1. Slow Neutron Physics and Neutron Scattering

Papers

MONOPOL - A traveling-wave magnetic neutron spin resonator for tailoring polarized neutron beams
Jericha Erwin, Gösselsberger Christoph, Abele Hartmut, Baumgartner Stefan, Berger Bernhard Maximilian, Geltenbort Peter, Hino Masahiro, Oda Tatsuro, Raab Robert, Badurek Gerald
Scientific Reports 10(1) (2020) 5815

Neutron gas scintillation imager with glass capillary plate
Kondo Haruyasu, Sugiyama Hiroyuki, Okada Teruyuki, Hayashi Masahiro, Moriya Toru, Ishizawa Satoshi, Itoh Ryutaro, Tokanai Fuyuki, Hanayama Ryohei, Hino Masahiro, Tasaki Seiji, Hirose Masanori, Sumiyoshi Takayuki
Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment 958 (2020) 162804

Application of Anomalous X-ray Scattering Method to Liquid Electrolytes Used in a Battery: Local Structural Analysis around a Dilute Metallic Ion
Kimura Koji, Kiuchi Hisao, Hayashi Kouichi, Nakata Akiyoshi, Fujisaki Fumika, Nishio Koji, Fukunaga Toshiharu, Matsubara Eiichiro
Analytical Chemistry 92(14) (2020) 9956-9962

Hydrogen/deuterium exchange behavior in tetragonal hen egg-white lysozyme crystals affected by solution state
Kita Akiko, Morimoto Yukio
Journal of Applied Crystallography 53(3) (2020) 837- 840

Development and application of a ^{3}He Neutron Spin Filter at J-PARC
Okudaira T., Oku T., Ino T., Hayashida H., Kira H., Sakai K., Hiroi K., Takahashi S., Aizawa K., Endo H.,Endo S., Hino M., Hirota K., Honda T., Ikeda K., Kakurai K., Kambara W., Kitaguchi M.,Oda T., Ohshita H., Otomo T., Shimizu H.M., Shinohara T., Suzuki J., Yamamoto T.
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Funama F., Hino M., Oda T., Endo H., Hosobata T., Yamagata Y., Tasaki S.
Journal of Surface Investigation: X-ray, Synchrotron and Neutron Techniques S1 (2020) S50-S55

Tuning Neutron Resonance Spin-Echo Spectrometers with Pulsed Beams
Oda Tatsuro, Hino Masahiro, Endo Hitoshi, Seto Hideki, Kawabata Yuji
Physical Review Applied 5 (2020) 54032

Application of precise neutron focusing mirrors for neutron reflectometry: latest results and future prospects
Yamada Norifumi L., Hosobata Takuya, Nemoto Fumiya, Hori Koichiro, Hino Masahiro, Izumi Jun, Suzuki Kota, Hirayama Masaaki, Kanno Ryoji,Yamagata Yutaka
Journal of Applied Crystallography 53(6) (2020) 1462-1470

Crystallization of magnetic skyrmions in MnSi investigated by neutron spin echo spectroscopy
Nakajima Taro, Oda Tatsuro, Hino Masahiro, Endo Hitoshi, Ohishi Kazuki, Kakurai Kazuhisa, Kikkawa Akiko, Taguchi Yasujiro, Tokura Yoshinori, Arima Taka-hisa
Physical Review Research 4(2) (2020) 043393

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Hirota K,Ichikawa G,Ieki S,Ino T,Iwashita Y,Kitaguchi M,Kitahara R,Koga J,Mishima K,Mogi T,Morikawa K,Morishita A,Nagakura N,Oide H,Okabe H,Otono H,Seki Y,Sekiba D,Shima T,Shimizu H M,Sumi N,Sumino H,Tomita T,Uehara H,Yamada T,Yamashita S,Yano K,Yokohashi M,Yoshioka T
Progress of Theoretical and Experimental Physics 2020(12) (2020) 123C2

