

II. PUBLICATION LIST

(APRIL 2017 – MARCH 2018)

1. Slow Neutron Physics and Neutron Scattering

Papers

Weak-beam scanning transmission electron microscopy for quantitative dislocation density measurement in steels
Yoshida Kenta, Shimodaira Masaki, Toyama Takeshi, Shimizu Yasuo, Inoue Koji, Yoshiie Toshimasa, Milan Konstantinovic J., Gerard Robert, Nagai Yasuyoshi
Microscopy **66(2)** (2017) 120-130.

Crystal structure of $\text{Pr}_3\text{MgNi}_{14}\text{Dx}$ studied by in situ neutron diffraction
K. Iwase, K. Mori, N. Terashita, S. Tashiro, T. Suzuki
Inorganic Chemistry **56** (2017) 6933-6937.

A Neutron Detector with Submicron Spatial Resolution using Fine-grained Nuclear Emulsion
Naganawa N., Awano S., Hino M., Hirose M., Hirota K., Kawahara H., Kitaguchi M., Mishima K., Nagae T., Shimizu H.M., Tasaki S., Umemoto A.
Physics Procedia **88** (2016) 224-230.

Mechanical synthesis and structural properties of the fast fluoride-ion conductor PbSnF_4
F. Fujisaki, K. Mori, M. Yonemura, Y. Ishikawa, T. Kamiyama, T. Otomo, E. Matsubara, T. Fukunaga
J. Solid State Chemistry **253** (2017) 287-293.

Towards a high-resolution TOF-MIEZE spectrometer with very cold neutrons
T. Oda, M. Hino, M. Kitaguchi, H. Filter, P. Geltenbort, Y. Kawabata
Nuclear Instruments and Methods in Physics Research Section A **860** (2017) 35-41.

Development of precision elliptic neutron-focusing supermirror
Hosobata Takuya, Yamada Norifumi L., Hino Masahiro, Yamagata Yutaka, Kawai Toshihide, Yoshinaga Hisao, Hori Koichiro, Takeda Masahiro, Takeda Shin, Morita Shin-ya
Optics Express **17** (2017) 20012.

Salting-out and salting-in effects of amphiphilic salt on cloud point of aqueous methylcellulose
Nishida Koji, Morita Hideyuki, Katayama Yutaka, Inoue Rintaro, Kanaya Toshiji, Sadakane Koichiro, Seto Hideki
Process Biochemistry **59** (2017) 52-57.

Role of molecular weight in shish-kebab formation during drawing by small-angle neutron and X-ray scatterin
Kanaya Toshiji, Murakami Momoko, Maede Tadahiko, Ogawa Hiroki, Inoue Rintaro, Nishida Koji, Matsuba Go, Ohta Noboru, Takata Shin-ichi, Tominaga Taiki, Suzuki Jun-ichi, Han Young-Soo, Kim Tae-Hwan
Polymer Journal **49(12)** (2017) 831-837.

Supermirror neutron guide system for neutron resonance spin echo spectrometers at a pulsed neutron source
Hino Masahiro, Oda Tatsuro, Yamada Norifumi L., Endo Hitoshi, Seto Hideki, Kitaguchi Masaaki, Harada Masahide, Kawabata Yuji
Journal of Nuclear Science and Technology **54(11)** (2017) 1223-1232.

Materials and Life Science Experimental Facility(MLF) at J-PARC. II – Neutron Scattering Instruments –
K. Nakajima, Y. Kawakita, S. Itoh, J. Abe, K. Aizawa, H. Aok, H. Endo, M. Fujita, K. Funakoshi, W. Gong, M. Harada, S. Harjo, T. Hattori, M. Hino, T. Honda, A. Hoshikawa, K. Ikeda, T. Ino, T. Ishigaki, Y. Ishikawa, H. Iwase, T. Kai, R. Kajimoto, T. Kamiyama, N. Kaneko, D. Kawana, S. Ohira-Kawamura, T. Kawasaki, A. Kimura, R. Kiyonagi, K. Kojima, K. Kusaka, S. Lee, S. Machida, T. Masuda, K. Mishima, K. Mitamura, M. Nakamura, S. Nakamura, A. Nakao, T. Oda, T. Ohhara, K. Ohishi, H. Ohshita, K. Oikawa, T. Otomo, A. Sano-Furukawa, K. Shibata, T. Shinohara, K. Soyama, J. Suzuki, K. Suzuya, A. Takahara, S. Takata, M. Takeda, Y. Toh, S. Torii, N. Torikai, N.L. Yamada, T. Yamada, D. Yamazaki, T. Yokoo, M. Yonemura, H. Yoshizawa
Quantum Beam Science **1(3)** (2017) 9.

