibara, M. Shibata, A. Taniguchi

Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 35-39 (in Japanese)

Reviews

Development and application of the neutron standards

Matsumoto Tetsuro, Masuda Akihiko, Harano Hideki

Journal of the Atomic Energy Society of Japan 63(6) (2022) 480-484 (in Japanese) (doi)10.3327/jaesjb.63.6_480

Others

Yield measurements for ⁸⁶Kr + ¹⁹⁸Pt at KISS

Y.X. Watanabe, Y. Hirayama, M. Mukai, T. Niwase, P. Schury, M. Rosenbusch, M. Wada, H. Miyatake, S.C. Jeong, S. Iimura, M. Oyaizu, A. Taniguchi

RIKEN Accelerator Progress Report 2021 55 (2022) 25

In-gas-cell laser ionization spectroscopy of ²⁰⁰gPt using MRTOF-MS at KISS

Y. Hirayama, M. Mukai, Y.X. Watanabe, P. Schury, J.Y. Moon, T. Hashimoto, S. Iimura, S.C. Jeong, M. Rosenbusch, M. Oyaizu, T. Niwase, M. Tajima, A. Taniguchi, M. Wada, H. Miyatake

RIKEN Accelerator Progress Report 2021 55 (2022) 26

β -decay spectroscopy of rare fission products with a 4 π clover detector using an Isotope Separator On-Line KUR-ISOL

S. Sakakibara, Y. Irie, T. Yamaguchi, T. Miyazawa, M. Shibata, A. Taniguchi

KURNS Progress report 2021 (2022) 94

3. Reactor Physics and Reactor Engineering

Papers

Hybrid Organic–Inorganic Perovskite Semiconductor-Based High-Flux Neutron Detector with BN Converter
Okuno Yasuki, Matsui Taisuke, Kobayashi Tomohiro, Imaizumi Mitsuru, Jimba Yuki, Hao Yu, Kondo Sosuke, Kaneko Yukihiro, Kasada Ryuta

ACS Applied Electronic Materials 4(7) (2022) 3411–3420 (doi) 10.1021/acsaelm.2c00258

Dynamic mode decomposition application to dominance ratio assessment in Monte Carlo k-eigenvalue calculation
Yamamoto Toshihiro, Shen Xiuzhong, Sakamoto Hiroki

Annals of Nuclear Energy 175 (2022) 109205 (doi) 10.1016/j.anucene.2022.109205

Dynamic mode decomposition for subcriticality measurement using measured data at single location
Yamamoto Toshihiro, Sakamoto Hiroki

Annals of Nuclear Energy 180 (2023) 109480 (doi) 10.1016/j.anucene.2022.109480

Higher harmonic analyses of the Rossi- α method and application of dynamic mode decomposition for time decay constant determination in a 1D subcritical system

Yamamoto Toshihiro, Sakamoto Hiroki

Annals of Nuclear Energy 168 (2022) 108886 (doi) 10.1016/j.anucene.2021.108886

Monte Carlo sensitivity analyses of isothermal temperature coefficient in solid-moderated and solid-reflected cores at Kyoto University critical assembly

Song Kyoseong, Ho Pyeon Cheol, Jin Shim Hyung

Annals of Nuclear Energy 180 (2023) 109491 (doi) 10.1016/j.anucene.2022.109491

Fast-neutron capture cross section data measurement of minor actinides for development of nuclear transmutation systems
Katabuchi Tatsuya, Iwamoto Osamu, Hori Jun-ich, Kimura Atsushi, Iwamoto Nobuyuki, Nakamura Shoji, Rovira Gerard, Endo Shunsuke, Shibahara Yuji, Terada Kazushi, Kodama Yu, Nakano Hideto, Sato Yaoki, Matsuura Shota

EPJ Web of Conferences 281 (2023) 00014 (doi) 10.1051/epjconf/202328100014

Interfacial area concentration in gas-liquid metal two-phase flow

Shen Xiuzhong, Yamamoto Toshihiro, Han Xu, Hibiki Takashi

Experimental and Computational Multiphase Flow 5(1) (2023) 84–98 (doi) 10.1007/s42757-021-0110-x

Two-phase interfacial structure development in vertical narrow rectangular channels

Shen Xiuzhong, Hibiki Takashi

International Journal of Heat and Mass Transfer 191 (2022) 122832 (doi) 10.1016/j.ijheatmasstransfer.2022.122832

Visualization of Gas-Liquid Interfacial Behavior in a Narrow Channel Using High-Speed Neutron Imaging

Daisuke ITO, Naoya ODAIRA, Kei ITO, Yasushi SAITO, Keisuke KURITA, Hiroshi IIKURA

JAPANESE JOURNAL OF MULTIPHASE FLOW 37(1) (2023) 73–78 (in Japanese) (doi) 10.3811/jjmf.2023.007

X線イメージングを用いた球充填層内のポイド率分布計測

YAMAMOTO Seishiro, ODAIRA Naoya, ITO Daisuke, ITO Kei, SAITO Yasushi, IMAIZUMI Yuya, MATSUBA Kenichi, KAMIYAMA KenjiKenichi, KAMIYAMA Kenji

JAPANESE JOURNAL OF MULTIPHASE FLOW 37(1) (2023) 79–85 (in Japanese) (doi) 10.3811/jjmf.2023.008

Monte Carlo sensitivity calculation in fixed source problems with the derivative source method

Yamamoto Toshihiro, Sakamoto Hiroki

Journal of Computational Physics 460 (2022) 111155 (doi) 10.1016/j.jcp.2022.111155

Spatial distribution and preferred orientation of crystalline microstructure of lead-bismuth eutectic

Ito Daisuke, Sato Hirotaka, Odaira Naoya, Saito Yasushi, Parker Joseph Don, Shinohara Takenao, Kai Tetsuya, Oikawa Kenichi

Journal of Nuclear Materials 569 (2022) 153921 (doi) 10.1016/j.jnucmat.2022.153921

