

Tatsuki Sato (佐藤 樹)

Personal Information

Nationality : Japanese

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Current Position

First-year Ph.D student in Arima-Tokunaga Group, Department of Advanced Materials Science, University of Tokyo

Research Interest

Coupling between magnetism and electric property

Especially, *magnetoelectrics* and *magneto-optics*

Research Experience

Single crystal growth

vapor transport method, floating zone method

Characterization

X-ray diffraction, EDS analysis

Physical property measurements

magnetization, electric polarization, dielectric constant, absorption spectroscopy

Experiments NOT at in-house facilities

Neutron diffraction at J-PARC (JAPAN)

Physical property measurements in high magnetic fields at ISSP (JAPAN)

Numerical computation

Monte-Carlo simulation

Education

B.En. Department of Applied Physics, The University of Tokyo, 2016.

M.Sc. Department of Advanced Materials Science, The University of Tokyo, 2018

Publication and Presentation

Publications and preprints

3. 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. Oishi, Y. Tokunaga and T. Arima, “Metamagnetic transitions and magnetoelectric responses in a chiral polar helimagnet $\text{Ni}_2\text{InSbO}_6$ ” ([arXiv: 1912.02363](#))
2. **T. Sato**, N. Abe, S. Kimura, Y. Tokunaga and T. Arima, “Magneto-chiral dichroism in a collinear antiferromagnet with zero magnetization” (*submitted*)
1. **T. Sato**, Y. Araki, A. Miyake, A. Nakao, N. Abe, M. Tokunaga, S. Kimura, Y. Tokunaga and T. Arima, “Magnetic phase diagram enriched by chemical substitution in a noncentrosymmetric helimagnet” ([Physical Review B 101, 054414 \(2020\)](#)) [*Selected to be an Editor’s Suggestion*]

Presentations (International conference)

5. **T. Sato**, N. Abe, S. Kimura, Y. Tokunaga and T. Arima, “Magneto-optic study of thermally driven ferrimagnet-to-helimagnet transition in a chiral-polar magnet”, International Conference on Strongly Correlated Electron Systems 2019, Okayama (poster).
4. **T. Sato**, N. Abe, S. Kimura, Y. Tokunaga and T. Arima, “Magneto-optic study of thermally driven ferrimagnet-helimagnet transition in a chiral-polar magnet”, International Conference on Frontiers of Correlated Electron Sciences, Tokyo (poster).
3. **T. Sato**, Y. Araki, A. Miyake, M. Tokunaga, T. Honda, S. Kimura, H. Sagayama, N. Abe, Y. Tokunaga and T. Arima, “Magnetoelectric effect on a newly synthesized helical magnet $\text{Ni}_2\text{In}_{1-x}\text{A}_x\text{SbO}_6$ ($\text{A}_x = \text{Cr}_{0.1}, \text{Fe}_{0.05}$)”, 21st International Conference on Magnetism, San Francisco (oral).
2. **T. Sato**, Y. Araki, A. Miyake, M. Tokunaga, A. Nakao, K. Munakata, T. Honda, H. Sagayama, S. Kimura, N. Abe, Y. Tokunaga and T. Arima, “Magnetoelectric effect in a newly synthesized helical magnet $\text{Ni}_2\text{In}_{1-x}\text{A}_x\text{SbO}_6$ ($\text{A}_x = \text{Cr}_{0.1}, \text{Fe}_{0.05}$)”, J-Physics 2018, Awaji (poster).
1. **T. Sato**, Y. Araki, T. Honda, H. Sagayama, N. Abe, Y. Tokunaga and T. Arima, “Effect of magnetic ion (Fe, Cr) doping on a helical magnet $\text{Ni}_2\text{InSbO}_6$ ”, The 9th APCTP Workshop on Multiferroics, Kashiwa (poster).

Presentations (Domestic conference)

5. **T. Sato**, N. Abe, S. Kimura, Y. Tokunaga and T. Arima, “Switching of absorbance of MnTiO_3 by both electric field and magnetic field”, 2019 Physical Society of Japan Autumn Meeting, Nagoya (oral).
4. **T. Sato**, N. Abe, Y. Tokunaga and T. Arima, “Magnetic field induced polarization reversal in MnTiO_3 ”, 2019 Physical Society of Japan Meeting, Fukuoka (oral).
3. **T. Sato**, N. Abe, S. Kimura, Y. Tokunaga and T. Arima, “Magneto optical effect in chiral polar helical magnet $\text{Ni}_2\text{In}_{0.9}\text{Cr}_{0.1}\text{SbO}_6$ ”, 2018 Physical Society of Japan Autumn Meeting, Kyoto (oral).
2. **T. Sato**, Y. Araki, N. Abe, M. Tokunaga, A. Miyake, S. Kimura, Y. Tokunaga and T. Arima, “Magnetic and electric property of magnetic ion doped helical magnet $\text{Ni}_2\text{InSbO}_6$ under high magnetic field”, 2018 Physical Society of Japan Meeting, Chiba (oral).

1. **T. Sato**, Y. Araki, T. Honda, H. Sagayama, N. Abe, Y. Tokunaga and T. Arima, “Magnetic phase diagram of magnetic ion doped helical magnet $\text{Ni}_2\text{InSbO}_6$ ”, 2017 Physical Society of Japan Autumn Meeting, Iwate (oral).