

Publication List

Staff: Photon Factory & Synchrotron Radiation Science Division

- Kim, S.-B., Fujii, R., Miller, S., Tanabe, M.
Molecular Tension Probe for In Vitro Bioassays
Challenges for developing photo-induced Methods Mol. Biol.
2524, 91–103 (2022)
- Fukumoto, K., Koshihara, S.
Observation of photo-excited carrier dynamics in
semiconductors with time, space, and energy resolutions
Oyo Buturi **91**, 426 (2022).
- Ueno, T., Ishibashi, H., Hino, H., Ono, K.
Automated stopping of spectral measurements with active
learning
Proc. of Ann. Conf. of JSAI **2022**, 3Yin208 (2022).
- Hirayama, K., Toda, H., Su, H., Okamura, K., Suzuki, Y.,
Takeuchi, A., Uesugi, M., Shimizu, K.
High-Resolution / High-Energy X-ray Phase-Contrast
Tomography Techniques and their Application to Structural
Metals
SPRING-8/SACLA Research Report **10**, 51 (2022).
- Kimijima, K., Setoyama, H., Takeda, S., Nishio, K.,
Hiroto, T., Watanabe, T., Uehara, Y.
Round-Robin Experiment of Fluorescent X-ray Absorption
Spectroscopy. Study on Detection Limit of Low
Concentration Sample (2)
SPRING-8/SACLA Research Report **10**, 83 (2022).
- Adachi, N.
Operation and recent activities of the cryo-EM facility in
KEK
Seibutsu Butsuri Kagaku. **62**, 67 (2022).
- Kaneko, M., Nozawa, S., Yamashita, K.
Electron-phonon interaction and structural changes in the
electronically excited state of WO₃ photocatalyst
Frontiers in Energy Research. 10:933044 (2022).
- Harada, K., Funamori, N., Yamamoto, N., Shimosaki, Y.,
Shimada, M., Miyajima, T., Umemori, K., Sakai, H.,
Nakamura, N., Sakanaka, S., Kobayashi, Y., Honda, T.,
Nozawa, S., Nakao, H., Niwa, Y., Wakabayashi, D.,
Amemiya, K., Igarashi, N.
Conceptual design of the Hybrid Ring with superconducting
linac
J. Synchrotron Radiat. **29**, 118 (2022).
- Koshihara, S., Ishikawa, T., Okimoto, Y., Onda, K., Fukaya,
R., Hada, M., Hayashi, Y., Ishihara, S., Luty, T.
Challenges for developing photo-induced phase transition
(PIPT) systems: From classical (incoherent) to quantum
(coherent) control of PIPT dynamics
Phys. Rep. **942**, 1 (2022).
- Borisova, E., Nishimura, K., An, Y., Takami, M., Li, J.,
Song, D., Matsuo-Takasaki, M., Luijkx, D., Aizawa, S.,
Kuno, A., Sugihara, E., Sato, T. -A., Yumoto, F., Terada, T.,
Hisatake, K., Hayashi, Y.
Structurally-discovered KLF4 variants accelerate and
stabilize reprogramming to pluripotency
iScience. **25**, 103525 (2022).
- Kawano, Y., Hikita, M., Matsugaki, N., Yamamoto, M.,
Senda, T.
A crystal-processing machine using a deep-ultraviolet laser:
application to long-wavelength native SAD experiments.
Acta Crystallogr
Sect. F Struct. Biol. Cryst. Commun. **78**, 88 (2022).
- Oshita, H., Shimazaki, Y.
 π - π Stacking Interaction of Metal Phenoxyl Radical
Complexes. *Molecules*. **27**, 1135 (2022).
- Mara, M. W., Phelan, B. T., Xie, Z. -L., Kim, T. W.,
Hsu, D. J., Liu, X., Valentine, A. J. S., Kim, P., Li, X.,
Adachi, S., Katayama, T., Mulfort, K. L., Chen, L. X.
Unveiling ultrafast dynamics in bridged bimetallic complexes
using optical and X-ray transient absorption spectroscopies
Chem. Sci. **13**, 1715 (2022).
- Bai, L., Luo, P., Yang, X., Xu, J., Kawaguchi, D., Zhang, C.,
Yamada, N. L., Tanaka, K., Zhang, W., Wang, X.
Enhanced Glass Transition Temperature of Thin Polystyrene
Films Having an Underneath Cross-Linked Layer
ACS Macro Lett. **11**, 210 (2022).
- Teramoto, T., Minemoto, S., Majima, T., Mizuno, T.,
Mun, J. H., Yagishita, A., Decleva, P., Tsuru, S.
Basic studies toward ultrafast soft x-ray photoelectron
diffraction; its application to probing local structure in
iodobenzene molecules
Struct Dyn. **9**, 024303 (2022).
- Takagi, S., Ichianagi, K., Kyono, A., Kawai, N., Nozawa, S.,
Ozaki, N., Seto, Y., Okuchi, T., Nitta, S., Okada, S.,
Miyaniishi, K., Sueda, K., Togashi, T., Yabuuchi, T.
Phase transition and melting in zircon by nanosecond shock
loading. *Phys*
Chem. Miner. **49**, 8 (2022).
- Tamura, J. -I., Tamura, T., Hoshino, S., Imae, R., Kato, R.,
Yokono, M., Nagase, M., Ohno, S., Manabe, N.,
Yamaguchi, Y., Manya, H., Endo, T.
Chemical and Chemo-Enzymatic Syntheses of Glycans
Containing Ribitol Phosphate Scaffolding of Matriglycan
ACS Chem. Biol. **17**, 1513 (2022).
- Minemoto, S., Mun, J.H., Teramoto, T., Yagishita, A.,
Tsuru, S.
Ultrafast X-ray photoelectron diffraction from free molecules:
Simulations of diffraction profiles from transient
intermediates in the elimination reaction of C₂H₄I₂. *J.*
Electron Spectrosc
Relat. Phenom. **258**, 147221 (2022).

