

The 27th Symposium on the Physics and Applications of Spin-related Phenomena in Semiconductors

第 27 回 半導体におけるスピノン工学の基礎と応用 (PASPS-27)

2024 年 3 月 16 日(土) ~ 3 月 17 日(日)

東北大学 片平キャンパス

電気通信研究所 ナノ・スピノン総合研究棟 4 階 カンファレンスルーム

主催： 東北大学 PASPS-27 実行委員会

共催： スピントロニクス研究会

「スピントロニクス学術研究基盤と連携ネットワーク」拠点 (Spin-RNJ)

5 拠点大学（東京大学、東北大学、大阪大学、慶應義塾大学、京都大学）スピントロニクス学術連携
研究教育センター (CSRN)

量子材料協奏拠点 Center for Innovative Research in Quantum Materials (CIRQuM)

はじめに

スピントロニクスは、電子スピンの有する不揮発性と高速操作を組み合わせることにより、情報処理・記録する自由度として様々な機会を提供し続けています。強磁性金属はすでに、磁気ランダムアクセスメモリーや高感度磁気センサーとしてマイクロエレクトロニクスやスピントロニクスデバイスに組み込まれています。また半導体においては、スピンのコヒーレンス時間が非常に長いため量子スピン操作の実現が可能であるとともに、長いスピン拡散長を活用したスピン輸送と操作も実現されています。さらに、スピンの自由度を電気的に制御することで、ロジックやメモリ機能を統合することが可能になり、多様な材料において普遍的な概念や機能を生み出すプラットフォームになっていると言えます。このようなスピンに関わる様々な現象やデバイス応用を議論する場を国内で継続的に提供してきたのが PASPS であり、最新結果や未発表のデータについても、学生を含む若手研究者やシニアな研究者が多角的な観点で議論を行いインキュベートできる環境を育んできました。

近年スピントロニクスのみならずトポロジカルエレクトロニクス、バレートロニクスなど極めて広い分野においてスピン物性は重要な役割を果たしています。一方で、分野の垣根を越えて深い物理的な理解や若手研究者のネットワークを形成する場が、逆に分野が細分化されはじめていることから多く見受けられません。そのような中で、本 PASPS では、スピンに限らず様々な分野を取り込んで、原理原則に戻り議論を行うことでお互いが分野を異にしても共通理解を促進し、基礎科学からデバイス応用に至るまで様々な課題に対する研究の方向性を刺激し、研究者同士のネットワークを広げることを目的としています。27 回目を迎える間に研究環境やトレンドが大きく変化している中でも、切磋琢磨しながら研究を発展させる研究者同士のつながりと成果発表の場となれば幸いです。

PASPS-27 運営委員

好田 誠（東北大学大学院工学研究科）

白井 正文（東北大学電気通信研究所）

PASPSについて

PASPSとは

本研究会は、“Physics and Applications of Spin-related Phenomena in Semiconductors”（半導体におけるスピニクスの基礎と応用）の頭文字を取って“PASPS”と称し、1995年に東北大学電気通信研究所共同プロジェクト研究として開催されて以来、ほぼ毎年回を重ね、今回で27回目を迎えました。この間、研究会の対象とする分野は、当初の磁性半導体、半導体ナノ構造など半導体を中心としたものから、最近では、金属薄膜、原子層物質、トポロジカル絶縁体をはじめとして、広く固体一般におけるスピニクスに関する物性、およびその応用に広げて参りました。この研究会では、スピントロニクスに関する研究者が一堂に会し、未発表データを含む最新の研究成果を発表、ご議論いただくことにより、当該分野の研究の進展、情報交換および研究者間の親睦を図ることを目的としています。

対象とする分野

磁性半導体、非磁性半導体のナノ構造、磁性体と半導体との複合構造、磁性体や超伝導体、有機材料を包含した融合・複合構造、などの作製およびスピニクスに関する現象、さらにグラフェンをはじめとした低次元物質、トポロジカル物質、スピニクス輸送・スピニクス依存伝導、電子・核スピニクス操作・検出、スピニクス関連現象のデバイス応用、等を対象とします。加えて、最近の研究動向を踏まえ、新しい技術や視点を意識した基礎・応用展開、など多岐にわたる研究発表も広く取り扱います。

- 磁性半導体、非磁性半導体を含むナノ構造、半導体/磁性体接合構造
- 磁性金属薄膜、磁性ナノ構造、MRAM/MTJ、SOT デバイス
- 磁性体、超伝導体
- 有機材料を包含した融合・複合構造
- グラフェンなどの低次元物質
- トポロジカル絶縁体・半金属
- マルチフェロイック物質
- スピニクス輸送、スピニクス依存伝導、スピニクス依存光学現象
- 電子・核スピニクス検出・操作および量子情報処理への応用
- スピニクス関連現象のデバイス応用