Application of dynamic mode decomposition to Rossi- α method in a critical state using file-by-file moving block bootstrap method

Endo Tomohiro, Nishioka Fuga, Yamamoto Akio, Watanabe Kenichi, Pyeon Cheol Ho

Journal of Nuclear Science and Technology 59(9) (2022) 1117–1126 (doi) 10.1080/00223131.2022.2030260

Development of a critical heat flux correlation based on a mechanistic model under subcooled flow boiling conditions
Yodo Tadakatsu, Odaira Naoya, Ito Kei, Ito Daisuke, Saito Yasushi
Journal of Nuclear Science and Technology 60(3) (2022) 197-214 (doi) 10.1080/00223131.2022.2091054

Uncertainty Quantification of Light-Water-Moderated and Light-Water-Reflected Cores with Highly-Enriched Uranium Fuel at Kyoto University Critical Assembly
C. H. Pyeon and K. Morioka
Journal of Nuclear Science and Technology 59 (2022) 898-906 (doi) 10.1080/00223131.2021.2017371

Pressure drop evaluation based on two-phase flow observation in packed bed system
YASUGI Noriaki, ODAIRA Naoya, ITO Daisuke, ITO Kei, SAITO Yasushi
Mechanical Engineering Journal 9(4) (2022) 21-00437 (doi) 10.1299/mej.21-00437

Conceptual design of a target station using a 30-MeV cyclotron accelerator for the basic study of boron neutron capture therapy at KURNS
Nakamura R., Hino M., Tanaka H., Kuriyama Y., Iwashita Y.
Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 1042 (2022) 167425 (doi) 10.1016/j.nima.2022.167425

Nuclear Data-Induced Uncertainty of Criticality in Solid-Moderated and Solid-Reflected Cores with Highly-Enriched Uranium Fuel at Kyoto University Critical Assembly
C. H. Pyeon and K. Morioka
Nuclear Science and Engineering 196 (2022) 1147-1160 (doi) 10.1080/00295639.2022.2070385

Theoretical Derivation of a Unique Combination Number Hidden in the Higher-Order Neutron Correlation Factors Using the Pál-Bell Equation
Endo Tomohiro, Nishioka Fuga, Yamamoto Akio, Watanabe Kenichi, Pyeon Cheol Ho
Nuclear Science and Engineering 197Z(2) (2022) 176-188 (doi) 10.1080/00295639.2022.2049992

Proceedings

Double Heterogeneity Effect on Reactivity of U-Mo Research Reactor Fuel
H. Unesaki
European Research Reactor Conference-RRFM2022 Budapest, Hungary (Jun. 6-10 2022) 334-341

High-Radiation-Tolerant CIGS Solar Cell based Self-Power Driven Radiation Dosimeter for IF
奥野泰希, 今泉充, 上川由紀子, 岡本保, 小林知洋, 牧野喬紘, 笠田竜太
Proceedings of the 57th KURNS Scientific Meeting Online/Kumatori, Japan (Feb. 14-15, 2023) 1-3 (in Japanese)

Measurement of U-233 Sample Reactivity Worth in KUCA for Integral Validation of Nuclear Data
T. Sano, J. Hori, Y. Takahashi, K. Terada, T. Kanda, H. Unesaki
International Conference on Physics of Reactors (PHYSOR 2022) Pittsburgh, U.S.A. (May 15-20, 2022) 2822-2830

Preliminary Experiment in a Graphite-Moderated Core to Avoid Full Mock-up Experiment for the Future First Commercial HTGR
S. Okita, Y. Fukaya, A. Sakon, T. Sano, Y. Takahashi, H. Unesaki
International Conference on Physics of Reactors (PHYSOR 2022) Pittsburgh, U.S.A. (May 15-20, 2022) 2338-2346

Subcritical Experiment using U-7Mo LEU at KUCA facility
Y. Takahashi, K. Wakabayashi, Y. Kitamura, H. Unesaki, T. Misawa
RERTR 2022 - 42nd International Meeting on Reduced Enrichment for Research and Test Reactors Vienna, Austria (Oct. 3-5, 2022)

Void fraction prediction for gas-liquid two-phase flow in plate-type fuel assembly
Xiuzhong Shen, Toshihiro Yamamoto, Ken Nakajima, Takashi Hibiki
Proceedings of the 57th KURNS Scientific Meeting Online/Kumatori, Japan (Feb. 14-15, 2023) 21 (in Japanese)

Reviews

Channel size effect on drift-flux parameters for adiabatic and boiling two-phase flows
Hibiki Takashi, Ju Peng, Rassame Somboon, Miwa Shuichiro, Shen Xiuzhong, Ozaki Tetsuhiro
International Journal of Heat and Mass Transfer 185 (2022) 122410
(doi)10.1016/j.ijheatmasstransfer.2021.122410

Development of a reactor-based slow-positron beamline
Atsushi Kinomura, Atsushi Yabuuchi
Positron sciences 19 (2022) 3-12 (in Japanese)

Books

Introduction to Nuclear Reactor Experiments
Wakabayashi Genichiro, Yamada Takahiro, Endo Tomohiro, Pyeon Cheol Ho
Springer Nature Singapore 2022 (ISBN) 9789811965883 (doi) 10.1007/978-981-19-6589-0

Others

Development of accident tolerant control rod (3) Compatibility between novel neutron absorbing and core structural materials at high temperature
Kinya NAKAMURA, Hirokazu, OHTA
Atomic Energy Society of Japan 2021 Annual Meeting (2021) 2K02 (in Japanese)

Development of accident tolerant control rod (3) Reactivity measurement of candidate neutron absorbing materials
Hirokazu Ohta, Yasushi Nauchi, Kinya Nakamura and Tadafumi Sano
Atomic Energy Society of Japan 2018 Annual Meeting (2018) 2F16 (in Japanese)

