Workshops and Seminars

< Science Festa >

Quantum Beam Science Festa FY2019

- March 12-14, 2019
- Mito, Ibaraki

< Workshop >

Joint Workshop on Cuprates and Magnetic Materials under collaboration with CMRC Research Project

- December 19-23, 2019
- Kagoshima University and Ibusuki, Kagoshima

Publications

< Paper >

1 "Field-Modulation Imaging of Ferroelectric Domains in Molecular Single-Crystal Films",
Y. Uemura, S. Arai, J. Tsutsumi, S. Matsuoka, H. Yamada, R. Kumai, S. Horiuchi, A. Sawa, and T. Hasegawa,
Phys. Rev. Applied **11**, 014046:1-9 (2019).

2 "Growth and physical properties of Ce(O,F) $Sb(S,Se)_2$ single crystals with siteselected chalcogen atoms",
Masanori Nagao, Masashi Tanaka, Akira Miura, Miho Kitamura, Koji Horiba, Satoshi Watauchi, Yoshihiko Takano, Hiroshi Kumigashira, and Isao Tanaka,
Solid State Comm. **289**, 38-42 (2019).

3 "Coulomb-interaction effect on the two-dimensional electronic structure of the van der Waals ferromagnet **$Cr_2Ge_2Te_6$**",
M. Suzuki, B. Gao, K. Koshiishi, S. Nakata, K. Hagiwara, C. Lin, Y. X. Wan, H. Kumigashira, K. Ono, Sungmo Kang, Seungjin Kang, J. Yu, M. Kobayashi, S.-W. Cheong, and A. Fujimori,
Phys. Rev. B **99**, 161401(R):1-4 (2019).

4 "Crystal structure and the magnetic properties of the **5*d*** transition metal oxide **$AOsO_4$ (A = K, Rb, Cs)**",
J. Yamaura1 and Zenji Hiroi,
Phys. Rev. B **99**, 155113:1-7 (2019).

5 "Surface Electron-Ion Mixed Conduction of $Ti_{0.99}Sc_{0.01}O_{2-\delta}$ Thin Film with Lattice Distortion and Oxygen Vacancies",
Kinya Kawamura, Masaki Sekine, Daiki Nishioka, Ryu Yukawa, Koji Horiba, Hiroshi Kumigashira, and Tohru Higuchi,
J. Phys. Soc. Jpn. **88**, 054711:1-5 (2019).

6 "Electronic structure of a monoatomic **Cu_2**Si layer on a Si(111) substrate",
M. Cameau, R. Yukawa, C.-H. Chen, A. Huang, S. Ito, R. Ishibiki, K. Horiba, Y. Obata, T. Kondo, H. Kumigashira, H.-T. Jeng, M. D'angelo, and I. Matsuda,
Phys. Rev. Materials **3**, 044004:1-5 (2019).

7 "Improvement of the hole mobility of SnO epitaxial films grown by pulsed laser Deposition",
Makoto Minohara, Naoto Kikuchi, Yoshiyuki Yoshida, Hiroshi Kumigashira, and Yoshihiro Aiura,
J. Mater. Chem. C **7**, 6332-6336 (2019).

8 "Non-trivial surface states of samarium hexaboraide at the (111) surface",
Yoshiyuki Ohtsubo, Yuki Yamashita, Kenta Hagiwara, Shin-ichiro Ideta, Kiyohisa Tanaka, Ryu Yukawa, Koji Horiba, Hiroshi Kumigashira, Koji Miyamoto, Taichi Okuda, Wataru Hirano, Fumitoshi Iga, and Shin-ichi Kimura,
Nat. Comm. **10**, 2298:1-7 (2019).

9 "Evidence for bulk nodal loops and universality of Dirac-node arc surface states in **ZrGeX_c** (X_c=**S**, Se, Te)",
Takechika Nakamura, Seigo Souma, Zhiwei Wang, Kunihiko Yamauchi, Daichi Takane, Hikaru Oinuma, Kosuke Nakayama, Koji Horiba, Hiroshi Kumigashira, Tamio Oguchi, Takashi Takahashi, Yoichi Ando, and Takafumi Sato,
Phys. Rev. B **99**, 245105:1-11 (2019).

10 "In-gap state generated by La-on-Sr substitutional defects within the bulk of $SrTiO_3$",
Yoshihiro Aiura, Kenichi Ozawa, Yasuhisa Tezuka, Makoto Minohara, Akane Samizo, Kyoko Bando, Hiroshi Kumigashira, and Kazuhiko Mase,
Phys.Chem.Chem.Phys. **21**, 14646-14653 (2019).

11 "Charge Excitations in $Nd_{2-x}Ce_xCuO_4$ Observed with Resonant Inelastic X-ray Scattering: Comparison of Cu *K*-edge with Cu L_3-edge",
Kenji Ishii, Masahito Kurooka, Yusuke Shimizu, Masaki Fujita, Kazuyoshi Yamada, and Jun'ichiro Mizuki,
J. Phys. Soc. Jpn., **88**, 075001:1-2 (2019).

12 "Electrolyte-Gating-Induced Metal-Like Conduction in Nonstoichiometric Organic Crystalline Semiconductors under Simultaneous Bandwidth Control",

H. Ito, Y. Edagawa, J. Pu, H. Akutsu, M. Suda, H. M. Yamamoto, Y. Kawasugi, R. Haruki, R. Kumai, and T. Takenobu,
Phys. Status Solidi RRL **13**, 1900162:1-6 (2019).

