

【2020年】

- 1 Ryoichi Kajimoto, Mitsutaka Nakamura, Kazuki Iida, Kazuya Kamazawa, Kazuhiko Ikeuchi, Yasuhiro Inamura, Motoyuki Ishikado
Energy resolution and neutron flux of the 4SEASONS spectrometer revisited
Journal of Neutron Research, **22**, 99, (2020).
<https://doi.org/10.3233/JNR-190146>
MLF : BL01
- 2 K. Iida, H. K. Yoshida, A. Nakao, H. O. Jeschke, Y. Iqbal, K. Nakajima, S. Ohira-Kawamura, K. Munakata, Y. Inamura, N. Murai, M. Ishikado, R. Kumai, T. Okada, M. Oda, K. Kakurai, M. Matsuda
q=0 long-range magnetic order in centennialite CaCu₃(OD)₆Cl₂·0.6D₂O: A spin-1/2 perfect kagome antiferromagnet with J₁-J₂-J_d
Phys. Rev. B, **101**, In press., (2020).
MLF : BL01, BL14, BL18, LabCROSS
他施設 : PF
- 3 K. Iida, H. K. Yoshida, A. Nakao, H. O. Jeschke, Y. Iqbal, K. Nakajima, S. Ohira-Kawamura, K. Munakata, Y. Inamura, N. Murai, M. Ishikado, R. Kumai, T. Okada, M. Oda, K. Kakurai, M. Matsuda
Q=0 long-range magnetic order in centennialite CaCu₃(OD)₆Cl₂·0.6 D₂ O: A spin-1/2 perfect kagome antiferromagnet with J₁-J₂-J_d
Physical Review B, **101**, 220408, (2020).
<https://doi.org/10.1103/PhysRevB.101.220408>
MLF : BL01, BL14, BL18, LabCROSS
他施設 : PF
- 4 Rintaro Inoue, Takashi Oda, Hiroshi Nakagawa, Taiki Tominaga, Tomohide Saio, Yukinobu Kawakita, Masahiro Shimizu, Aya Okuda, Ken Morishima, Nobuhiro Sato, Reiko Urade, Mamoru Sato, Masaaki Sugiyama
Dynamics of proteins with different molecular structures under solution condition
Scientific Reports, **10**, (2020).
<https://doi.org/10.1038/s41598-020-78311-4>
MLF : BL02

- 5 Zhuo Liu, Chenxing Yang, Lei Zhang, Yuanxi Yu, Minhao Yu, Victoria García Sakai, Madhusudan Tyagi, Takeshi Yamada, Lunhua He, Xiaohua Zhang, Liang Hong
Heterogeneity of Water Molecules on the Free Surface of Thin Reduced Graphene Oxide Sheets
The Journal of Physical Chemistry C, **124**, 11064, (2020).
<https://doi.org/10.1021/acs.jpcc.0c03519>
MLF : BL02

- 6 Miguel A. González, Oleg Borodin, Maiko Kofu, Kaoru Shibata, Takeshi Yamada, Osamu Yamamuro, Kang Xu, David L. Price, Marie-Louise Saboungi
Nanoscale Relaxation in "Water-in-Salt" and "Water-in-Bisalt" Electrolytes
The Journal of Physical Chemistry Letters, **11**, 7279, (2020).
<https://doi.org/10.1021/acs.jpcllett.0c01765>
MLF : BL02

- 7 *Quasi-Elastic Neutron Scattering Studies on Hydration Water in Phospholipid Membranes*
Frontiers in Chemistry, (2020).
<https://doi.org/10.3389/fchem.2020.00008>
MLF : BL02

- 8 *Quasi-elastic neutron scattering study of the effects of metal cations on the hydration water between phospholipid bilayers*
Applied Physics Letters, (2020).
<https://doi.org/10.1063/1.5144012>
MLF : BL02

- 9 Shin-ichi Shamoto, Yukio Yasui, Masato Matsuura, Mitsuhiro Akatsu, Yoshiaki Kobayashi, Yuichi Nemoto, Jun'ichi Ieda
Ultralow-energy magnon anomaly in yttrium iron garnet
Physical Review Research, **2**, (2020).
<https://doi.org/10.1103/physrevresearch.2.033235>
MLF : BL02

- 10 Taro Nakajima, Tatsuro Oda, Masahiro Hino, Hitoshi Endo, Kazuki Ohishi, Kazuhisa Kakurai, Akiko Kikkawa, Yasujiro Taguchi, Yoshinori Tokura, Taka-hisa Arima
Crystallization of magnetic skyrmions in MnSi investigated by neutron spin echo spectroscopy
PHYSICAL REVIEW RESEARCH, **2**, (2020).
<https://doi.org/10.1103/PhysRevResearch.2.043393>
MLF : BL06

- 11 Kazuhiro Mori, Atsushi Mineshige, Takashi Saito, Maiko Sugiura, Yoshihisa Ishikawa, Fumika Fujisaki, Kaoru Namba, Takashi Kamiyama, Toshiya Otomo, Takeshi Abe, Toshiharu Fukunaga
Experimental Visualization of Interstitialcy Diffusion Pathways in Fast-Fluoride-Ion-Conducting Solid Electrolyte
Ba_{0.6}La_{0.4}F_{2.4}
ACS Applied Energy Materials, **3**, 2873, (2020).
<https://doi.org/10.1021/acsaem.9b02494>
MLF : BL09