4. Material Science and Radiation Effects

Papers

Improvement of laccase biosensor characteristics using sulfur-doped TiO₂ nanoparticles
Kavetskyy Taras, Smutok Oleh, Demkiv Olha, Kukhazh Yuliia, Stasyuk Nataliya, Leonenko Evhen, Kiv Arnold, Kobayashi Yoshinori, Kinomura Atsushi, Šauša Ondrej, Gonchar Mykhailo, Katz
Evgeny Bioelectrochemistry 147 (2022) 108215 (doi) 10.1016/j.bioelechem.2022.108215

Preparation of Li₂TiO₃-Li₄SiO₄-Pb tritium breeding ceramic and its mechanical properties
Wang Qiao, Zhou Qilai, Xiong Qingbi, Zhou Jianglin, Li Sicheng, Hirata Shiori, Oya Yasuhisa
Ceramics International 40(18) (2022) 26742-26749 (doi) 10.1016/j.ceramint.2022.05.369

High thermal conductivity of stishovite promotes rapid warming of a sinking slab in Earth's mantle
Hsieh Wen-Pin, Marzotto Enrico, Tsao Yi-Chi, Okuchi Takuo, Lin Jung-Fu
Earth and Planetary Science Letters 584 (2022) 117477 (doi) 10.1016/j.epsl.2022.117477

Acoustic Wave Velocities of Ferrous-Bearing MgSiO₃ Glass up to 158 GPa With Implications for Dense Silicate Melts at the Base of the Earth's Mantle
Mashino Izumi, Murakami Motohiko, Kitao Shinji, Mitsui Takaya, Masuda Ryo, Seto Makoto
Geophysical Research Letters 49(19) (2022) e2022GL098279 (doi) 10.1029/2022GL098279

Evaluation of Radiation Damage to LAN-Cable Sheaths in a Vacuum Vessel for Neutron Scattering
Taiki Tominaga, Misaki Ueda, Kawakita Yukinobu, Toshiyuki Chatake, Tsuyoshi Saito, Nobuhiro Sato
Hamon 32(2) (2022) 91-95 (in Japanese)

¹⁶¹Dy synchrotron-radiation-based Mössbauer absorption spectroscopy
Masuda Ryo, Kitao Shinji, Tajima Hiroyuki, Taniguchi Hiroki, Mitsui Takaya, Fujiwara Kosuke, Yoda Yoshitaka, Nagasawa Nobumoto, Ishikawa Daisuke, Baron Alfred. Q. R., Yoshida Takefumi, Sato Tetsu, Katoh Keiichi, Kobayashi Hisao, Seto Makoto
Hyperfine Interactions 243(1) (2022) 17-1- 17-8 (doi) 10.1007/s10751-022-01802-5

Energy domain synchrotron-radiation-based Mössbauer spectroscopy of EuH₂ under a few GPa pressure
Masuda Ryo, Hirao Naohisa, Fujiwara Kosuke, Mitsui Takaya, Fujihara Taku, Yamashita Hiroyuki, Tajima Hiroyuki, Kurokuzu Masayuki, Kitao Shinji, Seto Makoto
Hyperfine Interactions 244(1) (2023) 5 (doi) 10.1007/s10751-022-01815-0

Mössbauer study of the material of the electric power transformers
Kobayashi Yasuhiro, Kitao Shinji, Yuasa Kosuke, Seto Makoto
Hyperfine Interactions 243 (2022) 26 (doi) 10.1007/s10751-022-01810-5

Hugoniot and released state of calcite above 200 GPa with implications for hypervelocity planetary impacts
Umeda Yuhei, Fukui Keiya, Sekine Toshimori, Guarguaglini Marco, Benuzzi-Mounaix Alessandra, Kamimura Nobuki, Katagiri Kento, Kodama Ryosuke, Matsuoka Takeshi, Miyanishi Kohei, Ravasio Alessandra, Sano Takayoshi, Ozaki Norimasa
Icarus 377 (2022) 114901 (doi) 10.1016/j.icarus.2022.114901

Repetitive Irradiation Tests at Cryogenic Temperature by Neutrons and Protons on Stabilizer Materials of Superconductor
Yoshida M., Nakamoto T., Ogitsu T., Xu Q., Yoshiie T., Meigo S., Iwamoto Y.
IEEE Transactions on Applied Superconductivity 32 (2022) 7100405 (doi) 10.1109/TASC.2022.3178944

Effect of neutron dose on the tritium release behavior of Li₂TiO₃-0.5Li₄SiO₄ biphasic ceramic
Zhou Qilai, Sun Fei, Hirata Shiori, Li Sicheng, Li Yuanyuan, Oya Yasuhisa
International Journal of Hydrogen Energy 48(11) (2023) 4363-4370 (doi) 10.1016/j.ijhydene.2022.11.009

Investigation of defect states in light-irradiated single-crystal ZnO by low-temperature positron annihilation lifetime spectroscopy
Nakajima Makoto, Kinomura Atsushi, Yabuuchi Atsushi, Kuriyama Kazuo
Japanese Journal of Applied Physics 10 (2022) 100905 (doi) 10.35848/1347-4065/ac9103

Rare-earth silicides: the promising candidates for thermoelectric applications at near room temperature
Tanusilp Sora-at, Kurosaki Ken
Japanese Journal of Applied Physics 62(SD) (2022) SD0802 (doi) 10.35848/1347-4065/aca0fc

Response of piezoelectric lead zirconate titanate to 20 MeV electron beam irradiation
Takechi Seiji, Morita Yudai, Niiya Shingo, Miyachi Takashi, Kobayashi Masanori, Okudaira Osamu, Okada Nagaya, Takahashi Toshiharu, Abe Naoya
Japanese Journal of Applied Physics 61(12) (2022) 128001 (doi) 10.35848/1347-4065/ac9e30