13 "Pressure-induced hydrogen localization coupled to a semiconductor-insulator transition in a hydrogen-bonded molecular conductor",
Akira Ueda, Kouki Kishimoto, Takayuki Isono, Shota Yamada, Hiromichi Kamo, Kensuke Kobayashi, Reiji Kumai, Youichi Murakami, Jun Gouchi, Yoshiya Uwatoko, Yutaka Nishio and Hatsumi Mori,
RSC Advances, **9**, 18353-18358 (2019).

14 "Quantum dynamics of hydrogen in the iron-based superconductor **$LaFeAsO_{0.9}D_{0.1}$** measured with inelastic neutron spectroscopy",
Jun-ichi Yamaura, Haruhiro Hiraka, Soshi Iimura, Yoshinori Muraba, Joonho Bang, Kazuhiko Ikeuchi, Mitsutaka Nakamura, Yasuhiro Inamura, Takashi Honda, Masatoshi Hiraishi, Kenji M. Kojima, Ryosuke Kadono, Yoshio Kuramoto, Youichi Murakami, Satoru Matsuishi, and Hideo Hosono,
Phys. Rev. B **99**, 220505(R):1-6 (2019).

15 "Magnetic and electronic properties of ***B***-site-ordered double-perovskite oxide **La_2CrMnO_6** thin films",
K. Yoshimatsu, J. Ishimaru, K. Watarai, K. Yamamoto, Y. Hirata, H. Wadati, Y. Takeda, K. Horiba, H. Kumigashira, O. Sakata, and A. Ohtomo,
Phys. Rev. B **99**, 235129:1-8 (2019).

16 "Improved crystalline quality and electric conductivity in infinite-layer $SrFeO_2$ films through Sm substitution",
Tsukasa Katayama, Akira Chikamatsu, Hiroshi Kumigashira, and Tetsuya Hasegawa,
Appl. Phys. Lett. **114**, 232906:1-4 (2019).

17 "Orbital Transitions and Frustrated Magnetism in the Kagome-Type Copper Mineral Volborthite",
Z. Hiroi, H. Ishikawa, H. Yoshida, J. Yamaura, and Y. Okamoto,
Inorg. Chem. **58**, 11949-11960 (2019).

18 "Observation of two types of charge-density-wave orders in superconducting $La_{2-x}Sr_xCuO_4$",
J.-J. Wen, H. Huang, H. Jang, J. Knight, Y. S. Lee, Masaki Fujita, K. M. Suzuki, S. Asano, S. A. Kivelson, C.-C. Kao,
Nature Communications, **10**, 3269:1-6 (2019).

19 "Oxidation Annealing Effects on the Spin-Glass-Like Magnetism and Appearance of Superconductivity in T*-type $La_{1-x/2}Eu_{1-x/2}Sr_xCuO_4$ ($0.14 \leq x \leq 0.28$)",
S. Asano, K. M. Suzuki, K. Kudo, I. Watanabe, A. Koda, R. Kadono, T. Noji, Y. Koike, T. Taniguchi, S. Kitagawa, K. Ishida, and M. Fujita,
J. Phys. Soc. Jpn. **88**, 084709:1-6 (2019).

20 "Unusual change in the Dirac-cone energy band upon a two-step magnetic transition in CeBi ",
Hikaru Oinuma, Seigo Souma, Kosuke Nakayama, Koji Horiba, Hiroshi Kumigashira, Makoto Yoshida, Akira Ochiai, Takashi Takahashi, and Takafumi Sato,
Phys. Rev. B **100**, 125122:1-7 (2019).

21 "Isotropic magnetoelectric effect in **$Tb_{1-x}Gd_xMn_2O_5$** studied by resonant x-ray scattering",
Y. Ishii, Y. Murakoshi, N. Sato, Y. Noda, T. Honda, H. Nakao, Y. Murakami, and H. Kimura,
Phys. Rev. B **100**, 104416:1-7 (2019).

22 "Electronic structure of interstitial hydrogen in In-Ga-Zn-O semiconductor simulated by muon",
K. M. Kojima, M. Hiraishi, H. Okabe, A. Koda, R. Kadono, K. Ide, S. Matsuishi, H. Kumomi, T. Kamiya, and H. Hosono,
Appl. Phys. Lett. **115**, 122104:1-5 (2019). [editors-pick]

23 "Temperature-dependent evolution of Ti ***3d*** spectral features at surface of **$Ba_xTi_8O_{16+\delta}$**",
S. Dash, H. Enomoto, T. Kajita, K. Ono, K. Horiba, M. Kobayashi, H. Kumigashira, V. Kandyba, A. Giampietri, A. Barinov, F. Stramaglia, N. L. Saini, T. Katsufuji, and T. Mizokawa,
Phys. Rev. B **100**, 125153:1-6 (2019).

24 "Crystal Structure Built from a GeO_6-GeO_5 Polyhedra Network with High Thermal Stability: beta-$SrGe_2O_5$",

C. A. Niedermeier, J. Yamaura, J. Wu, X. He, T. Katase, H. Hosono, T. Kamiya,
ACS Applied Electronic Materials. **1**, 1989-1993 (2019).