Deuteration Aiming for Neutron Scattering
Okuda Aya, Inoue Rintaro, Morishima Ken, Saio Tomohide, Yunoki Yasuhiro, Yagi-Utsumi Maho, Yagi Hirokazu, Shimizu Masahiro, Sato Nobuhiro, Urade Reiko, Kato Koichi, Sugiyama Masaaki
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Neutron Imaging Using a Fine-Grained Nuclear Emulsion
Hirota Katsuya, Ariga Tomoko, Hino Masahiro, Ichikawa Go, Kawasaki Shinsuke, Kitaguchi Masaaki, Mishima Kenji, Muto Naoto, Naganawa Naotaka, Shimizu Hirohiko M.
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M. Kanaji, Y. Irie, Y. Ishikawa, M. Shibata and A. Taniguchi
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Search for isomers and β-decay spectroscopic studies of fission products using a through-hole type clover detector Daiki Ueda, Kiminori Sato, and Takafumi Kitazawa
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Development of neutron focusing mirror and feasibility study of directional neutron source
Tatsuro Oda, Masahiro Hino,Yuji Kawabata, Hitoshi Endo, Hidetoshi Ohshita, Tomohiro Seya, Yoshiji Yasu, Hideki Seto
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Present status of the neutron resonance spin echo spectrometers VIN ROSE at BL06 at J-PARC MLF
Yuya Nagata, Michinori Suginome, Masaaki Sugiyama, Rintaro Inoue, Nobuhito Sato, Ken Morishima
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Elucidation of the mechanism of the solvent-dependent helix inversion of polymer backbones by using quasielastic neutron scattering and light measurements
Masahiro Hino,Tatsuro Oda, Fumiaki Funama, Hisao Yoshinaga,Abe Yutaka,Yuji Kawabata,Takuya Hosobata, Yutaka Yamagata, Hitoshi Endo, Norifumi L Yamagata
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A Study of Focusing TOF-MIEZE Spectrometer with Small-angle Neutron Scattering
Funama Fumiaki, Hino Masahiro, Oda Tatsuro, Endo Hitoshi, Hosobata Takuya, Yamagata Yutaka, Tasaki Seiji, Kawabata Yuji
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Commissioning of Versatile Compact Neutron Diffractometer (VCND) at the B-3 Beam Port of Kyoto University Research Reactor (KUR)
Mori Kazuhiro, Okumura Ryo, Yoshino Hirofumi, Kanayama Masaya, Satoh Setsuo, Oba Yojiro, Iwase Kenji, Hiraka Haruhiro, Hino Masahiro, Sano Tadafumi, Kawabata Yuji, Kamiyama Takashi, Otomo Toshiya, Fukunaga Toshiharu
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C3-1-2(MINE)ポートの現状と展望
日野正裕,小田達郎
日本中性子科学会誌 31 (2021) 36-37 (in Japanese)

2. Nuclear Physics and Nuclear Data

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Per atom muon capture ratios and effects of molecular structure on muon capture by γ-Fe_2O_3 and Fe_3O_4
Ninomiya Kazuhiko, Kajino Meito, Inagaki Makoto,Terada Kentaro, Sato Akira, Tomono Dai, Kawashima Yoshitaka, Shinohara Atsushi
Journal of Radioanalytical and Nuclear Chemistry 324 (2020) 403-408

Measurement of cesium isotopic ratio by thermal ionization mass spectrometry for neutron capture reaction studies on ^{135}Cs
Shibahara Yuji,Nakamura Shoji,Uehara Akihiro,Fujii Toshiyuki,Fukutani Satoshi,Kimura Atsushi, Iwamoto Osamu
Journal of Radioanalytical and Nuclear Chemistry 325 (2020) 155-165