Effect of Mg substitution on crystalline structure and hydrogenation of $\text{Gd}_4\text{MgNi}_{19}$
K. Iwase, N. Terashita, K. Mori, S. Tashiro, T. Suzuki
Int. J. Hydrogen Energy **43** (2018) 1675-1680.

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Development of a Sealed-type Capillary Plate Gas Detector for Neutron Imaging

H. KONDO, H. SUGIYAMA, M. HAYASHI, T. OKADA, F. TOKANAI, R. ITO, S. ISHIZAWA, Y. INOMATA, K. SUZUKI, S. TASAKI, M. HIROSE, M. HINO, R. HANAYAMA, T. SUMIYOSHI
Conference on Laser Energy Science / Laser and Accelerator Neutron Sources and Applications 2017, Yokohama, Japan (Apr. 18-21, 2017).

Development of high spatial resolution cold/ultra- cold neutron detector using fine-grained nuclear emulsion

N. Naganawa, S. Awano, M. Hino, M. Hirose, H. Kawahara, M. Kitaguchi, K. Mishima, T. Nagae, H. M. Shimizu, S. Tada, S. Tasaki, .A. Umemoto
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Precision Mechanical Design of 900 mm Long Ellipsoidal Neutron-focusing Supermirror for VIN ROSE at J-PARC/MLF

Takuya Hosobata, Masahiro Hino, Hisao Yoshinaga, Toshihide Kawai, Hitoshi Endo, Yutaka Yamagata, Norifumi L. Yamada, Koichiro Hori, Tatsuro Oda and Shin Takeda
International Conference on Neutron Optics (NOP2017), JPS Conf. Proc., Nara, Japan (July 5-8, 2017).

Fundamental physics activities with pulsed neutron at J-PARC (BL05)

Kenji MISHIMA, Shogo AWANO, Yasuhiro FUWA, Fumiya Goto, Christopher C. Haddock, Masahiro Hino, Masanori Hirose, Katsuya Hirota, Sei Ieki, Sohei Imajo, Takashi Ino, Yoshihisa Iwashita, Ryo Katayama, Hiroaki Kawahara, Masaaki Kitaguchi, Ryunosuke Kitahara, Jun Koga, Aya Morishita, Tomofumi Nagae, Naoki Nagakura, Naotaka Naganawa, Noriko Oi, Hideyuki Oide, Hidetoshi Otono, Yoshichika Seki, Daiichiro Sekiba1, Tatsushi Shima, Hirohiko M. Shimizu, William M. Snow, Naoyuki Sumi, Hirochika Sumino, Satomi Tada, Kaoru Taketani, Seiji Tasaki, Tatsuhiko Tomita, Atsuhiko Umemoto, Takahito Yamada, Satoru Yamashita, Mami Yokohashi, Tamaki Yoshioka
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Observation of 400-kHz TOF-MIEZE Signals

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Development of High Spatial Resolution Cold/Ultra-Cold Neutron Detector Using Nano Imaging Tracker

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Development of new neutron mirrors for measuring the neutron electric dipole moment

Ryo Katayama, Kenji Mishima, Satoru Yamashita, Masaaki Kitaguchi, Tamaki Yoshioka, Yoshichika Seki, Masahiko Mitsuhashi, Masahiko Sugihara, Masahiro Hino, Eiichiro Watanabe, Daiju Tsuya, Mikiko Saito, Norifumi Yamada
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A focusing test of a multiple segmented ellipsoidal neutron-focusing mirror for a mini-focusing type SANS instrument

Ryo Katayama, Kenji Mishima, Satoru Yamashita, Masaaki Kitaguchi, Tamaki Yoshioka, Yoshichika Seki, S. Takeda, T. Hosobata, Y. Yamaagata, M. Hino, T. Oda, H. Endo, N.L. Yamada, S. Morita, M. Furusaka
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材料照射とその評価技術の高度化(研究計画・構想)