25 "Direct coupling of ferromagnetic moment and ferroelectric polarization in **$BiFeO_3$**",
S. Kawachi, S. Miyahara, T. Ito, A. Miyake, N. Furukawa, J. Yamaura, and M. Tokunaga,
Phys. Rev. B **100**, 140412(R):1-5 (2019).

26 "Structural and thermal properties in formamidinium and Cs-mixed lead halides",
S. Kawachi, M. Atsumi, N. Saito, N. Ohashi, Y. Murakami, J. Yamaura,
J. Phys. Chem. Lett. **10**, 6967-6972 (2019). [Editor's Choice]

27 "Ultrafast dynamics in the Lifshitz-type **5*d*** pyrochlore antiferromagnet **$Cd_2Os_2O_7$**",
I. Kwak, M.-C. Lee, B. C. Park, C. H. Kim, B. Lee, C. W. Seo, J. Yamaura, Z. Hiroi, T. W. Noh, and K. W. Kim,
Phys. Rev. B. **100**, 144309:1-5 (2019).

28 "Crystal Structures of Highly Hole-Doped Layered Perovskite Nickelate $Pr_{2-x}Sr_xNiO_4$ Studied by Neutron Diffraction",
Ryoichi Kajimoto, Kenji Nakajima, Masaki Fujita, Motoyuki Ishikado, Shuki Toni, Yoshihisa Ishikawa, Ping Miao, and Takashi Kamiyama,
J. Phys. Soc. Jpn., **88**, 114602:1-6 (2019).

29 "Natural van der Waals heterostructural single crystals with both magnetic and topological properties",
Jiazhen Wu, Fucai Liu, Masato Sasase, Koichiro Ienaga, Yukiko Obata, Ryu Yukawa, Koji Horiba, Hiroshi Kumigashira, Satoshi Okuma, Takeishi Inoshita, and Hideo Hosono,
Sci. Adv. **5**, eaax9989:1-9 (2019).

30 "Coexistence of normal and inverse deuterium isotope effects in a phase-transition sequence of organic ferroelectrics",
S. Horiuchi, S. Ishibashi, K. Kobayashi, and R. Kumai,
RSC Adv. **9**, 39662-39673 (2019).

31 "Coupled Spin-Charge-Phonon Fluctuation in the All-In/All-Out Antiferromagnet **$Cd_2Os_2O_7$**",
A. Koda, H. T. Hirose, M. Miyazaki, H. Okabe, M. Hiraishi, I. Yamauchi, K. M. Kojima, I. Nagashima, J. Yamaura, Z. Hiroi, and R. Kadono,
Phys. Rev B **100**, 245113:1-6 (2019).

32 "Valence-bond insulator in proximity to excitonic instability",
Y. Chiba, T. Mitsuoka, N. L. Saini, K. Horiba, M. Kobayashi, K. Ono, H. Kumigashira, N. Katayama, H. Sawa, M. Nohara, Y. F. Lu, H. Takagi, and T. Mizokawa,
Phys. Rev. B **100**, 245129:1-5 (2019) .

33 "Relationship between charge redistribution and ferromagnetism at the heterointerface between perovskite oxides **$LaNiO_3$** and **$LaMnO_3$**",
Miho Kitamura, Masaki Kobayashi, Enju Sakai, Makoto Minohara, Ryu Yukawa, Daisuke Shiga, Kenta Amemiya, Yosuke Nonaka, Goro Shibata, Atsushi Fujimori, Hiroshi Fujioka, Koji Horiba, and Hiroshi Kumigashira,
Phys. Rev. B **100**, 245132:1-8 (2019).

34 "Synthesis and physical properties of the new iridium oxyfluoride **$Sr_2Ir(O, F)_{6-\delta}$** using a topochemical reaction method",
K. Kuramochi, T. Shimano, T. Nishio, H. Okabe, A. Koda, K. Horigane, J. Akimitsu, and H. Ogino,
Phys. Rev. Mat. **4**, 013403:1-6 (2020).

35 "Incorporating Spacer Molecules into the Tetrathiafulvalene-*p*-Chloranil Charge-Transfer Framework: Modulating the Neutral-Ionic Phase Transition",
Y. Takahashi, M. Takehisa, E. Tanaka, J. Harada, R. Kumai, and T. Inabe,
J. Phys. Chem. Lett. **11**, 1336-1342 (2020).

36 "Polar nano-region structure in oxynitride perovskite $LaTiO_2N$",
J. Yamaura, S. Maki, T. Honda, Y. Matsui, A. Noviyanto, T. Otomo, H. Abe, Y. Murakami, and N. Ohashi,
Chem. Commun. **56**, 1385-1388 (2020).

37 "Thickness-induced metal to insulator transition in Ru nanosheets probed by photoemission

spectroscopy: Effects of disorder and Coulomb interaction",
Daiki Ootsuki, Kenjiro Kodera, Daiya Shimonaka, Masashi Arita, Hirofumi Namatame, Masaki Taniguchi, Makoto Minohara, Koji Horiba, Hiroshi Kumigashira, Eiji Ikenaga, Akira Yasui, Yoshiharu Uchimoto, Satoshi Toyoda, Masahito Morita, Katsutoshi Fukuda, and Teppei Yoshida,
Sci. Rep. **10**, 1514:1-7 (2020).