Comparative study of vacancy cluster formation in pure Ni, CoCrNi, and CoCrFeNi with a CoCrFeMnNi multicomponent system
Xu Q., Guan H.Q., Huang S.S., Zhong Z.H.
Journal of Alloys and Compounds 918 (2022) 165747 (doi) 10.1016/j.jallcom.2022.165747

Compositional stability in medium and high-entropy alloys of CoCrFeMnNi system under ion irradiation
Xu Q., Guan H.Q., Huang S.S., Zhong Z.H., Watanabe H., Tokitani M.
Journal of Alloys and Compounds 925 (2022) 166697 (doi) 10.1016/j.jallcom.2022.166697

Large thermopower in novel thermoelectric Yb(Si_{1-x}Ge_x)₂ induced by valence fluctuation
Nishide Akinori, Tanusilp Sora-at, Kowa Wataru, Yashima Mitsuharu, Nambu Akira, Hayakawa Jun, Ohishi Yuji, Muta Hiroaki, Mukuda Hidekazu, Kurosaki Ken
Journal of Applied Physics 132(6) (2022) 065106 (doi) 10.1063/5.0092002

Elasticity of Hydrated Al-Bearing Stishovite and Post-Stishovite: Implications for Understanding Regional Seismic V_s Anomalies Along Subducting Slabs in the Lower Mantle
Zhang Yanyao, Fu Suyu, Karato Shun-ichiro, Okuchi Takuo, Chariton Stella, Prakapenka Vitali B., Lin Jung-Fu
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A pristine record of outer Solar System materials from asteroid Ryugu's returned sample

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ACTIVITY CONCENTRATIONS OF RADIOCAESIUM, 90SR AND 129I IN AGRICULTURAL CROPS COLLECTED FROM FUKUSHIMA AND REFERENCE AREAS IN JAPAN, AND INTERNAL RADIATION DOSES

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Noble gases and nitrogen in samples of asteroid Ryugu record its volatile sources and recent surface evolution

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H. HIRANO, K. YONEZU, T. YOKOYAMA

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Makoto Inagaki, Shun Sekimoto, Koichi Takamiya, Yuichi Oki, Tsutomu Ohtsuki

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The Formation Factors of Silica Scale from Geothermal Water with Low Silica Concentration and Near Neutral pH

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Takashi Saito, Minoru Tanigaki

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Takuo Okuchi

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Yoko Fujikawa

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石の年齢をはかる

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6. Life Science and Medical Science

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Rapid and Highly Stable Membrane Reconstitution by LAiR Enables the Study of Physiological Integral Membrane Protein Functions

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Okuda Aya, Shimizu Masahiro, Inoue Rintaro, Urade Reiko, Sugiyama Masaaki

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Induction of Paraptosis by Cyclometalated Iridium Complex-Peptide Hybrids and CGP37157 via a Mitochondrial Ca²⁺ Overload Triggered by Membrane Fusion between Mitochondria and the Endoplasmic Reticulum

Yokoi Kenta, Yamaguchi Kohei, Umezawa Masakazu, Tsuchiya Koji, Aoki Shin

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Design, synthesis and biological evaluation of 2-pyrrolone derivatives as radioprotectors
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Identification of D-amino Acid Residues in Proteins Using Mass Spectrometry

Takumi Takata

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Multi-Targeted Neutron Capture Therapy Combined with an 18 kDa Translocator Protein-Targeted Boron Compound Is an Effective Strategy in a Rat Brain Tumor Model

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A Novel Amphotericin B Hydrogel Composed of Poly(Vinyl Alcohol)/Borate Complex for Ophthalmic Formulation
Banshoya Kengo, Shirakawa Makoto, Hieda Yuhzo, Ohnishi Masatoshi, Sato Yuhki, Inoue Atsuko, Tanaka Tetsuro, Kaneo Yoshiharu

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ZBTB₂ links p53 deficiency to HIF-1-mediated hypoxia signaling to promote cancer aggressiveness

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7. Neutron Capture Therapy

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Natsuko Kondo

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Kakino Ryo, Hu Naonori, Isohashi Kayako, Aihara Teruhito, Nihei Keiji, Ono Koji

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Takuya Fujimoto, Tooru Andoh, Toshiko Sakuma, Ikuo Fujita, Masayuki Morishita, Masahide Fujita, Teruya Kawamoto, Ryosuke Kuroda, Akisue Toshihiro, Takanori Hirose, Minoru Suzuki

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Yuko Kinashi

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Naonori Hu

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Development of carborane-containing amino acid derivatives for boron neutron capture therapy (BNCT)

H. Nagasawa

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Mai Nojiri, Takushi Takata, Yoshinori Sakurai, Minoru Suzuki, Hiroki Tanaka

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Yusuke Wada, Takushi Takata, Minoru Suzuki

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Akinori Sasaki, Naonori Hu, Takushi Takata, Nishiki Matsubayashi, Yoshinori Sakurai, Minoru Suzuki, Hiroki Tanaka

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ホウ素中性子捕捉療法 (BNCT) がマウス正常骨に与える生物学的影響

Ryota Iwasaki, Ryutarō Yoshikawa, Takashi Mori, Takehisa Matsukawa, Satoshi Takeno, Minoru Suzuki, Koji Ono

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Hiroki Tanaka

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Shinsho Kiyomitsu, Oh Ryoken, Tanaka Masaya, Sugioka Natsumi, Tanaka Hiroki, Wakabayashi Genichiro, Takata Takushi, Chang Weishan, Matsumoto Shinnosuke, Okada Go, Sugawara Satoru, Sasaki Ema, Watanabe Kenichi, Koba Yusuke, Nagasaka Kosei, Yoshihashi Sachiko, Uritani Akira, Negishi Toru

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8. Neutron Radiography and Radiation Application

Papers

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Ami Takeyuki, Umekawa Hisashi, Ito Daisuke, Saito Yasushi

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Rikuto Kuroda, Ryosuke Matsumoto, Yutaka Oda, Ao Fukai, Kenta Kida, Hiroshi Iikura, Keisuke Kurita