- 12 Peng Wu, Fengren Fan, Masato Hagihara, Maiko Kofu, Kunling Peng, Yoshihisa Ishikawa, Sanghyun Lee, Takashi Honda, Masao Yonemura, Kazutaka Ikeda, Toshiya Otomo, Guoyu Wang, Kenji Nakajima, Zhe Sun, Takashi Kamiyama
Strong lattice anharmonicity exhibited by the high-energy optical phonons in thermoelectric material
New Journal of Physics, (2020).
<https://doi.org/10.1088/1367-2630/aba98f>
MLF : BL09, BL14, BL21

- 13 Hiroyuki Saitoh, Akihiko Machida, Riko Iizuka-Oku, Takanori Hattori, Asami Sano-Furukawa, Ken-ichi Funakoshi, Toyoto Sato, Shin-ichi Orimo, Katsutoshi Aoki
Crystal and Magnetic Structures of Double Hexagonal Close-Packed Iron Deuteride
SCIENTIFIC REPORTS, **10**, (2020).
<https://doi.org/10.1038/s41598-020-66669-4>
MLF : BL11

- 14 S. Klotz, K. Komatsu, A. Polian, S. Machida, A. Sano-Furukawa, J. P. Itié, T. Hattori
Crystal structure and magnetism of MnO under pressure
Physical Review B, **101**, (2020).
<https://doi.org/10.1103/PhysRevB.101.064105>
MLF : BL11
- 15 Kazuki Komatsu, Stefan Klotz, Satoshi Nakano, Shinichi Machida, Takanori Hattori, Asami Sano-Furukawa, Keishiro Yamashita, Tetsuo Irifune
Developments of nano-polycrystalline diamond anvil cells for neutron diffraction experiments
High Pressure Research, (2020).
<https://doi.org/10.1080/08957959.2020.1727465>
MLF : BL11
- 16 Kazuki Komatsu, Shinichi Machida, Fumiya Noritake, Takanori Hattori, Asami Sano-Furukawa, Ryo Yamane, Keishiro Yamashita, Hiroyuki Kagi
Ice I_c without stacking disorder by evacuating hydrogen from hydrogen hydrate
Nature Communications, **11**, (2020).
<https://doi.org/10.1038/s41467-020-14346-5>
MLF : BL11
- 17 Hiroyuki Saitoh, Akihiko Machida, Takanori Hattori, Asami Sano-Furukawa, Ken-ichi Funakoshi, Toyoto Sato, Shin-ichi Orimo, Katsutoshi Aoki
Neutron diffraction study on the deuterium composition of nickel deuteride at high temperatures and high pressures
PHYSICA B-CONDENSED MATTER, **587**, 412153-(1), (2020).
<https://doi.org/10.1016/j.physb.2020.412153>
MLF : BL11
- 18 T. Hattori, A. Sano-Furukawa, S. Machida, K. Ohuchi, H. Kira, J. Abe, K. Funakoshi
Practical effects of pressure-transmitting media on neutron diffraction experiments using Paris–Edinburgh presses

High Pressure Research, 325, (2020).

<https://doi.org/10.1080/08957959.2020.1782899>

MLF : BL11

- 19 Satoru Urakawa, Toru Inoue, Takanori Hattori, Asami Sano-Furukawa, Shinji Kohara, Daisuke Wakabayashi, Tomoko Sato, Nobumasa Funamori, Ken Ichi Funakoshi

X-ray and neutron study on the structure of hydrous SiO₂ glass up to 10 Gpa

Minerals, **10**, (2020).

<https://doi.org/10.3390/min10010084>

MLF : BL11

- 20 Kazuki Iida, Maiko Kofu, Katsuhiro Suzuki, Naoki Murai, Seiko Ohira-Kawamura, Ryoichi Kajimoto, Yasuhiro Inamura, Motoyuki Ishikado, Shunsuke Hasegawa, Takatsugu Masuda, Yoshiyuki Yoshida, Kazuhisa Kakurai, Kazushige Machida, Seunghun Lee

Horizontal Line Nodes in Sr₂RuO₄ Proved by Spin Resonance

JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN, **89**, 53702, (2020).

<https://doi.org/10.7566/JPSJ.89.053702>

MLF : BL14

- 21 Tomokazu Yoshimura, Nara-Karyn Kawano, Shiho Yada, Hiroki Iwase
Adsorption and Aggregation Properties of Gemini-Type Amphiphilic Dendrimers.

Langmuir : the ACS journal of surfaces and colloids, **36**, 563, (2020).

<https://doi.org/10.1021/acs.langmuir.9b02506>

MLF : BL15

- 22 Tomoki Nishimura, Liliana de Campo, Hiroki Iwase, Kazunari Akiyoshi
Determining the Hydration in the Hydrophobic Layer of Permeable Polymer Vesicles by Neutron Scattering

Macromolecules, (2020).

