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Personal

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Education

2010 B.S. (Science) Science, Osaka University, Japan.

2012 M.A. (Science) Engineering science, Osaka University, Japan.

2015 Ph.D. (Science) Engineering science, Osaka University, Japan.

Employment

Tohoku University 2015–.

Committee service

Affiliated academic society: Physical Society of Japan, Japan Society of High Pressure Science and Technology

Editorial committee of the review of high pressure science and technology, 2020–.

Funding Information

KAKENHI (See https://nrid.nii.ac.jp/en/nrid/1000080757261/)

Murata science foundation (H29)

Publications

Journal Articles

1. F. Sato, H. Fujihara, H. Gotou, T. Aoyama, Y. Imai, and K. Ohgushi, Insulator-metal transition in $Ru(Br_{1-x}I_x)_3$ with honeycomb structure, Phys. Rev. B **109**, 035154 (2024).
2. J. Yanagisawa, T. Aoyama, K. Fujii, M. Yashima, Y. Inaguma, A. Kuwabara, K. Shitara, B. L. Ouay, S. Hayami, M. Ohba, and R. Ohtani, Strongly Enhanced Polarization in a Ferroelectric Crystal by Conduction-Proton Flow, JACS **146**, 1476 (2024).

3. T. Zhu, X.-Z. Lu, T. Aoyama, K. Fujita, Y. Nambu, T. Saito, H. Takatsu, T. Kawasaki, T. Terauchi, S. Kurosawa, A. Yamaji, H.-B. Li, C. Tassel, K. Ohgushi, J. M. Rondinelli, and H. Kageyama, Thermal multiferroics in all-inorganic quasi-two-dimensional halide perovskites, Nat. Mater. (2024).

4. T. Aoyama, R. Nojima, T. Yamauchi, Y. Imai, and K.Ohgushi, Pressure-induced switching of electronic nematicity in the iron-based ladder materials $BaFe_2(S_{1-x}Se_x)_3$ ($x = 0 - 1$), *Phys. Rev.* B, **108**, 094507 (2023).

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7. T. Aoyama, K. Ohta, K. Shimizu and K. Ohgushi, Persistent Spin-Orbit Mott Insulating State in Highly Compressed Post-Perovskite $CaIrO_3$, *J. Phys. Soc. Jpn.* **91**, 045003 (2022).

8. H. Takahashi, R. Kikuchi, C. Kawashima, S. Imaizumi, T. Aoyama, and K. Ohgushi, Pressure-Induced Superconductivity in Iron-Based Spin-Ladder Compound $BaFe_{2+\delta}(S_{1-x}Se_x)_3$, Materials **15**, 1401 (2022).

9. Y. Imai, K. Nawa, Y. Shimizu, W. Yamada, H. Fujihara, T. Aoyama, R. Takahashi, D. Okuyama, T. Ohashi, M. Hagihala, S. Torii, D. Morikawa, M. Terauchi, T. Kawamata, M. Kato, H. Gotou, M. Itoh, T.J. Sato, and K. Ohgushi, Zigzag magnetic order in the Kitaev spin-liquid candidate material $RuBr_3$ with a honeycomb lattice, *Phys. Rev.* B, **105**, L041112 (2022).

10. K. Nawa, Y. Imai, Y. Yamaji, H. Fujihara, W. Yamada, R. Takahashi, T. Hiraoka, M. Hagihala, S. Torii, T. Aoyama, T. Ohashi, Y. Shimizu, H. Gotou, M. Itoh, K. Ohgushi, and T. J. Sato, Strongly Electron-Correlated Semimetal RuI_3 with a Layered Honeycomb Structure, *J. Phys. Soc. Jpn.*, **90**, 123703 (2021).

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14. Y. Imai, K. Sasaki, T. Aoyama, K. Shirasaki, T. Yamamura, and K. Ohgushi, High-pressure synthesis of heavily hole-doped cuprates $Mg_{1-x}Li_xCu_2O_3$ with quasi-one-dimensional structure, *Phys. Rev.* B **101**, 245112 (2020).

15. T. Aoyama, K. Emi, C. Tabata, Y. Nambu, H. Nakao, T. Yamauchi, K. Ohgushi, A Semimetallic State in $La_3Ir_3O_{11}$ with the $KSbO_3$ Structure, *J. Phys. Soc. Jpn.*, **88**, 093706 (2019).

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17. T. Aoyama, S. Imaizumi, T. Togashi, Y. Sato, K. Hashizume, Y. Nambu, Y. Hirata, M. Matsubara, K. Ohgushi, Polar state induced by block-type lattice distortions in $BaFe_2Se_3$ with quasi-one-dimensional ladder structure, *Phys. Rev.* B **99**, 241109(R) (2019).

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20. H. Yamamoto, Y. Sakai, K. Shigematsu, T. Aoyama, T. Kimura, and M. Azuma, Electric-Field-Induced reorientation of the magnetic easy plane in a Co-substituted $BiFeO_3$ single crystal, *Inorg. Chem.*, **56**, 24, 15171, (2017).

21. Y. Hasegawa, T. Aoyama, K. Sasaki, Y. Ikemoto, T. Moriwaki, T. Shirakura, R. Saito, Y. Imai, and K. Ohgushi, Two-phonon absorption spectra in a layered honeycomb compound $\alpha-RuCl_3$, *J. Phys. Soc. Jpn.* **86**, 123709 (2017).

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Proceedings

1. T. Amano, Y. Kawakami, H. Itoh, T. Aoyama, Y. Imai, K. Ohgushi, Y. Nakamura, H. Kishida, K. Yonemitsu, and S. Iwai Ultrafast magnetization driven by spiral current in Kitaev spin liquid α-$RuCl_3$, The International Conference on Ultrafast Phenomena (UP) 2022, paper Tu2A.2. (2022).

2. T. Aoyama, A. Iyama, K. Shimizu and T. Kimura, Magnetic-field-induced ferroelectric polarization flop under pressure in $TbMnO_3$, Journal of Physics: Conference Series **592**, 012118 (2015).

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4. M. Soda, T. Aoyama, Y. Wakabayashi and K. Hirota Magnetism in Trianglar Lattice System $LuFeCoO_4$ having Relaxor Property Journal of Physics: Conference Series **320**, 012084 (2011).

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