38 "Evolution of electronic states and emergence of superconductivity in the polar semiconductor GeTe by doping valence-skipping In",
M. Kriener, M. Sakano, M. Kamitani, M. S. Bahramy, R. Yukawa, K. Horiba, H. Kumigashira, K. Ishizaka, Y. Tokura, and Y. Taguchi,
Phys. Rev. Lett. **124**, 047002:1-6 (2020).

39 "Low resistance at $LiNi_{1/3}Mn_{1/3}Co_{1/3}O_2$ and Li_3PO_4 interfaces",
Kazunori Nishio, Naoto Nakamura, Koji Horiba, Miho Kitamura, Hiroshi Kumigashira, Ryota Shimizu, and Taro Hitosugi,
Appl. Phys .Lett. **116**, 053901:1-5 (2020).

40 "Tunable two-dimensional electron system at the (110) surface of **SnO_2**",
J. Dai, E. Frantzeskakis, F. Fortuna, P. Lömker, R. Yukawa, M. Thees, S. Sengupta, P. Le Fèvre, F. Bertran, J. E. Rault, K. Horiba, M. Müller, H. Kumigashira, and A. F. Santander-Syro,
Phys. Rev. B **101**, 085121:1-10 (2020).

41 "Surface Proton Conduction of Sm-Doped $CeO_{2-\delta}$ Thin Film Preferentially Grown on Al_2O_3 (0001)",
D. Nishioka, T. Tsuchiya, W. Namiki, M. Takayanagi, K. Kawamura, T. Fujita, R. Yukawa, K. Horiba, H. Kumigashira, and T. Higuchi,
Nanoscale Research Letters **15**, 42:1-8 (2020).

42 "Electronic properties of perovskite strontium chromium oxyfluoride epitaxial thin films fabricated via low-temperature topotactic reaction",
Akira Chikamatsu, Takahiro Maruyama, Tsukasa Katayama, Yu Su, Yoshihiro Tsujimoto, Kazunari Yamaura, Miho Kitamura, Koji Horiba, Hiroshi Kumigashira, and Tetsuya Hasegawa,
Phys. Rev. Mater. **4**, 025004:1-6 (2020).

43 "Anomalous Hall effect at the spontaneously electron-doped polar surface of **$PdCoO_2$** ultrathin films",
T. Harada, K. Sugawara, K. Fujiwara, M. Kitamura, S. Ito, T. Nojima, K. Horiba, H. Kumigashira, T. Takahashi, T. Sato, and A. Tsukazaki,
Phys. Rev. Reseach **2**, 013282:1-6 (2020).

44 "Temperature evolution of magnetic phases near the thickness-dependent metal-insulator transition in $La_{1-x}Sr_xMnO_3$ thin films observed by XMCD",
Goro Shibata, Kohei Yoshimatsu, Enju Sakai, Keisuke Ishigami, Shoya Sakamoto, Yosuke Nonaka, Fan-Hsiu Chang, Hong-Ji Lin, Di-Jing Huang, Chien-Te Chen, Hiroshi Kumigashira, and Atsushi Fujimori,
JPS Conf. Proc. **30**, 011072:1-6 (2020).

45 "Radial spin texture in elemental tellurium with chiral crystal structure",
M. Sakano, M. Hirayama, T. Takahashi, S. Akebi, M. Nakayama, K. Kuroda, K. Taguchi, T. Yoshikawa, K. Miyamoto, T. Okuda, K. Ono, H. Kumigashira, T. Ideue, Y. Iwasa, N. Mitsuishi, K. Ishizaka, S. Shin, T. Miyake, S. Murakami, T. Sasagawa, and Takeshi Kondo,
Phys. Rev. Lett. **124**, 136404:1-5 (2020).

46 "Magnetism driven by strong electronic correlation in the heavily carrier-doped iron oxypnictide **$LaFeAsO_{0.49}H_{0.51}$**",
M. Hiraishi, K. M. Kojima, H. Okabe, S. Takeshita, A. Koda, R. Kadono, S. Iimura, S. Matsuishi, and H. Hosono,
Phys. Rev. B **101**, 174414:1-7 (2020).

47 "Nanometric square skyrmion lattice in a centrosymmetric tetragonal magnet",
N. D. Khanh, T. Nakajima, X. Z. Yu, S. Gao, K. Shibata, M. Hirschberger, Y. Yamasaki, H. Sagayama, H. Nakao, L. C. Peng, K. Nakajima, R. Takagi, T. Arima, Y. Tokura, S. Seki,
Nature Nanotechnology **15**, 444-449 (2020).

48 "Detection of Multipolar Orders in the Spin–Orbit-Entangled **5*d*** Mott Insulator **Ba_2MgReO_6**",

Daigorou Hirai, Hajime Sagayama, Shang Gao, Hiroyuki Ohsumi, Gang Chen, Taka-hisa Arima, and Zenji Hiroi,
Phys. Rev. Research **2**, 022063(R):1-6 (2020).