Neutron capture cross-section measurement and resolved resonance analysis of ^{237}Np
Rovira Gerard, Katabuchi Tatsuya,Tosaka Kenichi,Matsuura Shota,Terada Kazushi,Iwamoto Osamu,Kimura Atsushi,Nakamura Shoji,Iwamoto Nobuyuki,Segawa Mariko,Maeda Makoto
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In-gas-cell laser ionization spectroscopy of Os194,196 isotopes by using a multireflection time-of-flight mass spectrograph
Choi H., Hirayama Y., Choi S., Hashimoto T., Jeong S. C., Miyatake H., Moon J. Y., Mukai M., Niwase T., Oyaizu M., Rosenbusch M., Schury P., Taniguchi A., Watanabe Y. X., Wada M.
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Measurements of thermal-neutron capture cross-section of Cesium-135 by applying mass spectrometry
Nakamura Shoji, Shibahara Yuji, Kimura Atsushi, Iwamoto Osamu, Uehara Akihiro, Fujii Toshiyuki
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Masuda Takahiko, Watanabe Tsukasa ,Beeks Kjeld, Fujimoto Hiroyuki, Hiraki Takahiro, Kaino Hiroyuki, Kitao Shinji, Miyamoto Yuki, Okai Koichi, Sasao Noboru, Seto Makoto, Schumm Thorsten, Shigekawa Yudai, Tamasaku Kenji, Uetake Satoshi,Yamaguchi Atsushi,Yoda Yoshitaka,Yoshimi Akihiro,Yoshimura Koji
Journal of Synchrotron Radiation 28(1) (2021) 111-119

Mixed-valence state and structure changes of EuH_x ($x=2$ and $2<x\leq3$) under high-pressure H_2 atmosphere
Kuno Keiji,Matsuoka Takahiro,Masuda Ryo,Mitsui Takaya, Seto Makoto, Machida Akihiko, Fujihisa Hiroshi, Hirao Naohisa, Ohishi Yasuo, Shimizu Katsuya, Sasaki Shigeo
Journal of Alloys and Compounds (2021) 158637

Monte Carlo perturbation calculation for geometry change in fixed source problems with the perturbation source method
Yamamoto Toshihiro, Sakamoto Hiroki
Progress in Nuclear Energy 132 (2021) 103611

Appearance of pentavalent Fe ion as a result of a charge disproportionation in Fe-substituted Li_2MnO_3
Tabuchi Mitsuharu, Kobayashi Yasuhiro
Journal of Physics and Chemistry of Solids 150 (2021) 109862

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Proceedings of the Specialists' Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 1-7 (in Japanese)

Development of Oxygen NMR Probe Nucleus ^{19}O
W. Sato, S. Komatsuda, H. Shimizu, R. Moriichi, S. Abe, S. Watanabe, S. Komatsu, T. Terai, S. Kawata, and Y. Ohkubo

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^{57}Mn/^{57}Fe Emission Mössbauer Study on Local Increase of Currie Temperature of $Y_3Fe_5O_{12}$
M. Mihara, K. Matsuta, M. Fukuda, R. Wakabayashi, N. Okimoto, M. Fukutome, T. Izumikawa, N. Noguchi, M. Ogose, T. Ohtsubo, D. Nishimura, A. Gladkov, A. Kitagawa, and S. Sato
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S. Komatsuda, W. Sato, and Y. Ohkubo
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Present Status and Future Prospects of Mössbauer Spectroscopy using Synchrotron Radia-tion
Y. Kobayashi, T. Kubota, S. Kitao, M. Saito, R. Masuda, M. Kurokuzu, S. Hosokawa, H. Tajima, N. Umetani and M. Seto
Proceedings of the Specialists'Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 38-40 (in Japanese)

^{61}Ni Mössbauer Spectroscopy
K.Matsuta, Y. Masuda, M. Mihara, and T. Yoshida
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^{61}Ni Mössbauer Spectroscopy for Hofmann-like Spin Crossover Coordination Polymer
S. Tsutsui
Proceedings of the Specialists'Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 45-50 (in Japanese)

Mössbauer spectroscopy of Spin Crossover Complex Fe (3-cyano-4-methylpyridine)$_2$ [Ag(CN)$_2$]$_2$
K. Kitase, M.Takhahasi, and T. Kitazawa
Proceedings of the Specialists'Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 51-54 (in Japanese)