<https://doi.org/10.1021/acs.macromol.0c01261>

MLF : BL15

- 23 Y. Araki, T. Sato, Y. Fujima, N. Abe, M. Tokunaga, S. Kimura, D. Morikawa, V. Ukleev, Y. Yamasaki, C. Tabata, H. Nakao, Y. Murakami, H. Sagayama, K. Ohishi, Y. Tokunaga, T. Arima
Metamagnetic transitions and magnetoelectric responses in the chiral polar helimagnet Ni₂InSbO₆
Physical Review B, **102**, (2020).
<https://doi.org/10.1103/physrevb.102.054409>
MLF : BL15
- 24 Masahiro Kawano, Koichiro Sadakane, Hiroki Iwase, Masaru Matsugami, Bogdan A Marekha, Abdenacer Idrissi, Toshiyuki Takamuku
Mixing states of imidazolium-based ionic liquid, [C₄mim][TFSI], with cycloethers studied by SANS, IR, and NMR experiments and MD simulations.
Physical chemistry chemical physics : PCCP, **22**, 5332, (2020).
<https://doi.org/10.1039/c9cp05258e>
MLF : BL15
- 25 Caidric Indaya Gupit, Xiang Li, Ryosuke Maekawa, Naoki Hasegawa, Hiroki Iwase, Shinichi Takata, Mitsuhiro Shibayama
Nanostructures and Viscosities of Nafion Dispersions in Water/Ethanol from Dilute to Concentrated Regimes
Macromolecules, **53**, 1464, (2020).
<https://doi.org/10.1021/acs.macromol.9b02314>
MLF : BL15
- 26 Masashi Ohira, Yui Tsuji, Nobuyuki Watanabe, Ken Morishima, Elliot P. Gilbert, Xiang Li, Mitsuhiro Shibayama
Quantitative Structure Analysis of a Near-Ideal Polymer Network with Deuterium Label by Small-Angle Neutron Scattering
Macromolecules, **53**, 4047, (2020).
<https://doi.org/10.1021/acs.macromol.9b02695>
MLF : BL15
- 27 Kengo Arai, Yoshiki Horikawa, Toshiyuki Shikata, Hiroki Iwase
Reconsideration of the conformation of methyl cellulose and hydroxypropyl methyl cellulose ethers in aqueous solution

RSC Advances, **10**, 19059, (2020).

<https://doi.org/10.1039/d0ra03437a>

MLF : BL15

- 28 Satoshi Kajiyama, Hiroki Iwase, Masanari Nakayama, Rino Ichikawa, Daisuke Yamaguchi, Hideki Seto, Takashi Kato

Shear-induced liquid-crystalline phase transition behaviour of colloidal solutions of hydroxyapatite nanorod composites.

Nanoscale, **12**, 11468, (2020).

<https://doi.org/10.1039/c9nr10996j>

MLF : BL15

- 29 Tadashi Sugahara, Masaaki Akamatsu, Hiroki Iwase, Yuichiro Takamatsu, Kenichi Sakai, Hideki Sakai

Structural Change of an α -Gel (α -Form Hydrated Crystal) Induced by Temperature and Shear Flow in an Oleic Acid Based Gemini Surfactant System.

Langmuir : the ACS journal of surfaces and colloids, **36**, 4695, (2020).

<https://doi.org/10.1021/acs.langmuir.0c00507>

MLF : BL15

- 30 Keisuke Shiino, Toshiya Otomo, Takeshi Yamada, Hiroshi Arima, Kosuke Hiroi, Shinichi Takata, Junpei Miyake, Kenji Miyatake

Structural Investigation of Sulfonated Polyphenylene Ionomers for the Design of Better Performing Proton-Conductive Membranes

ACS Applied Polymer Materials, **2**, 5558, (2020).

<https://doi.org/10.1021/acsapm.0c00895>

MLF : BL15

- 31 Taro Kimura, Teppei Kawamoto, Makoto Aoki, Takako Mizusawa, Norifumi L. Yamada, Kenji Miyatake, Junji Inukai

Sublayered Thin Films of Hydrated Anion Exchange Ionomer for Fuel Cells Formed on SiO₂ and Pt Substrates Analyzed by Neutron Reflectometry under Controlled Temperature and Humidity Conditions
Langmuir, **36**, 4955, (2020).

<https://doi.org/10.1021/acs.langmuir.0c00440>

MLF : BL16

- 32 Tsukasa Miyazaki, Keisuke Shimokita, Katsuhiko Yamamoto, Hiroyuki Aoki, Norifumi L. Yamada, Noboru Miyata
Neutron Reflectivity on the Mobile Surface and Immobile Interfacial Layers in the Poly(vinyl acetate) Adsorption Layer on a Si Substrate with Deuterated Toluene Vapor-Induced Swelling
Langmuir, **36**, 15181, (2020).
<https://doi.org/10.1021/acs.langmuir.0c03025>

MLF : BL16,BL17

- 33 Yoshifumi Sakaguchi, Takayasu Hanashima, Al Amin Ahmed Simon, Maria Mitkova
Excitation Light Energy Dependence of Silver Photodiffusion into Amorphous Germanium Sulfide: Neutron and X-Ray Reflectivity and X-Ray Diffraction
Physica Status Solidi (B) Basic Research, **257**, (2020).
<https://doi.org/10.1002/pssb.202000178>

MLF : BL17

他施設 : AIST (XRR, XRD)

- 34 Tsukasa Miyazaki, Noboru Miyata, Tessei Yoshida, Hiroshi Arima, Yoshihiro Tsumura, Naoya Torikai, Hiroyuki Aoki, Katsuhiko Yamamoto, Toshiji Kanaya, Daisuke Kawaguchi, Keiji Tanaka
Detailed Structural Study on the Poly(vinyl alcohol) Adsorption Layers on a Si Substrate with Solvent Vapor-Induced Swelling
Langmuir : the ACS journal of surfaces and colloids, **36**, 3415, (2020).
<https://doi.org/10.1021/acs.langmuir.9b03964>

MLF : BL17

- 35 Hiroshi Arima-Osonoi, Noboru Miyata, Tessei Yoshida, Satoshi Kasai, Keiichi Ohuchi, Shuoyuan Zhang, Tsukasa Miyazaki, Hiroyuki Aoki
Gas-flow humidity control system for neutron reflectivity measurements
Review of Scientific Instruments, **91**, 104103, (2020).
<https://doi.org/10.1063/5.0021128>