49 "Electronic charge transfer driven by spin cycloidal structure",
Y. Ishii, S. Horio, Y. Noda, M. Hiraishi, H. Okabe, M. Miyazaki, S. Takeshita, A. Koda, K. M. Kojima, R. Kadono, H. Sagayama, H. Nakao, Y. Murakami, and H. Kimura,
Phys. Rev. B **101**, 224436:1-7 (2020). Editors' Suggestion

< Conference >

SNS2019
June 16-21, 2019
The University of Tokyo, Japan

- Poster "Magnetic ground state of the second antiferromagnetic phase under pressure in LaFeAsO1-xHx probed by muon spin rotation"
  Masatoshi Hiraishi, Kenji M. Kojima, Hirotaka Okabe, Soshi Takeshita, Akihiro Koda, Ryosuke Kadono, Soshi Iimura, Satoru Matsuishi, Hideo Hosono

The 40th International Conference on Vacuum Ultraviolet and X-ray Physics
July 1-5, 2019
TheWestin St. Francis San Francisco, USA

- Poster "Magnetic and Orbital Anisotropies in La1-xSrxMnO3 Thin Films Studied by Angle-dependent"
  Goro Shibata, Miho Kitamura, Makoto Minohara, Kohei Yoshimatsu, Toshiharu Kadono, Keisuke Ishigami, Takayuki Harano, Yukio Takahashi, Shoya Sakamoto, Yosuke Nonaka, Keisuke Ikeda, Zhendong Chi, Mitsuho Furuse, Shuichiro Fuchino, Makoto Okano, Jun-ichi Fujihira, Akira Uchida, Kazunori Watanabe, Hideyuki Fujihira, Seiichi Fujihira, Arata Tanaka, Hiroshi Kumigashira, Tsuneharu Koide, and Atsushi Fujimori
- Poster "Mechanism of charge transfer phenomena in perovskite-oxide interfaces"
  Miho Kitamura, Masaki Kobayashi, Makoto Minohara, Enju Sakai,Hiroshi Fujioka, Koji Horiba, and Hiroshi Kumigashira
- Poster "Emergence of Metallic Monoclinic States of VO2 Films Induced by K Deposition"
  Daisuke Shiga, Makoto Minohara, Miho Kitamura, Ryu Yukawa, Koji Horiba, Hiroshi Kumigashira
- Poster "Transmission soft x-ray absorption spectroscopy on Li-ion-battery materials"
  Koji Horiba, Miho Kitamura, Kazunori Nishio, Ryota Shimizu, Taro Hitosugi, and Hiroshi Kumigashira

The 11th International Conference on the Science and Technology for Advanced Ceramics STAC-11
July 9-11, 2019
Tsukuba International Congress Center, Japan

- Poster "Electronic Correlation in the Two-Dimensional Electrode Y2C"
  Masatoshi Hiraishi, Kenji M. Kojima, Ichihiro Yamauchi, Hirotaka Okabe, Soshi Takeshita, Akihiro Koda, Ryosuke Kadono, Xiao Zhang, Satoru Matsuishi, Hideo Hosono, Kazuto Hiraita, Shigeki Otani, Naoki Ohashi
- Poster "Hydrogen state in MnO2 simulated by muon"
  Hirotaka Okabe, Ryosuke Kadono, Masatoshi Hiraishi, Akihiro Koda, Soshi Takeshita, Kenji M. Kojima, Ichihiro Yamauchi, Hirohiko Sato

19th International Conference on Crystal Growth and Epitaxy (ICCGE-19), Symposium on Epitaxy of Complex Oxides: Binary Oxides 3(2019)
July 29-August 2, 2019
Keystone, Colorado, USA

- Invited "Superconducting titanate films, epitaxial growth and distinction of crystal phases"
  K. Yoshimatsu

International Conference on Strongly Correlated Electron Systems 2019
September 23-28, 2019
Okayama convention center, Japan

- Poster "Electronic correlation in the two-dimensional electride Y2C"
  Masatoshi Hiraishi, Kenji M. Kojima, Hirotaka Okabe, Soshi Takeshita, Akihiro Koda, Ryosuke Kadono, Zhang Xiao, Satoru Matsuishi, Hideo Hosono, Kazuto Hirata, Shigeki Otani, Naoki Ohashi

- Poster "Fostering Superconductivity by Doping Valence-Skipping Indium into Simple Polar IV - VI Semiconductors"
  M. Kriener, M. Kamitani, T. Koretsune, S. Bahramy, M. Sakano, R. Yukawa, K. Horiba, H. Kumigashira, K. Ishizaka,R. Arita, Y. Tokura, and Y. Taguchi
- Poster "Evolution of magnetic phases near the thickness-dependent metal-insulator transition in La1-xSrxMnO3 thin films observed by XMCD"
  Goro Shibata, Kohei Yoshimatsu, Enju Sakai, Keisuke Ishigami, Shoya Sakamoto, Yosuke Nonaka, Fan-hsiu Chang, Hong-Ji Lin, Di-Jing Huang, Chien-Te Chen, Hiroshi Kumigashira, and Atsushi Fujimori
- Poster "Electronic structure of TiNCl and electron-doped TiNCl"
  Noriyuki Kataoka, Kensei Terashima, Hirokazu Fujiwara, Yuko Yano, Wataru Hosoda, Takumi Taniguchi, Takanori Wakita, Jo Kawabata, Toshiro Takabatake, Yuki Yanagi,Takemi Yamada, Katsuro Hanzawa, Koji Horiba, Hiroshi Kumigashira, Shin-ichi Fujimori, Yuji Muraoka, Takayoshi Yokoya
- Poster "Soft x-ray ARPES study of the Kondo semiconductor CeOs2Al10"
  Noriyuki Kataoka, Kensei Terashima, Hirokazu Fujiwara, Yuko Yano, Wataru Hosoda, Takumi Taniguchi, Takanori Wakita, Jo Kawabata, Toshiro Takabatake, Yuki Yanagi, Takemi Yamada, Katsuro Hanzawa, Koji Horiba, Hiroshi Kumigashira, Shin-ichi Fujimori, Yuji Muraoka, Takayoshi Yokoya