Mössbauer spectroscopy of Fe–Ag type spin-crossover Hofmann-type complex
S. Kitao
Proceedings of the Specialists'Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 55-59 (in Japanese)

Observation of Local Fields at the ^{111}Cd(←^{111}In) probe in $SrTiO_3$
T. Kitazawa, K. Kitase, T. Kawasaki, Y. Kobayashi, S. Kitao and M. Seto
Proceedings of the Specialists'Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 64-67 (in Japanese)

Polaronic Local Structures in $La_{0.7}Ca_{0.3}MnO_3$ Observed through Spin Relaxation of Unstable Nuclei
Y. Makido, T. Kosone, M. Takahashi, and T. Kitazawa
Proceedings of the Specialists'Meeting on "Nuclear Spectroscopy and Condensed Matter Physics Using Short-Lived Nuclei VI" and Meeting on "11th Nuclear Spectroscopy Research Using Stop and Slow Unstable Nuclei (SSRI)" Kumatori, Japan (Jan. 16-17, 2020) 68-71 (in Japanese)

Compensator of Environmental Magnetic Fields for Neutron EDM Search
K. Nomura, P. B. Krastev ,H. P. Gunnlaugsson, K. Bharuth Ram, B. Qi, H. Masenda, T. E. Mølholt, D. Naidoo, S. Ólafsson, A. T. Martín-Luengo, I. Unzueta, K. Johnston, J. Schell and H. P. Gislason
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Detection of gamma ray from short-lived fission product at KUCA and KURNS-LINAC
Y.NAUCHI, J. HORI, T. SANO, Y. TAKAHASHI, K. KUSUMI and Hi. UNESAKI
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Leaching behavior gamma-emitting fission products, iron and uranium from $UFeO_4$
Yasutoshi Kuriyama, Hiroki Tanaka, Yoahishisa Iwashita, Yoshihiro Ishi, Tomonori Uesugi, Masahiro Hino
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Design of an accelerator driven neutron source using source using a 30MeV Cyclotron
Ryutaro Tonnna, Takayuki Sasaki, Taishi Kobayashi, Shun Sekimoto
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Artificial Production of the Lowest Energy Nuclear Excited State, ^{229m}Th
HIRAKI Takahiro, KAINO Hiroyuki, MASUDA Takahiko, OKAI Kouichi, SASAO Noboru, YOSHIMI Akihiro, YOSHIMURA Koji, KITAO Shinji, SETO Makoto, TAMASAKU Kenji, YODA Yoshitaka
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Others

燃料集合体での FP γ線スペクトル測定
名内泰志, 佐野忠史, 高橋佳之,宇根崎博信,楠見紘司,堀順一
第 41 回日本核物質管理学会年次大会 On Line 2020 (in Japanese)

3. Reactor Physics and Reactor Engineering

Papers

Basic consideration of a nuclear power monitoring system using neutron-induced prompt gamma rays
Okada Koichi, Fushimi Atsushi, Sekimoto Shun, Ohtsuki Tsutomu
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Detection of subcriticality changes by Simmons-King and Sjöstrand methods
Kitamura Yasunori, Misawa Tsuyoshi
Annals of Nuclear Energy 138 (2020) 107209

Reaction Rate Analyses of High-Energy Neutrons by Injection of 100 MeV Protons onto Lead-Bismuth Target
C. H. Pyeon, M. Yamanaka and B. Lee
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First demonstration of coherent resonant backward diffraction radiation for a quasi-monochromatic terahertz-light source
Sei Norihiro, Takahashi Toshiharu
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Local measurements of upward air-water two-phase flows in a vertical 6 × 6 rod bundle
Shen Xiuzhong, Miwa Shuichiro, Xiao Yigeng, Han Xu, Hibiki Takashi
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Monte Carlo sensitivity analysis method for the effective delayed neutron fraction with the differential operator sampling method
Yamamoto Toshihiro, Sakamoto Hiroki