Soares, A. S., Yamada, Y., Jakoncic, J., McSweeney, S., Sweet, R. M., Skinner, J., Foadi, J., Fuchs, M. R., Schneider, D. K., Shi, W., Andi, B., Andrews, L. C., Bernstein, H. J.

Serial crystallography with multi-stage merging of thousands of images. *Acta Crystallogr. Sect. F Struct. Biol. Cryst. Commun.* **78**, 281 (2022).

Igarashi, N., Nakao, H., Niwa, Y., Nozawa, S., Amemiya, K. Conceptual design of the Hybrid Ring and unique applications by simultaneous use of two characteristic beams *Journal of JSSRR* **35**, 238 (2022).

Sunaguchi, N., Huang, Z., Taniguchi, K., Shima, D., Yuasa, T., Nishimura, R., Iwakoshi, A., Ando, M., Ichihara, S.

Refraction-contrast CT measurement system based on x-ray dark field imaging for μm -order scale imaging of breast tissue specimens.

In: Bosmans, H., Marshall, N., and Van Ongeval, C. (eds.) 16th International Workshop on Breast Imaging (IWBI2022). SPIE (2022).

Takeya, S., Muromachi, S., Hirano, K., Hyodo, K., Yoneyama, A.

Storage of Methane Hydrate in Liquid

Proc. Ann. Conf. Jpn Inst. of Energy. **31**, 26 (2022).

Hanada, T., Motoyama, Y., Yoshimi, K., Hoshi, T. sim-trhepd-rheed – Open-source simulator of total-reflection high-energy positron diffraction (TRHEPD) and reflection high-energy electron diffraction (RHEED).

Comput. Phys. Commun. **277**, 108371 (2022).

Iwano, K., Okamoto, H.

Magnetically bound nature of a holon-doublon pair in two-dimensional photoexcited Mott insulators

Phys. Rev. B Condens. Matter. **106**, 075128 (2022).

Yamaguchi, T., Iwano, K., Okamoto, H.

Photoinduced Drude weights critically enhanced by charge fluctuations in a one-dimensional Mott insulator

Phys. Rev. B Condens. Matter. **106**, L081119 (2022).

Miyakawa, T., Yang, J., Kawasaki, M., Adachi, N., Fujii, A., Miyauchi, Y., Muramatsu, T., Moriya, T., Senda, T., Tanokura, M.

Structural bases for aspartate recognition and polymerization efficiency of cyanobacterial cyanophycin synthetase

Nat. Commun. **13**, 5097 (2022).

Wakabayashi, Y.K., Kobayashi, M., Takeda, Y., Kitamura, M., Takeda, T., Okano, R., Krockenberger, Y., Taniyasu, Y., Yamamoto, H.

Isotropic orbital magnetic moments in magnetically anisotropic SrRuO₃ films

Phys. Rev. Mater. **6**, 094402 (2022).

Spitz, L., Nomoto, T., Kitou, S., Nakao, H., Kikkawa, A., Francoual, S., Taguchi, Y., Arita, R., Tokura, Y.,

Arima, T. -H., Hirschberger, M.

Entropy-Assisted, Long-Period Stacking of Honeycomb Layers in an AlB₂-Type Silicide

J. Am. Chem. Soc. **144**, 16866 (2022).

Hyodo, T.

Maxwell's displacement current and the magnetic field between capacitor electrodes

Eur. J. Phys. **43**, 065202 (2022).

Zolensky, M., Mikouchi, T., Hagiya, K., Ohsumi, K., Komatsu, M., Cheng, A., Le, L.

Evidence for impact shock and regolith transportation on CM, CI, and CV chondrite parent asteroids

Meteorit. Planet. Sci. **57**, 1902 (2022).

Wang, L., Chen, M., Yang, S., Uezono, N., Miao, Q., Kapil, G., Baranwal, A.K., Sanehira, Y., Wang, D., Liu, D., Ma, T., Ozawa, K., Sakurai, T., Zhang, Z., Shen, Q., Hayase, S.

SnOx as Bottom Hole Extraction Layer and Top In Situ Protection Layer Yields over 14% Efficiency in Sn-Based Perovskite Solar Cells

ACS Energy Lett. **7**, 3703 (2022).

Yukawa, R., Yamamoto, S., Arita, R., Minami, Y., Yamanoi, K., Ozawa, K., Sakamoto, K., Shimizu, T., Sarukura, N., Matsuda, I.

Resolving decay-time dependent photoluminescence induced by phonon-dressed excitons in ZnO

Phys. Rev. Mater. **6**, 104607 (2022).

Kameda, Y., Kowaguchi, M., Amo, Y., Usuki, T., Okuyama, D., Sato, T. J.

Experimental determination of deviation from spherical electron densities of atoms in benzene molecules in the liquid state

Bull. Chem. Soc. Jpn. **95**, 1680 (2022).

Motoyama, Y., Yoshimi, K., Mochizuki, I., Iwamoto, H., Ichinose, H., Hoshi, T.

Data-analysis software framework 2DMAT and its application to experimental measurements for two-dimensional material structures. *Comput. Phys. Commun.* **280**, 108465 (2022).

Suzuki, Y., Tani, T., Saito, K., Ushiku, Y., Ono, K.

Self-supervised learning of materials concepts from crystal structures via deep neural networks. *Mach. Learn. Sci. Technol.* **3**, 045034 (2022).