MLF : BL17

- 36 Atsushi Izumi, Yasuyuki Shudo, Mitsuhiro Shibayama, Tessei Yoshida, Noboru Miyata, Tsukasa Miyazaki, Hiroyuki Aoki
Interfacial Cross-Link Inhomogeneity of a Phenolic Resin on a Silica Surface As Revealed by X-ray and Neutron Reflection Measurements
Macromolecules, **53**, 4082, (2020).
<https://doi.org/10.1021/acs.macromol.0c00398>
MLF : BL17
- 37 Yoshifumi Sakaguchi, Takayasu Hanashima, Al Amin Ahmed Simon, Maria Mitkova
Silver photodiffusion into amorphous Ge chalcogenides
EPJ Applied Physics, **90**, (2020).
<https://doi.org/10.1051/epjap/2020190368>
MLF : BL17
- 38 Kazuhiro Akutsu-Suyama, Hiroshi Kira, Noboru Miyata, Takayasu Hanashima, Tsukasa Miyazaki, Satoshi Kasai, Dai Yamazaki, Kazuhiko Soyama, Hiroyuki Aoki
Fine-Structure Analysis of Perhydropolysilazane-Derived Nano Layers in Deep-Buried Condition Using Polarized Neutron Reflectometry
Polymers, **12**, 2180, (2020).
<https://doi.org/10.3390/polym12102180>
MLF : BL17, LabCROSS
- 39 Mai Komabuchi, Daisuke Urushihara, Toru Asaka, Koichiro Fukuda, Takashi Ohhara, Koji Munakata, Yoshihisa Ishikawa
Crystal Structure and Cation Distribution of the X-type Hexaferrite Sr₂Co₂Fe₂₈O₄₆
JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN, **89**, 034601, (2020).
<https://doi.org/10.7566/JPSJ.89.034601>
MLF : BL18
- 40 H. Masuda, H. Sakai, H. Takahashi, Y. Yamasaki, A. Nakao, T. Moyoshi, H. Nakao, Y. Murakami, T. Arima, S. Ishiwata
Field-induced spin reorientation in the antiferromagnetic Dirac material EuMnBi₂ revealed by neutron and resonant x-ray diffraction

Physical Review B, **101**, 174411, (2020).

<https://doi.org/10.1103/physrevb.101.174411>

MLF : BL18

- 41 Shigenori Utsumi, Seiya Tanaka, Kenichi Maruyama, Nao Hatakeyama, Kenichi Itoh, Jun Koike, Akihiro Horikawa, Hiroki Iriyama, Hajime Kanamaru, Yasushi Amako, Taku Iiyama, Ryusuke Futamura, Ryoji Kiyonagi, Akiko Nakao, Kentaro Moriyama, Yoshihisa Ishikawa,

Flux Growth and Magnetic Properties of Helimagnetic Hexagonal Ferrite

Ba(Fe_{1-x}Sc_x)₁₂O₁₉ Single Crystals

ACS Omega, **5**, 24890, (2020).

<https://doi.org/10.1021/acsomega.0c03671>

MLF : BL18

- 42 Shinichiro Asai, Takuma Oyama, Kazuhiro Nawa, Akiko Nakao, Koji Munakata, Keitaro Kuwahara, Masato Hagihala, Shinichi Itoh, Zenji Hiroi, Takatsugu Masuda

Helical and collinear spin density wave order in the S=1/2 one-dimensional

frustrated chain compound NaCuMoO₄(OH) investigated by neutron scattering

PHYSICAL REVIEW B, **101**, (2020).

<https://doi.org/10.1103/PhysRevB.101.144437>

MLF : BL18

- 43 Tatsuki Sato, Yusuke Araki, Atsushi Miyake, Akiko Nakao, Nobuyuki Abe, Masashi Tokunaga, Shojiro Kimura, Yusuke Tokunaga, Taka Hisa Arima
- Magnetic phase diagram enriched by chemical substitution in a noncentrosymmetric helimagnet*

Physical Review B, **101**, 054414, (2020).

<https://doi.org/10.1103/PhysRevB.101.054414>

MLF : BL18

- 44 Kenshirou Iba, Takeshi Matsumura, Akiko Nakao, Yoshihisa Ishikawa, Kazuki Ohishi, Ryoji Kiyonagi, Yusuke Kousaka, Shigeo Ohara

Magnetic Structure of a Chiral Magnet DyNi₃Al₉

JPS Conf. Proc., **30**, 011164-1, (2020).

<https://doi.org/10.7566/jpscp.30.011164>

MLF : BL18

- 45 N. Abe, S. Shiozawa, K. Matsuura, H. Sagayama, A. Nakao, T. Ohhara, Y. Tokunaga, T. Arima

Magnetically induced electric polarization in Ba₃Fe₂O₅Cl₂ with tunable direction in three dimensions

Physical Review B, **101**, 180407, (2020).

<https://doi.org/10.1103/PhysRevB.101.180407>

MLF : BL18

- 46 Shugo Ikeda, Koji Kaneko, Yuki Tanaka, Takuro Kawasaki, Takayasu Hanashima, Koji Munakata, Akiko Nakao, Ryoji Kiyonagi, Takashi Ohhara, Kenji Mochizuki, Akihiro Kondo, Koichi Kindo, Yoshiya Homma, Matthias D. Frontzek, Hisao Kobayashi

Multi-Step Magnetic Transitions in EuNiIn₄

JOURNAL OF THE PHYSICAL SOCIETY OF JAPAN, **89**, 014707, (2020).