<u>26th International Workshop on Oxide Electronics</u>
September 29-October 2, 2019
Kyoto University, Japan

- Poster "Improvement of the hole mobility of SnO epitaxial films grown by pulsed laser deposition"
  M. Minohara, N. Kikuchi, Y. Yoshida, H. Kumigashira, and Y. Aiura
- Poster "Emergence of metallic monoclinic states of VO2 films induced by K deposition"
  Daisuke Shiga, Makoto Minohara, Miho Kitamura, Ryu Yukawa, Koji Horiba, Hiroshi Kumigashira
- Poster "Transmission soft X-ray absorption spectroscopy on transition metal oxide thin films for Li-ion battery"
  Koji Horiba, Miho Kitamura, Kazunori Nishio, Ryota Shimizu, Taro Hitosugi, and Hiroshi Kumigashira
- Poster "Mechanism of charge transfer phenomena in perovskite-oxide interfaces"
  Miho Kitamura, Masaki Kobayashi, Makoto Minohara, Enju Sakai, Ryu Yukawa, Hiroshi Fujioka, Koji Horiba, and Hiroshi Kumigashira
- Poster "Control of two-dimensional electron liquid states at anatase-TiO2 (001) surface by H-adsorption"
  Ryu Yukawa, Makoto Minohara, Daisuke Shiga, Miho Kitamura, Taichi Mitsuhashi, Masaki Kobayashi, Koji Horiba, Hiroshi Kumigashira
- Poster "Fermi surface in the three-dimensional Dirac fermion system Ca3Pb1-xBixO"
  Yukiko Obata, Ryu Yukawa, Koji Horiba, Hiroshi Kumigashira, Yoshimitsu Kohama, yoshitake toda, Satoru Matsuishi, Hideo Hosono
- Poster "Superconductivity in higher titanates of γ-Ti3O5 and Ti4O7 films"
  K. Yoshimatsu, O. Sakata, A. Ohtomo

<u>Materials Research Meeting 2019</u>
December 10-14, 2019
Yokohama Symposia, Japan

- Oral "Quantum Dynamics of Hydrogen in Iron-based Superconductor"
  Jun-ichi Yamaura
- Oral "Cross correlation of Ferromagnetism and Ferroelectricity in BiFeO3"
  S. Kawachi, S. Miyahara, T. Ito, A. Miyake, N. Furukawa, J. Yamaura, M, Tokunaga
- Oral "Electronic Structure of Interstitial Hydrogen in Electride LaScSi Probed by Muon Spin Rotation Technique"
  M. Hiraishi, K. M. Kojima, H. Okabe, S. Takeshita, A. Koda, R. Kadono, Wu Jiazhen, H. Hosono
- Poster "Electronic Correlation in the Two-Dimensional Electride Y2C"
  M. Hiraishi, K. M. Kojima, H. Okabe, S. Takeshita, A. Koda, R. Kadono, Zhang Xiao, S. Matsuishi, H. Hosono, K. Hirata, S. Otani, N. Ohashi
- Poster "Local electronic structure of interstitial hydrogen in manganese dioxide"

H. Okabe, R. Kadono, M. Hiraishi, A. Koda, S. Takeshita, K. M. Kojima, I. Yamauchi, H. Sato

- Oral "Magnetic state of β-MnO2 probed by muon spin spectroscopy"
  H. Okabe, R. Kadono, M. Hiraishi, A. Koda, S. Takeshita, K. M. Kojima, I. Yamauchi, H. Sato
- Poster "Investigation of Anionic Electorn-Induced Magnetism in a Two Dimensional Electride Y2C by Inelastic Neutron Scattering"
  H. Tamatsukuri, Y. Murakami, H. Sagayama, S. Matsuishi, Y. Washio, M. Matsuura, Y. Kawakita, H. Hosono
- Poster "Transmission Soft X-Ray Absorption Spectroscopy on Thin Films for Li-Ion Battery"
  Koji Horiba, Miho Kitamura, Kazunori Nishio, Ryota Shimizu, Taro Hitosugi, and Hiroshi Kumigashira
- Poster "Light emitting diodes on glass using amorphous oxide semiconductor thin-film phosphors, rare-earth doped a-Ga-O"
  Naoto Watanabe, Keisuke Ide, Takayoshi Katase, Junghwan Kim, Shigenori Ueda, Koji Horiba, Hiroshi Kumigashira, Hidenori Hiramatsu, Hideo Hosono, Toshio Kamiya
- Poster "Enhanced Superconductivity in Polar IV - VI Semiconductors"
  M. Kriener, M. Kamitani, T. Koretsune, S. M. Bahramy, M. Sakano, R. Yukawa,K. Horiba, H. Kumigashira, K. Ishizaka,R. Arita,Y. Tokura, and Y. Taguchi