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Feasibility Study on the Development of A Fiber-Optic Humidity Sensor System for the Monitoring and Detection of Coolant Leakage in a Nuclear Power Plant
H. J. Kim, H. Y. Shin, C. H. Pyeon, S. Kim and B. Lee
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Meltwater Behavior During the Defrosting Process By Using X-ray Radiography
Ryosuke MATSUMOTO, Takahiro SHIOKAWA, Yuto NISHIURA, Yutaka ODA, Daisuke ITO, Yasushi SAITO
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Interaction of Liquid $CsIO_3$ with a Polycrystalline UO_2 Solid Surface
ISHII Hiroto, OHISHI Yuji, MUTA Hiroaki, UNO Masayoshi, KUROSAKI Ken
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Single-crystal growth, structure and luminescence properties of $Cs_2HfCl_3Br_3$
Kodama Shohei, Kurosawa Shunsuke, Fujii Kotaro, Murakami Taito, Yashima Masatomo, Pejchal Jan, Král Robert, Nikl Martin, Yamaji Akihiro, Yoshino Masao, Toyoda Satoshi, Sato Hiroki, Ohashi Yuji, Kamada Kei, Yokota Yuui, Yoshikawa Akira
Optical Materials 106 (2020) 109942

Analysis of Hydrogen Content in Pure Palladium via Neutron Radiography and Tomography
Shimizu Kazuyuki, Toda Hiroyuki, Hirayama Kyosuke, Fujihara Hiro, Matsumoto Yoshihisa, Ito Daisuke, Saito Yasushi, Kamada Yasuhiro
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Frequency domain Monte Carlo simulations of void velocity measurements in an actual experimental setup using a neutron noise technique
Yamamoto Toshihiro, Sakamoto Hiroki
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Convergence characteristics and Wielandt acceleration of the time source method for Monte Carlo alpha eigenvalue calculations Yamamoto Toshihiro, Sakamoto Hiroki
Annals of Nuclear Energy 146 (2020) 107627

Source Multiplication Measurements and Neutron Correlation Analyses for a Highly-Enriched Uranium Subcritical Core Driven by an Inherent Source in Kyoto University Critical Assembly
K. Nakajima, T. Sano, K. Takahashi, A. Sakon, M. Yamanaka, S. Hohara, C. H. Pyeon and K. Hashimoto
Journal of Nuclear Science and Technology 57 (2020) 1152-1166

Drift-flux correlation for upward gas-liquid two-phase flow in vertical rod bundle flow channel
Han Xu, Shen Xiuzhong, Yamamoto Toshihiro, Nakajima Ken, Hibiki Takashi
International Journal of Heat and Mass Transfer 162 (2020) 120341

Neutron Generation Time in Highly-Enriched Uranium Core at Kyoto University Critical Assembly
C. H. Pyeon, M. Yamanaka, T. Endo, G. Chiba, W. F. G. van Rooijen and K. Watanabe
Nuclear Science and Engineering 194 (2020) 1116-1127

New variants of Bennett variance method with correlation indices for reducing delayed-neutron contribution
Kitamura Yasunori, Misawa Tsuyoshi
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Development of a Wide Dynamic Range Neutron Flux Measurement Instrument Having Fast Time Response for Fusion Experiments
ITO Daijiro, YAZAWA Hiroyuki, TOMITAKA Makoto, KUMAGAI Tsuyoshi, KONO Shigehiro, YAMAUCHI Michinori, MISAWA Tsuyoshi, KOBUCHI Takashi, HAYASHI Hiroshi, MIYAKE Hitoshi, OGAWA Kunihiro, NISHITANI Takeo, ISOBE Mitsutaka
Plasma and Fusion Research 16 (2021) 1405018

Distribution parameter and drift velocity for upward gas-liquid metal two-phase flow
Shen Xiuzhong, Hibiki Takashi