<https://doi.org/10.7566/JPSJ.89.014707>

MLF : BL18

- 47 Naoki Nakamura, Ryuji Higashinaka, Kengo Fushiya, Ryo Tsubota, Takashi U. Ito, Wataru Higemoto, Akiko Nakao, Ryoji Kiyonagi, Takashi Ohhara, Koji Kaneko, Tatsuma D. Matsuda, Yuji Aoki

μ SR and Neutron Scattering Studied on Possible Partially-Disordered Magnetic State Coexisting with Heavy Quasiparticles in SmPt₂Si₂

JPS Conf. Proc., **29**, 012009, (2020).

<https://doi.org/10.7566/jpscp.29.012009>

MLF : BL18

- 48 Seiya Nakazato, Kazuaki Iwasa, Daisuke Hashimoto, Mami Shiozawa, Keitaro Kuwahara, Hironori Nakao, Hajime Sagayama, Motoyuki Ishikado, Takashi Ohhara, Akiko Nakao, Koji Munakata, Ryoji Kiyonagi

Successive Phase Transitions in R₃Ir₄Sn₁₃ (R: La and Ce) Investigated Using Neutron and X-ray Diffraction

Proceedings of the International Conference on Strongly Correlated Electron Systems (SCES2019), (2020).

<https://doi.org/10.7566/jpscp.30.011128>

MLF : BL18, LabCROSS

- 49 V. Sonnenschein, Y. Tsuji, S. Kokuryu, W. Kubo, S. Suzuki, H. Tomita, Y. Kiyanagi, T. Iguchi, T. Matsushita, N. Wada, M. Kitaguchi, H. M. Shimizu, K. Hirota, T. Shinohara, K. Hiroi, H. Hayashida, W. Guo, D. Ito, Y. Saito
An experimental setup for creating and imaging $^4\text{He}^{2}$ excimer cluster tracers in superfluid helium-4 via neutron- ^3He absorption reaction*
Review of Scientific Instruments, **91**, (2020).
<https://doi.org/10.1063/1.5130919>

MLF : BL22

- 50 Y. Matsumoto, K. Watanabe, K. Ohmae, A. Uritani, Y. Kiyanagi, H. Sato, M. Ohnuma, A. H. Pham, S. Morito, T. Ohba, K. Oikawa, T. Shinohara, T. Kai, S. Harjo, M. Ito
Comparative study of ancient and modern Japanese swords using neutron tomography
Materials Research Proceedings, **15**, 221, (2020).
<https://doi.org/10.21741/9781644900574-34>

MLF : BL22

- 51 H. Sato, Y. Kiyanagi, K. Oikawa, K. Ohmae, A. H. Pham, K. Watanabe, Y. Matsumoto, T. Shinohara, T. Kai, S. Harjo, M. Ohnuma, S. Morito, T. Ohba, A. Uritani, M. Itoh
Crystallographic microstructure study of a Japanese sword made by Noritsuna in the Muromachi period by pulsed neutron Bragg-edge transmission imaging
Materials Research Proceedings, **15**, 214, (2020).
<https://doi.org/10.21741/9781644900574-33>

MLF : BL22

- 52 K. Ohmae, Y. Kiyanagi, H. Sato, K. Oikawa, A. H. Pham, K. Watanabe, Y. Matsumoto, T. Shinohara, T. Kai, S. Harjo, M. Ohnuma, S. Morito, T. Ohba, A. Uritani, M. Ito
Crystallographic structure study of a Japanese sword Masamitsu made in the 1969 using pulsed neutron imaging
Materials Research Proceedings, **15**, 227, (2020).

<https://doi.org/10.21741/9781644900574-35>

MLF : BL22

- 53 Eita Shoji, Shosei Isogai, Rikuto Suzuki, Masaki Kubo, Takao Tsukada, Tetsuya Kai, Takenao Shinohara, Yoshihiro Matsumoto, Hiroyuki Fukuyama
Neutron computed tomography of phase separation structures in solidified CuCo alloys and investigation of relationship between the structures and melt convection during solidification

Scripta Materialia, **175**, 29, (2020).

<https://doi.org/10.1016/j.scriptamat.2019.08.041>

MLF : BL22

- 54 Y. Oba, D. Ito, Y. Saito, Y. Onodera, J. D. Parker, T. Shinohara, K. Oikawa
Neutron Transmission Spectrum of Liquid Lead Bismuth Eutectic
Materials Research Proceedings, **15**, 159, (2020).

MLF : BL22

- 55 K. Oikawa, Y. Kiyonagi, H. Sato, K. Ohmae, A. H. Pham, K. Watanabe, Y. Matsumoto, T. Shinohara, T. Kai, S. Harjo, M. Ohnuma, S. Morito, T. Ohba, A. Uritani, M. Ito

Pulsed neutron imaging based crystallographic structure study of a Japanese sword made by Sukemasa in the Muromachi period

Materials Research Proceedings, **15**, 207, (2020).

<https://doi.org/10.21741/9781644900574-32>

MLF : BL22

- 56 Takenao Shinohara, Tetsuya Kai, Kenichi Oikawa, Takeshi Nakatani, Mariko Segawa, Kosuke Hiroi, Yuhua Su, Motoki Ooi, Masahide Harada, Hiroshi Iikura, Hirotohi Hayashida, Joseph D Parker, Yoshihiro Matsumoto, Takashi Kamiyama, Hirotaka Sato, Yoshiaki Kiya

The energy-resolved neutron imaging system, RADEN.

The Review of scientific instruments, **91**, 043302, (2020).

<https://doi.org/10.1063/1.5136034>

MLF : BL22

- 57 Jun Sugiyama, Izumi Umegaki, Soshi Takeshita, Hiroya Sakurai, Shoichiro

Nishimura, Ola Kenji Forslund, Elisabetta Nocerino, Nami Matsubara, Martin Månsson, Takehito Nakano, Ichihiko Yamauchi, Kazuhiko Ninomiya, M. Kenya Kubo, Koichiro Shimomura

Nuclear magnetic field in Na_{0.7}CoO₂ detected with μ -SR

Physical Review B, **102**, 144431-1, (2020).