<u>The international workshop for synergetic collaboration between material and synchrotron science through IMR+MAX IV</u>
January 13-15, 2020
Tohoku University, Japan

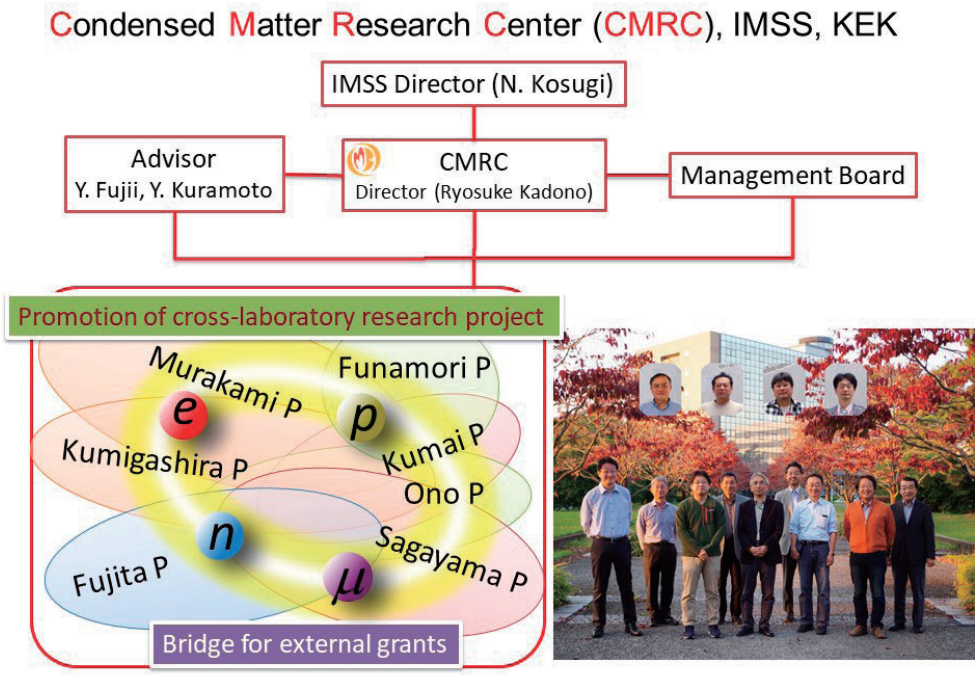
- Poster "Ferromagnetism induced by the charge redistribution at the interface between perovskite oxides LaNiO3 and LaMnO3
  M. Kitamura, M. Kobayashi, E. Sakai, M. Minohara, R. Yukawa, D. Shiga, K. Amemiya, Y. Nonaka, G. Shibata, A. Fujimori, H. Fujioka, K. Horiba, and H. Kumigashira
- Poster "Inter-valence Charge Transfer in a Ru-doped Cobalt Ferrite Thin Film"
  Masaki Kobayashi, Munetoshi Seki, Masahiro Suzuki, Miho Kitamura, Atsushi Fujimori, Koji Horiba, Hiroshi Kumigashira, Masaaki Tanaka, Hitoshi Tabata

<u>The 3rd Symposium for The Core Research Clusters for Materials Science and Spintronics</u>
February 10-11, 2020
Sendai Kokusai Hotel, Japan

- Poster "Novel rare earth monoxides: fundamental properties and electronic states"
  K. Kaminaga, H. Shimizu, N. Abe, T. Yamamoto, D. Saito, D. Oka, D. Shiga, M. Kitamura, H. Horiba, H. Kumigashira, T. Fukumura
- Poster "Relationship between charge redistribution and ferromagnetism at the heterointerface between LaNiO3 and LaMnO3"
  M. Kitamura, M. Kobayashi, E. Sakai, M. Minohara, R. Yukawa, D. Shiga, K. Amemiya, Y. Nonaka, G. Shibata, A. Fujimori, H. Fujioka, K. Horiba, and H. Kumigashira
- Poster "Emergenc of Metallic Monoclinic States of Electron-Doped VO2 Films"
  D. Shiga, M. Minohara, M. Kitamura, R. Yukawa, K. Horiba, and H. Kumigashira

Organization

1. Organization Chart



2. Project Member

● Dynamical Cross-correlated Physics Project

Hajime SAGAYAMA	(KEK)
Yuichi YAMASAKI	(NIMS)
Hironori NAKAO	(KEK)
Reiji KUMAI	(KEK)
Takashi HONDA	(KEK)
Hiroyuki KIMURA	(Tohoku Univ.)
Takahisa ARIMA	(The Univ. of Tokyo)
Yusuke TOKUNAGA	(The Univ. of Tokyo)
Nobuyuki ABE	(The Univ. of Tokyo)
Keisuke MATSUURA	(RIKEN)
Tetsuya YOKOO	(KEK)
Taro NAKAJIMA	(RIKEN)
Ryosuke KADONO	(KEK)
Hirotaka OKABE	(KEK)
Yoshio KURAMOTO	(KEK)
Youichi MURAKAMI	(KEK)
Akiko NAKAO	(CROSS)
Ryoji KIYANAGI	(JAEA)
Kenji KOJIMA	(TRIUMF)