木野村 淳, 藪内 敦

Proceedings of the Project Meeting on "Construction of the basis for the advanced materials science and analytical study by the innovative use of quantum beam and nuclear sciences" Kumatori, Japan (Dec. 15, 2017) 34.
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KUR 低速陽電子ビームラインの陽電子強度向上のための改良

藪内 敦, 木野村 淳

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材料照射ターゲットの高精度化と照射研究への寄与

木野村 淳, 藪内 敦, 外山 健, 鬼塚 貴志

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KURにおける量子ビームを用いたナノ構造研究

杉山正明, 井上倫太郎, 佐藤信治, 守島 健

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多元素メスアバウー分光法による物質・生命科学研究の展開

瀬戸 誠

Proceedings of the Project Meeting on "Construction of the basis for the advanced materials science and analytical study by the innovative use of quantum beam and nuclear sciences" Kumatori, Japan (Dec. 15, 2017) 1. (in Japanese)

パルス中性子源における中性子共鳴スピンエコー分光法の研究/

Study on the Neutron Resonance Spin Echo Spectroscopy at Pulsed Neutron Sources

Tatsuro Oda

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X線・中性子反射率法による潤滑界面の平均構造評価の試み /

A trial for Structural evaluation of lubrication interface by X-ray and neutron reflectometry

Masahiro Hino, Nozomu Adachi, Yoshikazu Todaka, Yojiro Oba, Tomoko Hirayama

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Shinji Kitao, Yasuhiro Kobayashi, Takumi Kubota, Makina Saito, Ryo Masuda, Masayuki Kurokuzu, Hiroki Ishibashi, Shuichi Ho- sokawa and Makoto Seto

"Proceedings of the 52th KURRI Scientific Meeting" Kumatori, Japan (Jan. 25-26, 2018) 31. (in Japanese)

サイズ排除クロマトグラフィー小角 X 線散乱(SEC-SAXS)システムの立ち上げ /

Start-up of SEC-SAXS system

Rintaro Inoue, Toshiyuki Chatake, Nobuhiro Sato, Ken Morishima and Masaaki Sugiyama

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Coagulation process of soy bean protein as revealed by small-angle X-ray scattering

Nobuhiro Sato, Rintaro Inoue, Ken Morishima, Masaaki Sugiyama, Yuki Higashino and Reiko Urade

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Elucidation of the mechanism of the solvent-dependent helix inversion using small-angle neutron scattering

Yuuya Nagata, Tsuyoshi Nishikawa, Michinori Sugimoto, Sota Sato, Masaaki Sugiyama, Lionel Porcar, Anne Martel, Rintaro Inoue and Nobuhiro Sato

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Molecular mechanism of interaction between transcriptional factors Sp1 and TAF4

Emi Hibino, Rintaro Inoue, Masaaki Subiyama, Jun Kuwahara, Katsumi Matsuzaki and Masaru Hoshino
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パルス中性子イメージングによる鉛ビスマス固液相構造の可視化 /

Visualization of lead-bismuth phase structure using pulsed neutron imaging

Daisuke Ito, Hirotaka Sato, Yasushi Saito, Takenao Shinohara

Proceedings of the 52th KURRI Scientific Meeting. Kumatori, Japan (Jan. 25-26, 2018) 58. (in Japanese)

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Characterization of Hydrophobe-Uptake Micelle

Ken Morishima

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Reviews

中性子散乱の原理と中性子全散乱によるガラス・非晶質物質の構造解析

小野寺陽平, 福永俊晴

セラミックス 52 (2017) 330-336. (in Japanese)

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森 一広

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原子炉中性子源

日野正裕, 川端祐司

日本中性子科学会誌 27 (2017) 155-154. (in Japanese)

2. Nuclear Physics and Nuclear Data

Papers

A Simple and Practical Correction Technique for Reactivity Worth of Short-Sized Samples Measured by Critical-Water-Level Method

Kitamura Yasunori and Fukushima Masahiro

Nuclear Science and Engineering **186(2)** (2017) 168-179.