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Daisuke Ito, Naoya Odaira, Kei Ito, Yasushi Saito

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Yoshichika Seki, Masahiro Hino, Riichiro Nakamura, Takenao Shinohara, Tomoko Hirayama

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Frosting Phenomena on Heat Exchanger and Frost Micro Structure

—Novel Development on the Frost Research by Using Radiography Technique—

Ryosuke Matsumoto

Eurozoru Kenkyu 37(4) (2022) 268-274 (in Japanese)

9. TRU and Nuclear Chemistry

Papers

Improvement of spatial resolution of elemental imaging using laser ablation-ICP-mass spectrometry

Tanaka Eisei, Matsukawa Takehisa, Kuroki Yasuo, Suzuki Minoru, Yokoyama Kazuhito, Hirata Takafumi

Analytical Sciences 38(4) (2022) 695-702 (doi) 10.1007/s44211-022-00085-8

Non-Destructive Composition Identification for Mixtures of Iron Compounds Using a Chemical Environmental Effect on a Muon Capture Process

Ninomiya Kazuhiko, Kajino Meito, Nambu Akihiro, Inagaki Makoto, Kudo Takuto, Sato Akira, Terada Kentaro, Shinohara Atsushi, Tomono Dai, Kawashima Yoshitaka, Sakai Yoichi, Takayama Tsutomu

Bulletin of the Chemical Society of Japan 95(12) (2022) 1769-1774 (doi) 10.1246/bcsj.20220289

Influence of additives on low-temperature hydrothermal synthesis of UO_{2+x} and ThO_2

Tabata Chihiro, Shirasaki Kenji, Sakai Hironori, Sunaga Ayaki, Li Dexin, Konaka Mariko, Yamamura Tomoo

CrystEngComm 2022 (2022) (doi) 10.1039/D2CE00278G

Diffuse Basis Functions for Relativistic s and d Block Gaussian Basis Sets Dyall

Kenneth G., Tecmer Paweł, Sunaga Ayaki

Journal of Chemical Theory and Computation 19(1) (2023) 198-210 (doi) 10.1021/acs.jctc.2c01050

Homogeneity of $(U, M)O_2$ ($M = Th, Np$) prepared by supercritical hydrothermal synthesis

Shirasaki Kenji, Tabata Chihiro, Sunaga Ayaki, Sakai Hironori, Li Dexin, Konaka Mariko, Yamamura Tomoo

Journal of Nuclear Materials 563 (2022) 153608 (doi) 10.1016/j.jnucmat.2022.153608

Thermal-Neutron capture cross-section measurements of Neptunium-237 with graphite thermal column in KUR
Nakamura Shoji, Shibahara Yuji, Endo Shunsuke, Kimura Atsushi

Journal of Nuclear Science and Technology 59(11) (2022) 1388-1398 (doi) 10.1080/00223131.2022.2058639

Structural Approach to Understanding the Formation of Amorphous Metal Hydroxides

Kobayashi Taishi, Fushimi Tomokazu, Mizukoshi Hirofumi, Motokawa Ryuhei, Sasaki Takayuki

Langmuir 38(48) (2022) 14656-14665 (doi) 10.1021/acs.langmuir.2c02081

Phase analysis of simulated nuclear fuel debris synthesized using UO_2 , Zr, and stainless steel and leaching behavior of the fission products and matrix elements

Tonna Ryutarō, Sasaki Takayuki, Kodama Yuji, Kobayashi Taishi, Akiyama Daisuke, Kirishima Akira, Sato Nobuaki, Kumagai Yuta, Kusaka Ryoji, Watanabe Masayuki

Nuclear Engineering and Technology 4 (2022) 1300-1309 (doi) 10.1016/j.net.2022.12.017

Discovery of New Isotope U^{241} and Systematic High-Precision Atomic Mass Measurements of Neutron-Rich Pa-Pu Nuclei Produced via Multinucleon Transfer Reactions

Niwase T., Watanabe Y. X., Hirayama Y., Mukai M., Schury P., Andreyev A. N., Hashimoto T., Iimura S., Ishiyama H., Ito Y., Jeong S. C., Kaji D., Kimura S., Miyatake H., Morimoto K., Moon J.-Y., Oyaizu M., Rosenbusch M., Taniguchi A., Wada M.

Physical Review Letters 130 (2023) 132502 (doi) 10.1103/PhysRevLett.130.132502

A summary of environmental radioactivity research studies by members of the Japan Society of Nuclear and Radiochemical Sciences

Y. Igarashi, K. Tagami, K. Takamiya, A. Shinohara

Radiochimica Acta 110(6-9) (2022) 785-797 (doi) 10.1515/ract-2022-0019

Sc(II) extraction by crown ether in HFC: entropy driven mechanism through H₂ PFTOUD

Shirasaki Kenji, Nagai Mitsuie, Nakase Masahiko, Tabata Chihiro, Sunaga Ayaki, Yaita Tsuyoshi, Yamamura Tomoo

RSC Advances 12(41) (2022) 26922-26933 (doi) 10.1039/d2ra04411k

Linearity and Chemical Bond of UO₂²⁺ Revisited: A Comparison Study with UN₂ and UE₂²⁺ (E = S, Se, and Te) Based on Relativistic Calculations

Sunaga Ayaki, Tabata Chihiro, Yamamura Tomoo

The Journal of Physical Chemistry A 126(46) (2022) 8606-8617 (doi) 10.1021/acs.jpca.2c05216

Proceedings

Characteristics of solvent extraction of antimony from nitric acid solutions using a new extractant

Chuya Saiga, Chizu Kato, Satoshi Fukutani, Tatsuro Matsumura, Toshiyuki Fujii

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 24 (in Japanese)

Experiments on the formation of radionuclide endohedral fullerenes by laser

Makoto Inagaki

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 4-5 (in Japanese)

