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## Personal

Born on May 7, 1987.

Japan Citizen.

## 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. T. Amano, Y. Kawakami, H. Itoh, K. Konno, Y. Hasegawa, T. Aoyama, Y. Imai, K. Ohgushi, Y. Takeuchi, Y. Wakabayashi, K. Goto, Y. Nakamura, H. Kishida, K. Yonemitsu, and S. Iwai *Phys. Rev. Research* **4**, L032032 (2022).

2. T. Aoyama, M. Kudo, K. Igarashi, K. Emi, S. Kimura, Y. Imai, and K. Ohgushi, Enhanced anisotropic magnetoresistance in the odd-parity multipole-ordered conductor  $\text{Ba}_{1-x}\text{K}_x\text{Mn}_2\text{As}_2$ , *Phys. Rev. B*, **105**, 224422 (2022).
3. T. Aoyama, K. Ohta, K. Shimizu and K. Ohgushi, Persistent Spin-Orbit Mott Insulating State in Highly Compressed Post-Perovskite  $\text{CaIrO}_3$ , *J. Phys. Soc. Jpn.* **91**, 045003 (2022).
4. H. Takahashi, R. Kikuchi, C. Kawashima, S. Imaizumi, T. Aoyama, and K. Ohgushi, Pressure-Induced Superconductivity in Iron-Based Spin-Ladder Compound  $\text{BaFe}_{2+\delta}(\text{S}_{1-x}\text{Se}_x)_3$ , *Materials* **15**, 1401 (2022).
5. 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  $\text{RuBr}_3$  with a honeycomb lattice, *Phys. Rev. B*, **105**, L041112 (2022).
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7. S. Hosoi, T. Aoyama, K. Ishida, Y. Mizukami, K. Hashizume, S. Imaizumi, Y. Imai, K. Ohgushi, Y. Nambu, M. Kimata, S. Kimura, and T. Shibauchi, Dichotomy between orbital and magnetic nematic instabilities in  $\text{BaFe}_2\text{S}_3$ , *Phys. Rev. Research* **2**, 043293 (2020).
8. M. Murase, K. Okada, Y. Kobayashi, Y. Hirata, K. Hashizume, T. Aoyama, K. Ohgushi, and M. Itoh, Successive magnetic transitions and spin structure in the two-leg ladder compound  $\text{CsFe}_2\text{Se}_3$  observed by  $^{133}\text{Cs}$  and  $^{77}\text{Se}$  NMR, *Phys. Rev. B* **102**, 014433 (2020).
9. S. Imaizumi, T. Aoyama, R. Kimura, K. Sasaki, Y. Nambu, M. Avdeev, Y. Hirata, Y. Ikemoto, T. Moriwaki, Y. Imai, and K. Ohgushi, Structural, electrical, magnetic, and optical properties of iron-based ladder compounds  $\text{BaFe}_2(\text{S}_{1-x}\text{Se}_x)_3$ , *Phys. Rev. B* **102**, 035104 (2020).
10. Y. Imai, K. Sasaki, T. Aoyama, K. Shirasaki, T. Yamamura, and K. Ohgushi, High-pressure synthesis of heavily hole-doped cuprates  $\text{Mg}_{1-x}\text{Li}_x\text{Cu}_2\text{O}_3$  with quasi-one-dimensional structure, *Phys. Rev. B* **101**, 245112 (2020).
11. T. Aoyama, K. Emi, C. Tabata, Y. Nambu, H. Nakao, T. Yamauchi, K. Ohgushi, A Semimetallic State in  $\text{La}_3\text{Ir}_3\text{O}_{11}$  with the  $\text{KSbO}_3$  Structure, *J. Phys. Soc. Jpn.*, **88**, 093706 (2019).
12. Y. Imai, K. Konno, Y. Hasegawa, T. Aoyama, and K. Ohgushi, Hydrated lithium intercalation into the Kitaev spin liquid candidate material  $\alpha\text{-RuCl}_3$ , *Phys. Rev. B* **99**, 245141 (2019).
13. 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  $\text{BaFe}_2\text{Se}_3$  with quasi-one-dimensional ladder structure, *Phys. Rev. B* **99**, 241109(R) (2019).
14. K. Tomiyasu, N. Ito, R. Okazaki, Y. Takahashi, M. Onodera, K. Iwasa, T. Nojima, T. Aoyama, K. Ohgushi, Y. Ishikawa, T. Kamiyama, S. Ishihara, Quantum paramagnet near spin-state transition, *Adv. Quantum Technol.*, **1**, 1800057 (2018).
15. R. Ohtani, R. Yamamoto, T. Aoyama, A. Grosjean, M. Nakamura, J. K. Clegg, S. Hayami, Positive and negative two-dimensional thermal expansions via relaxation of node distortions *Inorg. Chem.*, **57**, 18, 11588, (2018).