Experimental fission study using multi-nucleon transfer reactions

Nishio Katsuhisa, Hirose Kentaro, Léguillon Romain, Makii Hiroyuki, Orlandi Riccardo, Tsukada Kazuaki, Smallcombe James, Chiba Satoshi, Aritomo Yoshihiro, Tanaka Shouya, Ohtsuki Tsutomu, Tsekhanovich Igor, Petrache Costel M., Andreyev Andrei

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Kitamura Yasunori, Misawa Tsuyoshi

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- Simultaneous measurement of neutron-induced fission and capture cross sections for ^{241}Am at neutron energies below fission threshold
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- Neutron capture cross section measurements of $^{131,153}\text{Eu}$ using a pair of C_6D_6 detectors
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- Improving nuclear data accuracy of ^{241}Am and ^{237}Np capture cross sections
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- Influence of the neutron transport tube on neutron resonance densitometry
 F. Kitatani, H. Tsuchiya, J. Takamine, J. Hori, T. Sano
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- Method to Reduce Long-lived Fission Products by Nuclear Transmutations with Fast Spectrum Reactors
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- Neutron capture cross section measurements of ^{120}Sn , ^{122}Sn and ^{124}Sn with the array of Ge spectrometer at the J-PARC/MLF/ANNRI
 A. Kimura, H. Harada, S. Nakamura, Y. Toh, M. Igashira, T. Katabuchi, M. Mizumoto, J. Hori
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- Non-destructive assay of nuclear materials using a self-indication method
 J. Hori, T. Sano, Y. Takahashi, J. Lee, H. Unesaki, K. Nakajima
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- On prediction accuracy of neutronics parameters of accelerator-driven system
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 H. Harada, O. Iwamoto, N. Iwamoto, A. Kimura, K. Terada, T. Nakao, S. Nakamura, K. Mizuyama, M. Igashira, T. Katabuchi, T. Sano, Y. Shibahara, Y. Takahashi, K. Takamiya, C. H. Pyeon, S. Fukutani, T. Fujii, J. Hori, H. Yashima
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Effect of wall wettability condition on drift-flux parameters in lead–bismuth two-phase flow in circular and annular bubble columns

Ariyoshi Gen, Inatomi Ryota, Ito Daisuke, Saito Yasushi
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Suetomi Eiichi, Nakano Satoshi, Takezawa Hiroki, Takaki Naoyuki

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Systematic effects on cross section data derived from reaction rates in 2 reactor spectra and a re-analysis of ^{241}Am reactor activation measurements

G. Zerovnik, P. Schillebeeckx, B. Becker, L. Fiorito, H. Harada, S. Kopecky, V. Radulovi, T. Sano

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In-gas-cell laser spectroscopy of the magnetic dipole moment of the $N \approx 126$ isotope ^{199}Pt

Y. Hirayama, M. Mukai, Y. X. Watanabe, M. Ahmed, S. C. Jeong, H. S. Jung, Y. Kakiguchi, S. Kanaya, S. Kimura, J. Y. Moon, T. Nakatsukasa, M. Oyaizu, J. H. Park, P. Schury, A. Taniguchi, M. Wada, K. Washiyama, H. Watanabe, and H. Miyatake

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Evaluation of Sample-dependent Background at the KURRI-LINAC using a Time-of-Flight Method

J. Lee, J. Hori, T. Sano, K. Nakajima

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Proceeding of the 2016 Symposium on Nuclear Data. Tsukuba, Ibaraki, Japan (Nov.17-18, 2017) 23.

軽水炉燃料の燃焼中の反応度における不確かさの定量化に関する研究/

Study on uncertainty quantification of reactivity during burnup in LWR fuel

奥村 晋太郎, 千葉 豪

"Proceedings of 6th Reactor Physics Workshop (RPW 2017)" Kumatori, Japan (Nov.29-30, 2017) 29. (in Japanese)

未臨界積分法・外挿法によるドル単位未臨界度測定/

Measurement of subcriticality in dollars using integral and extrapolation method

遠藤知弘, 野中 朝日

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中性子雑音法を用いた気泡を含む水流の通過時間測定に対する時間依存モンテカルロシミュレーション/