<https://doi.org/10.1103/physrevb.102.144431>

MLF : D1, LabCROSS

58 Izumi Umegaki, Yuki Higuchi, Yasuhito Kondo, Kazuhiko Ninomiya, Soshi Takeshita, Motonobu Tampo, Hiroyuki Nakano, Hideaki Oka, Jun Sugiyama, Michael K. Kubo, Yasuhiro Miyake

Nondestructive High-Sensitivity Detections of Metallic Lithium Deposited on a Battery Anode Using Muonic X-rays

Analytical Chemistry, **92**, 8194, (2020).

<https://doi.org/10.1021/acs.analchem.0c00370>

MLF : D2

59 Hiroki Yamauchi, Dita Puspita Sari, Isao Watanabe, Yukio Yasui, Lieh-Jeng Chang, Keietsu Kondo, Takashi U. Ito, Motoyuki Ishikado, Masato Hagihara, Matthias D. Frontzek, Songxue Chi, Jaime A. Fernandez-Baca, James S. Lord, Adam Berlie, Atsuhiko Kotani, Sh

High-temperature short-range order in Mn₃RhSi

Communications Materials, **1**, (2020).

<https://doi.org/10.1038/s43246-020-0042-1>

MLF : LabCROSS

他施設 : HFIR (ORNL) , ISIS

60 Nami Matsubara, Titus Masese, Emmanuelle Suard, Ola Kenji Forslund, Elisabetta Nocerino, Rasmus Palm, Zurab Guguchia, Daniel Andreica, Alexandra Hardut, Motoyuki Ishikado, Konstantinos Papadopoulos, Yasmine Sassa, Martin Månsson

Cation Distributions and Magnetic Properties of Ferrispinel MgFeMnO₄

Inorganic Chemistry, **59**, 17970, (2020).

<https://doi.org/10.1021/acs.inorgchem.0c02241>

MLF : LabCROSS

- 61 Takashi Uchino, Nanami Teramachi, Ryosuke Matsuzaki, Emi Tsushima, Shusuke Fujii, Yusuke Seto, Kazuyuki Takahashi, Takao Mori, Yutaka Adachi, Yukihiro Nagashima, Yoshifumi Sakaguchi, Kazuki Ohishi, Akihiro Koda, Takahiro Sakurai, Hitoshi Ohta
Proximity coupling of superconducting nanograins with fractal distributions
Physical Review B, **101**, (2020).
<https://doi.org/10.1103/PhysRevB.101.035146>
MLF : S1
他施設 : ANSTO, NSRRC(Taiwan)
- 62 T. Okudaira, T. Oku, T. Ino, H. Hayashida, H. Kira, K. Sakai, K. Hiroi, S. Takahashi, K. Aizawa, H. Endo, S. Endo, M. Hino, K. Hirota, T. Honda, K. Ikeda, K. Kakurai, W. Kambara, M. Kitaguchi, T. Oda, H. Ohshita, T. Otomo, H.M. Shimizu, T. Shinohara, J. S
Development and application of a ^3He Neutron Spin Filter at J-PARC
Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, **977**, 164301, (2020).
<https://doi.org/10.1016/j.nima.2020.164301>
MLF : 共通技術, BL04, BL06, BL10, BL15, BL17, BL21
- 63 Daitaro KITAHARA, Hiroshi ARIMA, Toru KAWAMATA, Kazumasa SUGIYAMA, Takashi MIKOUCHI
The location of Mn and Fe in axinite-(Fe) from Nandan, China determined by anomalous X-ray scattering (AXS)
Journal of Mineralogical and Petrological Sciences, **115**, 227, (2020).
<https://doi.org/10.2465/jmps.190110>
他施設 : KEK 物構研 PF
- 64 N. Katayama, H. Takeda, T. Yamaguchi, Y. Yamada, K. Iida, M. Takigawa, Y. Ohta, H. Sawa
Robust atomic orbital in the cluster magnet LiMoO_2
Phys. Rev. B, **102**, 081106(R), (2020).
<https://doi.org/10.1103/PhysRevB.102.081106>
他施設 : あいちシンクロトロン

- 65 Yoshifumi Sakaguchi, Kozaburo Tamura
Photo-induced effects on amorphous and liquid selenium by pulsed laser illumination: Photo-induced structural changes in a network of selenium chains
Zeitschrift fur Physikalische Chemie, (2020).
<https://doi.org/10.1515/zpch-2020-1650>
他施設：京都大学 (Nd: YAG Laser)
- 66 Hiromasa Uchiyama, Mayu Dowaki, Kazunori Kadota, Hiroshi Arima, Kazumasa Sugiyama, Yuichi Tozuka
Single-stranded β -1,3-1,6-glucan as a carrier for improved dissolution and membrane permeation of poorly water-soluble compounds
Carbohydrate Polymers, **247**, 116698, (2020).
<https://doi.org/10.1016/j.carbpol.2020.116698>
他施設：東北大学金属材料研究所
- 67 Xin Huang, Shintaro Nakagawa, Xiang Li, Mitsuhiro Shibayama, Naoko Yoshie
A Simple and Versatile Method for the Construction of Nearly Ideal Polymer Networks
Angewandte Chemie, (2020).
<https://doi.org/10.1002/ange.202001271>
- 68 Tsuyoshi TAKAMI, Yoshihisa ISHIKAWA, Masao YONEMURA, Toshiharu FUKUNAGA, Eiichiro MATSUBARA, Takeshi ABE
Crystal structure, ionic conductivity and lithium-ion diffusion pathway in a La-Li-Co-O system
Journal of the Ceramic Society of Japan, **128**, 453, (2020).
<https://doi.org/10.2109/jcersj2.19233>
- 69 M Abe, T Tanimori, A Takada, Y Mizumura, S Komura, T Kishimoto, T Takemura, K Yoshikawa, Y Nakamura, Y Nakamasu, T Taniguchi, K Onozaka, K Saito, T Mizumoto, S Sonoda, J D Parker, K Miuchi, T Sawano
Development of a μ -PIC with glass substrate aiming at high gas gain
Journal of Physics: Conference Series, **1498**, 012002, (2020).
<https://doi.org/10.1088/1742-6596/1498/1/012002>