● Phase Control of Molecular System Project

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Jun'ya TSUTSUMI	(AIST)
Hiromi MINEMAWARI	(AIST)
Sachio HORIUCHI	(AIST)
Hironori NAKAO	(KEK)
Hajime SAGAYAMA	(KEK)
Youichi MURAKAMI	(KEK)
Hatsumi MORI	(The Univ. of Tokyo)
Akira UEDA	(The Univ. of Tokyo)
Shunto ARAI	(The Univ. of Tokyo)
Fumitaka KAGAWA	(RIKEN)
Hitoshi SEO	(RIKEN)

● Oxide Heterostructure Project

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Miho KITAMURA	(KEK)
Daisuke SHIGA	(Tohoku Univ./KEK)
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Akira OHTOMO	(Tokyo Tech)
Taro HITOSUGI	(Tokyo Tech)
Ryota SHIMIZU	(Tokyo Tech)
Yukiko OBATA	(Tokyo Tech)
Jobu MATSUNO	(Osaka Univ.)
Ryu YUKAWA	(Osaka Univ.)
Tomoteru FUKUMURA	(Tohoku Univ.)
Daichi OKA	(Tohoku Univ.)
Hideyuki KAWASOKO	(Tohoku Univ.)
Atsushi TSUKAZAKI	(Tohoku Univ.)

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Yuji MATSUMOTO (Tohoku Univ.)
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Mikk LIPPMAA (The Univ. of Tokyo)
Ryota TAKAHASHI (The Univ. of Tokyo)
Hiroki WADATI (Univ. of Hyogo)
Atsushi FUJIMORI (The Univ. of Tokyo)
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Teppei YOSHIDA (Kyoto Univ.)
Toru HIGUCHI (Tokyo Univ. of Science)
Tsunetomo YAMADA (Tokyo Univ. of Science)
Satoshi OKAMOTO (Oak Ridge National Lab.)

- Local-to-Bulk Electronic Correlation Project

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Tetsuya YOKOO (KEK)
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Masanoei MIYAZAKI (Muroran Inst. of Tech.)
Teppei YOSHIDA (Kyoto Univ.)
Hidekazu MUKUDA (Osaka Univ.)
Kenji ISHII (QST)
Hiroyuki KIMURA (Tohoku Univ.)
Ryoichi KAJIMOTO (JAEA)
Ryoji KIYANAGI (JAEA)
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- Element Strategy for Electron Materials

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Hitoshi ABE (KEK)
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4. Advisor

Yasuhiko FUJII (KEK)
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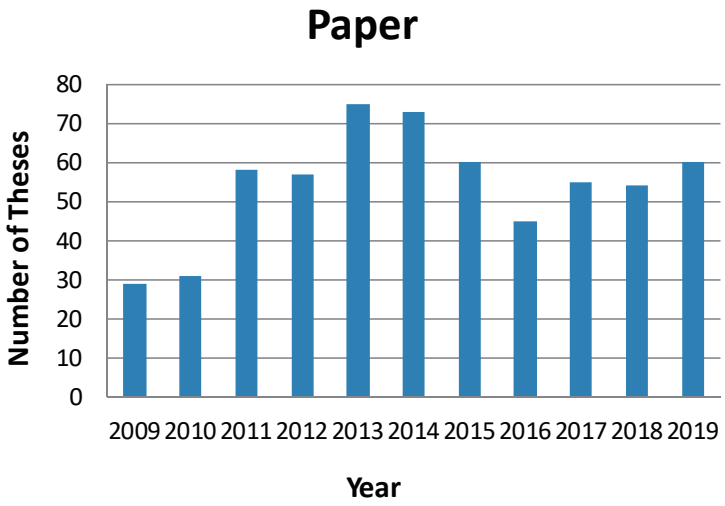
Results for the past 11 years

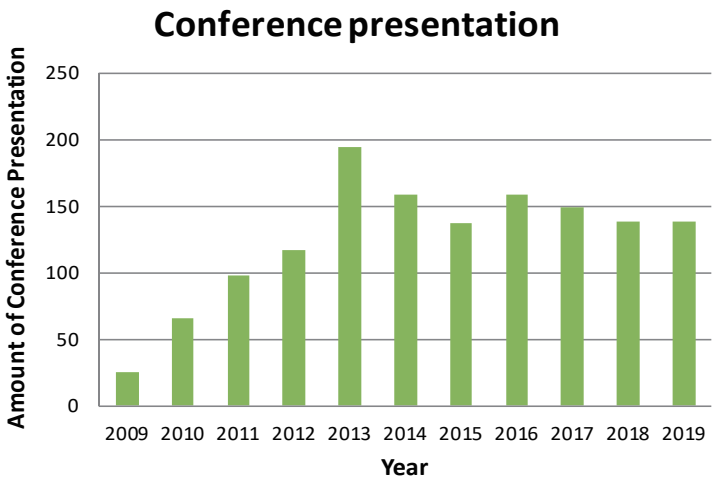
< Paper >

Year	Number
2009	29
2010	31
2011	58
2012	57
2013	75
2014	73
2015	60
2016	45
2017	55
2018	54
2019	60



< Conference Presentation >

Year	Amount
2009	25
2010	66
2011	98
2012	117
2013	194
2014	159
2015	137
2016	159
2017	149
2018	138
2019	138



< Member >

Year	Number
2009	85
2010	93
2011	94
2012	135
2013	186
2014	172
2015	140
2016	138
2017	135
2018	135
2019	129