Time-Dependent Monte Carlo Simulation for Transit Time Measurement of Bubbly Water Flow with Neutron Noise Technique

高山直毅, 長家康展, 山本俊弘

"Proceedings of 6th Reactor Physics Workshop (RPW 2017)" Kumatori, Japan (Nov.29-30, 2017) 53. (in Japanese)

次世代高速炉の核設計における燃焼核特性評価の解析条件の検討/

Investigation of the Core Neutronics Analysis Conditions for Evaluation of Burnup Nuclear Characteristics of Next-Generation Fast Reactors

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"Proceedings of 6th Reactor Physics Workshop (RPW 2017)" Kumatori, Japan (Nov.29-30, 2017) 60. (in Japanese)

地層処分場に対する中性子・ γ 線放射線場総合解析コードの開発/

Development of Calculation Code for Neutron and Gamma ray field analysis on Geological repository

Daiki Maeda, Naoto Aizawa, Tomohiko Iwasaki

"Proceedings of 6th Reactor Physics Workshop (RPW 2017)" Kumatori, Japan (Nov.29-30, 2017) 73. (in Japanese)

JENDL-4.0に基づくCASMO5/TRACE/PARCSを用いたSPERT-III実験解析・不確かさ評価/

Analysis and Uncertainty Quantification of the SPERT-III Experiments Using CASMO5/TRACE/PARCS with JENDL-4.0 Library

Tatsuya FUJITA and Tomohiro SAKAI

"Proceedings of 6th Reactor Physics Workshop (RPW 2017)" Kumatori, Japan (Nov.29-30, 2017) 92. (in Japanese)

同位体を利用した先進科学の創出

大槻 勤, 沖 雄一, 高宮幸一, 関本 俊

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陽電子ビームを用いた空孔型欠陥研究—金属材料における原子空孔/

Studies of vacancy-type defects using positron beams-Atomic vacancies in metals

Atsushi Yabuuchi

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中性子照射ウラン酸化物からの核種溶出挙動 /

Leaching behavior of elements from neutron-irradiated various uranium oxides

Shunichi Sakamoto, Takayuki Sasaki, Taishi Kobayashi, Daisuke Akiyama, Akira Kirishima and Nobuaki Sato

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鉛ビスマス気泡塔内のボイド率計測および乱流モデルを用いた数値解析に関する研究 /

Research on measurement of void fraction in lead-bismuth bubble column and numerical analysis using turbulent model

Gen Ariyoshi, Ryota Inatomi, Daisuke Ito, Yasushi Saito

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二流体モデルによる鉛ビスマス気液二相流動特性の予測 /

Prediction of flow of characteristics in lead bismuth two-phase flow with two fluid model

Keisuke Maeda, Gen Ariyoshi, Daisuke Ito, Kei Ito, Yasushi Saito

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α 壊変反跳核 ^{229}mTh のガス反応試料からの真空紫外光測定 /

Vacuum ultraviolet photon detection for ^{229}mTh reacted with He/HF mixture gas

Yuki Yasuda, Yoshitaka Kasamatsu, Yudai Shigekawa, Atsushi Shinohara, Koichi Takamiya, Tsutomu Ohtsuki, Toshiaki, Mitsugashira

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京大原子炉におけるメスバウアー分光の現状/

Present Status of Mössbauer Spectroscopy in Kyoto University Reactor

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重い電子化合物 $\text{SmT}_2\text{Al}_{20}$ (T: 遷移金属) における Sm 価数と磁性/

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Investigated by ^{149}Sm Synchrotron-Radiation-Based Mössbauer Spectroscopy

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双安定性を示す Hofmann-like 高分子錯体/

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Study of the Linkage Isomerization and Its Influence on the Charge Transfer Phase Transition for Iron Mixed-Valence Complexes by Means of Mössbauer Spectroscopy

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スピネル型化合物中 Cd-111 の核スピン緩和

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量子ビーム実験と構造モデリングによるリン酸塩ガラスのネットワーク構造解析/

Network structure for anomalous thermal expansion coefficients in binary zinc phosphate glass

Yohei Onodera

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各種固液界面分析手法による金属基板への実用添加剤の吸着構造解析 一水中におけるカルボン酸ナトリウムの吸着構造およびナノトライボロジー特性 /

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