- 70 Yuta Abe, Yusuke Tsuchikawa, Tetsuya Kai, Yoshihiro Matsumoto, Joseph D. Parker, Takenao Shinohara, Yuji Ohishi, Takashi Kamiyama, Yuji Nagae, Ikken Sato
Development of Three-Dimensional Distribution Visualization Technology for Boron Using Energy Resolved Neutron-Imaging System (RADEN)
Volume 2: Nuclear Policy; Nuclear Safety, Security, and Cyber Security; Operating Plant Experience; Probabilistic Risk Assessments; SMR and Advanced Reactors, (2020).
<https://doi.org/10.1115/icon2020-16723>
- 71 Al Amin Ahmed Simon, Lyle Jones, Yoshifumi Sakaguchi, Henri Kunold, Isabella van Rooyen, Maria Mitkova
Effect of Ion Irradiation on Amorphous and Crystalline Ge–Se and Their Application as Phase Change Temperature Sensor
Physica Status Solidi (B) Basic Research, (2020).
<https://doi.org/10.1002/pssb.202000429>
- 72 Masato Matsuura, Takahiko Sasaki, Satoshi Iguchi, Elena Gati, Jens Müller, Oliver Stockert, Andrea Piovano, Martin Böhm, Jitae T. Park, Sananda Biswas, Stephen M. Winter, Roser Valentí, Akiko Nakao, Michael Lang
Erratum: Lattice Dynamics Coupled to Charge and Spin Degrees of Freedom in the Molecular Dimer-Mott Insulator $\kappa - F_2Cu [N (CN)_2] Cl$ (Physical Review Letters (2019) 123 (027601) DOI: 10.1103/PhysRevLett.123.027601)
Physical Review Letters, **125**, 239901, (2020).
<https://doi.org/10.1103/PhysRevLett.125.239901>
- 73 Ola Kenji Forslund, Konstantinos Papadopoulos, Elisabetta Nocerino, Gerald Morris, Bassam Hitti, Donald Arseneau, Vladimir Pomjakushin, Nami Matsubara, Jean-Christophe Orain, Peter Svedlindh, Daniel Andreica, Somnath Jana, Jun Sugiyama, Martin Månsson, Ya
Intertwined magnetic sublattices in the double perovskite compound $LaSrNiReO_6$
Physical Review B, **102**, 144409-1, (2020).
<https://doi.org/10.1103/physrevb.102.144409>
- 74 John O. Ticknor, Izumi Umegaki, Ryan M. L. McFadden, Aris Chatzichristos,

Derek Fujimoto, Victoria L. Karner, Robert F. Kiefl, Shintaro Kobayashi, C. D. Philip Levy, Ruohong Li, Gerald D. Morris, Matthew R. Pearson, Kazuyoshi Yoshimura, Jun Sugiyama, W. A
Investigation of ionic and anomalous magnetic behavior in CrSe₂ using ⁸Li β -NMR
RSC Advances, **10**, 8190, (2020).

75 Tsukasa Miyazaki, Takeshi Yamada
Invitation to soft matter neutron scattering studies - Hierarchical structures of water domains in materials related to their functions
Journal of Fiber Science and Technology, **76**, P180, (2020).
<https://doi.org/10.2115/FIBER.76.P-180>

76 Jun Sugiyama, Ola Kenji Forslund, Elisabetta Nocerino, Nami Matsubara, Konstantinos Papadopoulos, Yasmine Sassa, Stephen P. Cottrell, Adrian D. Hillier, Katsuhiko Ishida, Martin Månsson, Jess H. Brewer
Lithium diffusion in LiMnPO₄ detected with $\mu\pm$ SR
Physical Review Research, **2**, 033161-1, (2020).
<https://doi.org/10.1103/physrevresearch.2.033161>

77 Jun Sugiyama, Daniel Andreica, Ola Kenji Forslund, Elisabetta Nocerino, Nami Matsubara, Yasmine Sassa, Zurab Guguchia, Rustem Khasanov, Francis L. Pratt, Hiroyuki Nakamura, and Martin Månsson
Magnetic phase boundary of BaVS₃ clarified with high-pressure μ +SR
Physical Review B, **101**, 174403-1, (2020).