16. 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<sub>3</sub> single crystal, *Inorg. Chem.*, **56**, 24, 15171, (2017).
17. 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<sub>3</sub>, *J. Phys. Soc. Jpn.* **86**, 123709 (2017).
18. K. Takubo, Y. Yokoyama, H. Wadati, T. Mizokawa, T. Boyko, R. Sutarto, F. He, K. Hashizume, S. Imaizumi, T. Aoyama, Y. Imai, and K. Ohgushi, Orbital order and fluctuation in BaFe<sub>2</sub>X<sub>3</sub> (X = S and Se) and CsFe<sub>2</sub>Se<sub>3</sub> probed by x-ray absorption and resonant inelastic x-ray scattering spectroscopy, *Phys. Rev. B* **96**, 115157 (2017).
19. T. Aoyama, Y. Hasegawa, S. Kimura, T. Kimura, and K. Ohgushi, Anisotropic magnetodielectric effect in the honeycomb-type magnet  $\alpha$ -RuCl<sub>3</sub>, *Phys. Rev. B* **95**, 245104 (2017).
20. E. Takagi, T. Aoyama, S. Hara, H. Sato, T. Kimura, and Y. Wakabayashi, Structural deformation of the S = 1 kagome-lattice compound KV<sub>3</sub>Ge<sub>2</sub>O<sub>9</sub>, *Phys. Rev. B* **95**, 104416 (2017).
21. S. Chi, Y. Uwatoko, H. Cao, Y. Hirata, K. Hashizume, T. Aoyama, K. Ohgushi, The magnetic precursor of the pressure-induced superconductivity in Fe-ladder compound, *Phys. Rev. Lett.* **117**, 047003 (2016).
22. T. Aoyama, A. Iyama, K. Shimizu and T. Kimura, Multiferroicity in orthorhombic RMnO<sub>3</sub> (R = Dy, Tb and Gd) under high pressure, *Phys. Rev. B* **91**, 081107(R) (2015).
23. T. Aoyama, K. Yamauchi, A. Iyama, S. Picozzi, K. Shimizu and T. Kimura, Giant spin-driven ferroelectric polarization in TbMnO<sub>3</sub> under high pressure, *Nat Commun.* **5** 4927 (2014).
24. T. Honda, T. Aoyama, J. S. White, Th. Strassle, L. Keller, M. Kenzelmann, F. Honda, A. Miyake, K. Shimizu, Y. Wakabayashi and T. Kimura, Pressure effect on magnetism and multiferroicity in Mn<sub>2</sub>GeO<sub>4</sub>, *Phys. Rev. B* **89**, 104405 (2014).
25. T. Aoyama, A. Miyake, T. Kagayama, K. Shimizu and T. Kimura, Pressure effects on magnetoelectric properties of a multiferroic triangular lattice antiferromagnet CuCrO<sub>2</sub>, *Phys. Rev. B* **87**, 094401 (2013).

### Proceedings

1. T. Aoyama, A. Iyama, K. Shimizu and T. Kimura, Magnetic-field-induced ferroelectric polarization flop under pressure in TbMnO<sub>3</sub>, *Journal of Physics: Conference Series* **592**, 012118 (2015).
2. T. Aoyama, A. Miyake, K. Shimizu and T. Kimura, Dielectric and AC-calorimetry Measurements of SmMnO<sub>3</sub> under High Pressure, *J. Phys. Soc. Jpn.* **81** SB036 (2012).
3. M. Soda, T. Aoyama, Y. Wakabayashi and K. Hirota Magnetism in Triangular Lattice System LuFeCoO<sub>4</sub> having Relaxor Property *Journal of Physics: Conference Series* **320**, 012084 (2011).