Gallium concentrations in GSJ standard materials

Chizu Kato, Satoshi Fukutani, Toshiyuki Fujii

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 16 (in Japanese)

Redox behavior of vanadium ions in sodium orthovanadate solutions

Yuki Yokoyama, Akihiro Uehara, Naoya Wada, Renki Sugiyama, Takuma Mototani, Chizu Kato, Toshiyuki Fujii

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 23 (in Japanese)

Redox reaction of vanadium ions in the malonic acid system

Renki Sugiyama, Akihiro Uehara, Naoya Wada, Yuki Yokoyama, Takuma Mototani, Chizu Kato, Toshiyuki Fujii

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 33 (in Japanese)

Solvent extraction characteristics of europium and erbium from nitric acid solutions using a novel extractant

Masaya Ikeno, Chizu Kato, Satoshi Fukutani, Tatsuro Matsumura, Toshiyuki Fujii

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 15 (in Japanese)

Study of Isotope Separation via Chemical Exchange Reaction

Ryuta Hazama, Takaaki Yoshimoto, Kumsut Pantywa, Anawat Rttirong, Yoichi Sakuma, Toshiyuki Fujii, Satoshi Fukutani, Yuji Shibahara

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 34 (in Japanese)

Study on the solid phase and solubility of Zr, Ce oxide solid solutions

Yutaro Sato, Taishi Kobayashi, Takayuki Sasaki, Atsushi Ikeda-Ohno, Daiju Matsumura, Ryuhei Motokawa

Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 35 (in Japanese)

Review

Discussion on Translational Research of Drug Product for Targeted Alpha Therapy-Part 8-Discussion on Targeted Alpha Therapy for Viral Infection

Yano Tsuneo, Takeshi Fuchigami, Yutaka Takahashi, Yuichiro Kadonaga, Koki Hasegawa, Hiroki Kato, Tadashi Watabe, Tomoo Yamamura, Tatsuhiko Sato, Hirabayashi Yoko, Hirofumi Fujii, Yoshiharu Yonekura, Koichi Fukase

Pharmaceutical and medical device regulatory science 38(13) (2022) 2187-2200 (in Japanese)

10. Health Physics and Waste Management

Papers

Development of stabilization treatment technology for radioactive aluminum waste
SEKI Misaki, FUJITA Yoshitaka, FUJIHARA Yasuyuki, J. Zhang, YOSHINAGA Hisao, SANO Tadafumi, HORI Junichi, NAGATA Hiroshi, OTSUKA Kaoru, OMORI Takazumi, TAKEUCHI Tomoaki, IDE Hiroshi, TSUCHIYA Kunihiko
Journal of Nuclear Fuel Cycle and Environment 29(1) (2022) 2-9 (in Japanese) (doi) 10.3327/jnuce.29.1_2

Potential alpha particle detection with thin poly (ether sulfone) substrates
Nakamura Hidehito, Mori Kazuhiro, Shirakawa Yoshiyuki
Physica Scripta 97(8) (2022) 085303 (doi) 10.1088/1402-4896/ac807e

DEVELOPMENT OF A ROBOT FOR THE MEASUREMENT OF RADIOACTIVE CONTAMINATION AND FERTILITY OF THE SOIL IN FARMLAND
Tanigaki Minoru, Inoue Yoshio, Momota Sadao, Saito Takashi, Nemoto Tomoaki, Ono Tsukasa, Wada Akira, Ohashi Masaharu, Tsuno Koichi, Kano Masahiro, Matsuura Takahiro, Yasuoka Tadaaki, Hanai Hiroyuki, Arakawa Koichi
Radiation Protection Dosimetry 198(13-15) (2022) 964-970 (doi) 10.1093/rpd/ncac020

Reviews

Development of stabilization treatment technology for radioactive aluminum waste
SEKI Misaki, FUJITA Yoshitaka, FUJIHARA Yasuyuki, J. Zhang, YOSHINAGA Hisao, SANO Tadafumi, HORI Junichi, NAGATA Hiroshi, OTSUKA Kaoru, OMORI Takazumi, TAKEUCHI Tomoaki, IDE Hiroshi, TSUCHIYA Kunihiko
Journal of Nuclear Fuel Cycle and Environment 29(1) (2022) 2-9 (in Japanese) (doi) 10.3327/jnuce.29.1_2

Study on a relation between effective dose equivalents and risk weighted dose equivalents depending on age and sex.
Urabe Isumasa
Japanese Journal of Health Physics 21(4) (2022) 251-256 (in Japanese) (doi) 10.5453/jhps.21.251

11. Accelerator Physics

Papers

Development of Combined-Function Multipole Permanent Magnet for High-Intensity Beam Transportation
Fuwa Y., Takayanagi T., Iwashita Y.
IEEE Transactions on Applied Superconductivity 32(6) (2022) 4006705 (doi) 10.1109/TASC.2022.3176251

Magnetic Field Shielding With Superconductors
Iwashita Y., Kuriyama Y., Tongu H., Fuwa Y.
IEEE Transactions on Applied Superconductivity 32(6) (2022) 3500404 (doi) 10.1109/tasc.2022.3167623

Performance of Bipolar Correction Magnet with Permanent Magnets
Kuriyama Yasutoshi, Iwashita Yoshihisa, Fuwa Yasuhiro, Terunuma Nobuhiro
IEEE Transactions on Applied Superconductivity 32(6) (2022) 1-4 (doi) 10.1109/TASC.2022.3180300

Properties of Praseodymium Permanent Magnet for Cryogenic Hybrid Magnet
Fuwa Yasuhiro, Iwashita Yoshihisa, Kondo Akihiro
IEEE Transactions on Applied Superconductivity 32(6) (2022) 4007304 (doi) 10.1109/TASC.2022.3179996