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Feynman-alpha and Rossi-alpha Analyses for a Subcritical Reactor System Driven by a Pulsed Spallation Neutron Source in Kyoto University Critical Assembly
K. Nakajima, T. Sano, S. Hohara, A. Sakon, K. Takahashi, M. Yamanaka, C. H. Pyeon and K. Hashimoto
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X-Ray Radiography and Numerical Simulation of Bubble Behavior in Centrifugal Pump
ITO Kei, XIONG Rendong, ITO Daisuke, SAITO Yasushi, USHIFUSA Hiroyuki, SHINOZAKI Masaru, ASAI Yugo
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Measurement of the Internal Pressure of Ultrafine Bubble Using the Perturbed Angular Correlation Technique
ARAKI Kyoya, MURAKAWA Hideki, SUGIMOTO Katsumi, ASANO Hitoshi, ITO Daisuke
The Proceedings of the National Symposium on Power and Energy Systems, online (Jun. 20-21, 2020) E144 (in Japanese)

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M.Tanigaki, T. Yamakura, Y. Ueda, A. Taniguchi, Y. Tokuda, and Y. Ohkubo
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Flow characteristics of upward two-phase flows in a rod bundle geometry
Han, Xu, Shen Xiuzhong, Yamamoto Toshihiro, Nakajima, Ken, Hibiki, Takashi
Proceedings of ASME's Power 2020 and Nuclear Engineering Conference powered by ICONE, On-Line (Aug. 4-5, 2020) 14568

Subcriticality Estimation using Unscented Kalman Filter for Reactivity- and Source-Transients T. Endo, A. Yamamoto, M. Yamanaka and C. H. Pyeon
Proceeding of theVirtual Winter Meeting of the American Nuclear Society U.S.A. (Nov. 16-19, 2020) 1-4

燃料集合体からの FP γ線スペクトル測定
名内 泰志, 佐野 忠史, 高橋 佳之,宇根崎 博信, 楠見 紘司, 堀 順一
第 41回核物質管理学会 On Line (Nov. 19-20, 2020) (in Japanese)

Stydy on neutron capture cross sections of ^{241}Am
Xu Han, Xiuzhong Shen, Toshihiro Yamamoto, Ken Nakajima, Takashi Hibiki
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Distribution parameter and drift velocity for low and high pressure two-phase flows in rod bundle geometry
Yasuhito Goto, Nobuhiro Sato, Yasuki Okuno, Masafumi Akiyoshi, Mitsuru Imaizumi, Tomohiro Kobayashi, Tamotsu Okamoto
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Leaching behavior of fission products from simulated fuel debis in the UO_2 system
Takayuki Sasaki, Yuji Kodama, Ryutaro Tonna, Taishi Kobayashi, Yuta Kumagai, Ryoji Kusaka, Masayuki Watanabe, Daisuke Akiyama, AkiraKirishima, Nobuaki Sato, Kouichi Takamiya, Shun Sekimoto
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Dataild stractire of gas-liquid two-phase flow in a packed bed of spheres
Kazushi Terada

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Measurement of current induced on coaxial cables under gamma-ray irradiation
Naoya Odaira, Yuji Arita
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Internal pressure induced by lead bishmuth eutectic (LBE and its behavior
Akito Fujitsu, Naoya Odaira, Daisuke Ito Kei Ito, Yasushi Saito
Proceedings of the 55th KURNS Scientific Meeting Web Meeting 2020 (Jan. 28-29, 2021) 26 (in Japanese)

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Subcriticality - from basics to applications (6)
Katano Ryota, Yamanaka Masao
Journal of the Atomic Energy Society of Japan 62(3) (2020) 158-162

Subcriticality - from basics to applications (8)
Toshihiro Yamamoto
Journal of the Atomic Energy Society of Japan 62(5) (2020) 285-289

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Fundamentals of Nuclear Physics
C. H. Pyeon and D. Ito
Fundamental of Thermal and Nuclear Power Engineering
Elsevier (2020)

Accelerator-Driven System at Kyoto University Critical Assembly
C. H. Pyeon
Springer (2021)

4. Material Science and Radiation Effects

Papers

Accurate Synchrotron Hard X-ray Diffraction Mesurements on High-Temperature Liquid Oxides
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Papers

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