78 Nami Matsubara, Elisabetta Nocerino, Ola Kenji Forslund, Anton Zubayer, Konstantinos Papadopoulos, Daniel Andreica, Jun Sugiyama, Rasmus Palm, Zurab Guguchia, Stephen P. Cottrell, Takashi Kamiyama, Takashi Saito, Alexei Kalaboukhov, Yasmine Sassa, Titus M
Magnetism and ion diffusion in honeycomb layered oxide K₂Ni₂TeO₆
Scientific Reports, **10**, 18305-1, (2020).
<https://doi.org/10.1038/s41598-020-75251-x>

79 Takuma Kureha, Kyohei Hayashi, Xiang Li, Mitsuhiro Shibayama
Mechanical properties of temperature-responsive gels containing ethylene

glycol in their side chains
Soft Matter, **16**, 10946, (2020).
<https://doi.org/10.1039/d0sm01436b>

- 80 Takashi Hiroi, Kazu Hirosawa, Yuya Okazumi, Sai Venkatesh Pingali, Mitsuhiro Shibayama
Mechanism of heat-induced gelation for ovalbumin under acidic conditions and the effect of peptides
Polymer Journal, **52**, 1263, (2020).
<https://doi.org/10.1038/s41428-020-0382-1>
- 81 N. Matsubara, E. Nocerino, K. Kamazawa, O. K. Forslund, Y. Sassa, L. Keller, V. V. Sikolenko, V. Pomjakushin, H. Sakurai, J. Sugiyama, M. Månsson
Neutron powder diffraction study of NaMn₂O₄ and Li_{0.92}Mn₂O₄: Insights on spin-charge-orbital ordering
Physical Review Research, **2**, 043143-1, (2020).
<https://doi.org/10.1103/physrevresearch.2.043143>
- 82 Al Amin Ahmed Simon, Bahareh Badamchi, Harish Subbaraman, Yoshifumi Sakaguchi, Maria Mitkova
Phase change in Ge–Se chalcogenide glasses and its implications on optical temperature-sensing devices
Journal of Materials Science: Materials in Electronics, **31**, 11211, (2020).
<https://doi.org/10.1007/s10854-020-03669-0>
- 83 K.Moriyama, T.Nakatani
Public Cloud-based Remote Access Infrastructure for Neutron Scattering Experiments at MLF, J-PARC
Proceedings of the 17th International Conference on Accelerator and Large Experimental Physics Control Systems (ICALEPCS2019), (2020).
- 84 Takuma Kureha, Seina Hiroshige, Daisuke Suzuki, Jun Sawada, Daisuke Aoki, Toshikazu Takata, Mitsuhiro Shibayama
Quantification for the Mixing of Polymers on Microspheres in Water-borne Latex Films
Langmuir, **36**, 4855, (2020).

<https://doi.org/10.1021/acs.langmuir.0c00612>

- 85 Ola Kenji Forslund, Hiroto Ohta, Kazuya Kamazawa, Scott L. Stubbs, Oren Ofer, Martin Månsson, Chishiro Michioka, Kazuyoshi Yoshimura, Bassam Hitti, Donald Arseneau, Gerald D. Morris, Eduardo J. Ansaldo, Jess H. Brewer, Jun Sugiyama
Revisiting the A-type antiferromagnet NaNiO₂ with muon spin rotation measurements and density functional theory calculations
Physical Review B, **102**, 184412-1, (2020).
<https://doi.org/10.1103/physrevb.102.184412>
- 86 Zhijian Tan, Ping Miao, Masato Hagihala, Sanghyun Lee, Yoshihisa Ishikawa, Shuki Torii, Masao Yonemura, Takashi Saito, Sihao Deng, Jie Chen, Lunhua He, Rong Du, Junrong Zhang, Haisheng Li, Junliang Sun, Yingxia Wang, Xiaohuan Lin, Kuo Li, Takashi Kamiyama
Room Temperature Zero Thermal Expansion in a Cubic Cobaltite
The Journal of Physical Chemistry Letters, (2020).
<https://doi.org/10.1021/acs.jpcclett.0c01919>
- 87 Yui Tsuji, Shintaro Nakagawa, Caidric Indaya Gupit, Masashi Ohira, Mitsuhiro Shibayama, Xiang Li
Selective Doping of Positive and Negative Spatial Defects into Polymer Gels by Tuning the Pregel Packing Conditions of Star Polymers
Macromolecules, **53**, 7537, (2020).
<https://doi.org/10.1021/acs.macromol.0c01208>
- 88 Tadao Nishiyama, Hibiki Eguchi, Dai Shiosaki, Akira Yoshiasa, Nobutatsu Mochizuki, Yasushi Mori, Kazumasa Sugiyama, Hiroshi Arima, Kunio Yubuta
Spinifex-like textured metaperidotites from the Higo Metamorphic Rocks, Japan, a possible high-pressure dehydration product of antigorite serpentinite
Island Arc, **30**, (2020).
<https://doi.org/10.1111/iar.12382>
- 89 Jian Tang, Takuya Katashima, Xiang Li, Yoshiro Mitsukami, Yuki Yokoyama, Naoyuki Sakumichi, Ung-il Chung, Mitsuhiro Shibayama, Takamasa Sakai
Swelling Behaviors of Hydrogels with Alternating Neutral/Highly Charged

Sequences

Macromolecules, **53**, 8244, (2020).

<https://doi.org/10.1021/acs.macromol.0c01221>

- 90 Etsuo A Susaki, Chika Shimizu, Akihiro Kuno, Kazuki Tainaka, Xiang Li, Kengo Nishi, Ken Morishima, Hiroaki Ono, Koji L Ode, Yuki Saeki, Kazunari Miyamichi, Kaoru Isa, Chihiro Yokoyama, Hiroki Kitaura, Masako Ikemura, Tetsuo Ushiku, Yoshihiro Shimizu, Taka

Versatile whole-organ/body staining and imaging based on electrolyte-gel properties of biological tissues.

Nature communications, **11**, 1982, (2020).

<https://doi.org/10.1038/s41467-020-15906-5>

- 91 澤間 善成, 阿久津 和宏, 佐治木 弘尚

同位体効果

ファルマシア, **56**, 431_1, (2020).

https://doi.org/10.14894/faruawpsj.56.5_431_1