Measurement of 107-MeV proton-induced double-differential thick target neutron yields for Fe, Pb, and Bi using a fixed-field alternating gradient accelerator at Kyoto University
Iwamoto Hiroki, Nakano Keita, Meigo Shin-Ichiro, Satoh Daiki, Iwamoto Yosuke, Sugihara Kenta, Nishio Katsuhisa, Ishi Yoshihiro, Uesugi Tomonori, Kuriyama Yasutoshi, Yashima Hiroshi, Okabe Kota, Makii Hiroyuki, Hirose Kentaro, Orlandi Riccardo, Suzaki Fumi, Oizumi Akito, Tsukada Kazuaki, Maekawa Fujio, Mori Yoshiharu
Journal of Nuclear Science and Technology 60(4) (2022) 435-449 (doi) 10.1080/00223131.2022.2115423

Study on construction of an additional beamline for a compact neutron source using a 30 MeV proton cyclotron
Kuriyama Y., Hino M., Iwashita Y., Nakamura R., Tanaka H.
Journal of Physics: Conference Series 2420 (2022) 012110 (doi) 10.1088/1742-6596/2420/1/012110

Ionoacoustic application of an optical hydrophone to detect proton beam range in water
Sueyasu Shota, Takayanagi Taisuke, Miyazaki Koichi, Kuriyama Yasutoshi, Ishi Yoshihiro, Uesugi Tomonori, Unlu Mehmet Burcin, Kudo Nobuki, Chen Ye, Kasamatsu Koki, Fujii Masayuki, Kobayashi Masanori, Rohringer Wolfgang, Matsuura Taeko
Medical Physics 50(4) (2023) 2438- 2449 (doi) 10.1002/mp.16189

Proceedings

FABRICATION AND LOW-POWER TEST OF DISK-AND-WASHER CAVITY FOR MUON ACCELERATION
Y. Takeuchi, J. Tojo, Y. Nakazawa, Y. Kondo, R. Kitamura, T. Morishita, E. Cicek, H. Ego, K. Futatsukawa, N. Kawamura, M. Otani, T. Yamazaki, M. Yoshida, T. Mibe, N. Saito, Y. Iwashita, U. Sue, K. Sumi, M. Yotsuzuka, H. Yasuda
13th International Particle Accelerator Conference (IPAC22) Bangkok, Thailand (Jun. 12-17, 2022) 1534-1537

MAGNETIC FIELD SHIELD FOR SC-CAVITY WITH THIN Nb SHEET
Y. Iwashita, Y. Kuriyama, H. Tongu, Y. Fuwa
13th International Particle Accelerator Conference (IPAC22) Bangkok, Thailand (Jun. 12-17, 2022) 3090-3092

Spin-Polarized Beam Production by Low-Energy Nuclear Reaction Using Inverse kinematics
M. Mihara, Y. Otani, Y. Kimura, T. Sugisaki, T. Moriguchi, A. Yano, K. Tomita, N. Kaname, A. Ozawa, H. Ishiyama, M. Fukutome, G. Takayama, R. Uda, H. Yuta, M. Fukuda
Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VIII" Online (Jan. 28, 2022) 30-34 (in Japanese)

STUDY ON CONSTRUCTION OF AN ADDITIONAL BEAMLINER FOR A COMPACT NEUTRON SOURCE USING A 30 MeV PROTON CYCLOTRON
Y. Kuriyama, M. Hino, Y. Iwashita, R. Nakamura, H. Tanaka
13th International Particle Accelerator Conference (IPAC22) Bangkok, Thailand (Jun. 12-17, 2022) 3087- 3089

12. Other

Papers

Ultralow Thermal Conductivity of Highly Dense ZrW₂O₈ Ceramics with Negative Thermal Expansion
Tanusilp Sora-at, Kumagai Masaya, Ohishi Yuji, Furusawa Hideki, Suwabe Motoomi, Kurosaki Ken
Advanced Engineering Materials 24(9) (2022) 2101720 (doi) 10.1002/adem.202101720

Phase velocity of the Love wave estimated from the microtremor array records in the Wakayama plain, Japan, by using array-derived rotation
Kunikazu Yoshida, Hiroto Uebayashi, Michihiro Ohori
BUTSURI-TANSA(Geophysical Exploration) 75 (2022) 70-78 (in Japanese) (doi) 10.3124/segj.75.70

High-Pressure Diffusion Control: Na Extraction from NaAlB₁₄
Fujioka Masaya, Hoshino Mihiro, Iwasaki Suguru, Morito Haruhiko, Kumagai Masaya, Katsura Yukari, Zagarzusem Khurelbaatar, Ono Madoka, Nishii Junji
Chemistry of Materials 35(7) (2023) 3008-3014 (doi) 10.1021/acs.chemmater.3c00318

Compositional dependence of intensity and electric field gradient tensors for Fe²⁺ at the M1 site in Ca-rich pyroxene by single crystal Mössbauer spectroscopy
FUKUYAMA Daiki, SHINODA Keiji, TAKAGI Daigo, KOBAYASHI Yasuhiro
Journal of Mineralogical and Petrological Sciences 117(1) (2022) 220506 (doi) 10.2465/jmps.220506

Structured Approach for the Negotiation of the FM(C)T
Kumekawa Hirokazu, Tsuboi Hiroshi, Unesaki Hironobu
Journal of Nuclear Materials Management 50(3) (2022) 22-33

Deformation of an electron bunch caused by free-electron lasers
Sei Norihiro, Zen Heishun, Ohgaki Hideaki
Physica Scripta 98(2) (2023) 025510 (doi) 10.1088/1402-4896/acb253

X-ray diffraction study of phase transformation dynamics of Fe and Fe-Si alloys along the shock Hugoniot using an x-ray free electron laser

Krygier A., Harmand M., Albertazzi B., McBride E. E., Miyanishi K., Antonangeli D., Inubushi Y., Kodama R., Koenig M., Matsuoka T., Mogni G., Pietrucci F., Saitta A. M., Togashi T., Umeda Y., Vinci T., Yabashi M., Yabuuchi T., Fiquet G., Ozaki N.

Physical Review B 105(22) (2022) L220102 (doi) 10.1103/PhysRevB.105.L220102

Effects of data bias on machine-learning-based material discovery using experimental property data

Kumagai Masaya, Ando Yuki, Tanaka Atsumi, Tsuda Koji, Katsura Yukari, Kurosaki Ken

Science and Technology of Advanced Materials: Methods 2(1) (2022) 302-309
(doi) 10.1080/27660400.2022.2109447

Density Functional Study on the Photopolymerization of Styrene Using Dinuclear Ru-Pd and Ir-Pd Complexes with Naphthyl-Substituted Ligands

Salmahaminati, Inagaki Akiko, Hada Masahiko, Abe Minoru

The Journal of Physical Chemistry A 127(12) (2023) 2810-2818 (doi) 10.1021/acs.jpca.3c01299

Studies on Networks for Monitoring Posts Based on Mesh-Type LPWA

TANIGAKI Minoru, TANAKA Atsunori, OKUMURA Ryo, YOSHINAGA Hisao, IINUMA Yuto, IKUTA Misao

Transactions of the Atomic Energy Society of Japan 22(1) (2023) 38-49 (in Japanese)
(doi) 10.3327/taesj.J21.025

Proceedings

Development of a method for controlling the physical properties of stored materials and a direct conversion process for the separation and temporary storage of MA

Tomoo Yamamura, Masahiko Nakase, Kenji Takeshita, Takashi Shimada, Koichi Kakinoki, Taisuke Tsukamoto, Hitomi Ishida, Ryo Takahashi

International Symposium on Zero Carbon Energy System Tokyo, Japan (Jan. 10-12, 2023) A23-3

Dissolution of Thorium Dioxide in Aqueous Solution by using Thermochemical Conversion

Feng Yin, ZuoRan Ma, Chihiro Tabata, Satoshi Fukutani, Tomoo Yamamura, Tatsuya Suzuki

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Extraction behavior of the lightest Actinide, Actinium, for targeted alpha therapy

Masahiko Nakase, Kenji Shirasaki, Miki Harigai, Shingo Sugawara, Shinta Watanabe, Chihiro Tabata, Tomoo Yamamura

International Symposium on Zero Carbon Energy System Tokyo, Japan (Jan. 10-12, 2023) A23-1

Measurement of the Neutron Capture Cross Section of Am-243 with the ANNRI beam line, MLF/J-PARC

Yu Kodama, T. Katabuchi, G. Rovira, A. Kimura, S. Nakamura, S. Endo, N. Iwamoto, H. Nakano, Y. Sato, J. Hori, Y. Shibahara, K. Terada

15th International Conference on Nuclear Data for Science and Technology (ND2022) California, USA (Jul. 24-29, 2022)

Neutron beam filter system for neutron capture cross-section measurement at the ANNRI beamline of MLF/J-PARC

G. Rovira, A. Kimura, S. Nakamura, S. Endo, O. Iwamoto, N. Iwamoto, T. Katabuchi, Y. Kodama, H. Nakano, J. Hori, Y. Shibahara, K. Terada

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Neutron capture cross-section measurement of lead-204 by mass spectrometry

Shoji NAKAMURA, Atsushi KIMURA, Syunsuke ENDO, Yuji SHIBAHARA, Toshiyuki SHIZUMA

2022 Fall Meeting of the Atomic Energy Society of Japan, Ibaraki, Japan (Sep. 7-9, 2022) 3N04 (in Japanese)

Scale up production of Ac-225 using an electron linear accelerator and drug labeling experiment

Mizuho Maeda, Takahiro Tadokoro, Yuichiro Ueno, Takahiro Watanabe, Hidetoshi Kikunaga, Kenji Shirasaki, Mitsuyoshi Yoshimoto, Hirofumi Fujii, Shun Sekimoto, Tsutomu Ohtsuki, Yuko Kani, Kento Nishida, Takahiro Sasaki, Shigeru Kashiwagi, Kazunobu Ohnuki, Makoto Inagaki, Satoshi Fukutani, Yuji Shibahara

2022 Fall Meeting of the Atomic Energy Society of Japan, Ibaraki, Japan (Sep. 7-9, 2022) S0818B (in Japanese)

The development of an accelerator-based thermal neutron field and a reactor-based old neutrons source using P HITS code.
Riichiro Nakamura, Masahiro Hino, Hiroki Tanaka, Yasutoshi Kuriyama, Yoshihisa Iwashita, Masakazu Sugiyama,
Nobuhiro Sato, Yutaka Abe, Masaji Arai, Yuji Kawabata, Ken Nakajima
Proceedings of the 57th KURNS Scientific Meeting, Online/Kumatori, Japan (Feb. 14-15, 2023) 7-9 (in Japanese)

Reviews

Basic Knowledge of Neutron: Generation of Neutrons Accompanied with the High-Energy Photon Therapy
Akihiro Nohtomi
Japanese Journal of Medical Physics (Igakubutsuri) 42(3) (2022) 149 (in Japanese)

Toward construction of cross-organizational education system for nuclear engineering
Kurosaki Ken, Kozaki Tamotsu, Nakashima Hiroshi, Obara Toru, Wakabayashi Genichiro, Pyeon Cheolho,
Matsuyama Shigeo, Abe Hiroshi, Uno Masayoshi, Yamamoto Akio
Journal of the Atomic Energy Society of Japan 64(9) (2022) 520-524 (in Japanese) (doi)10.3327/jaesjb.64.9_520

Others

Evaluation Test of Quantitative 3-D Measurement of Gamma Dose in the Reactor Building by ETCC
T. Tanimori, S. Sonoda, A. Takada, M. Tsuda, K. Tahara, K. Kobayashi, H. Nagai, T. Sato, H. Nakayama, M. Tanigaki,
A. Taniguchi
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