実行委員会

運営委員	白井 正文 好田 誠	(東北大学電気通信研究所) (東北大学大学院工学研究科)
プログラム委員	森田 健 眞田 治樹	(千葉大学大学院融合理工学府) (NTT 物性科学基礎研究所)
	山ノ内 路彦	(北海道大学大学院情報科学研究院)
現地実行委員	水上 成美 大塚 朋廣	(東北大学材料科学高等研究所) (東北大学電気通信研究所)
	金井 駿 山本 壮太	(東北大学電気通信研究所) (東北大学大学院工学研究科)
	石原 淳	(東北大学大学院工学研究科)

会場案内

会場

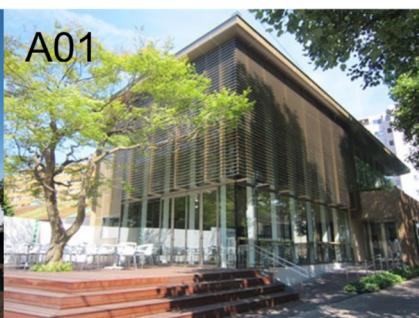
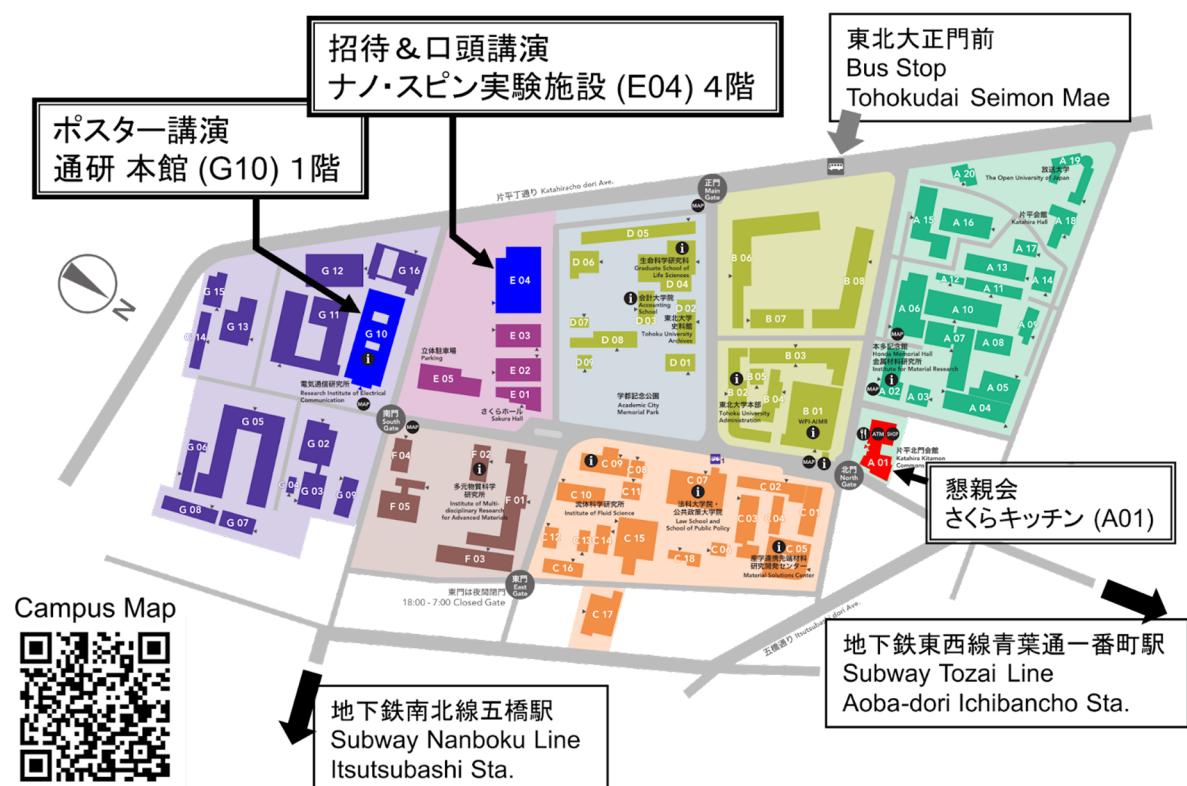
〒980-8577 宮城県仙台市青葉区片平2丁目1-1 東北大学 片平キャンパス

<https://www.tohoku.ac.jp/japanese/profile/campus/01/katahira/>

招待＆口頭講演：ナノ・スピニ実験施設 (E 04) 4階カンファレンスルーム

ポスター講演：電気通信研究所 本館 (G 10) 1階

懇親会：さくらキッチン (A 01)



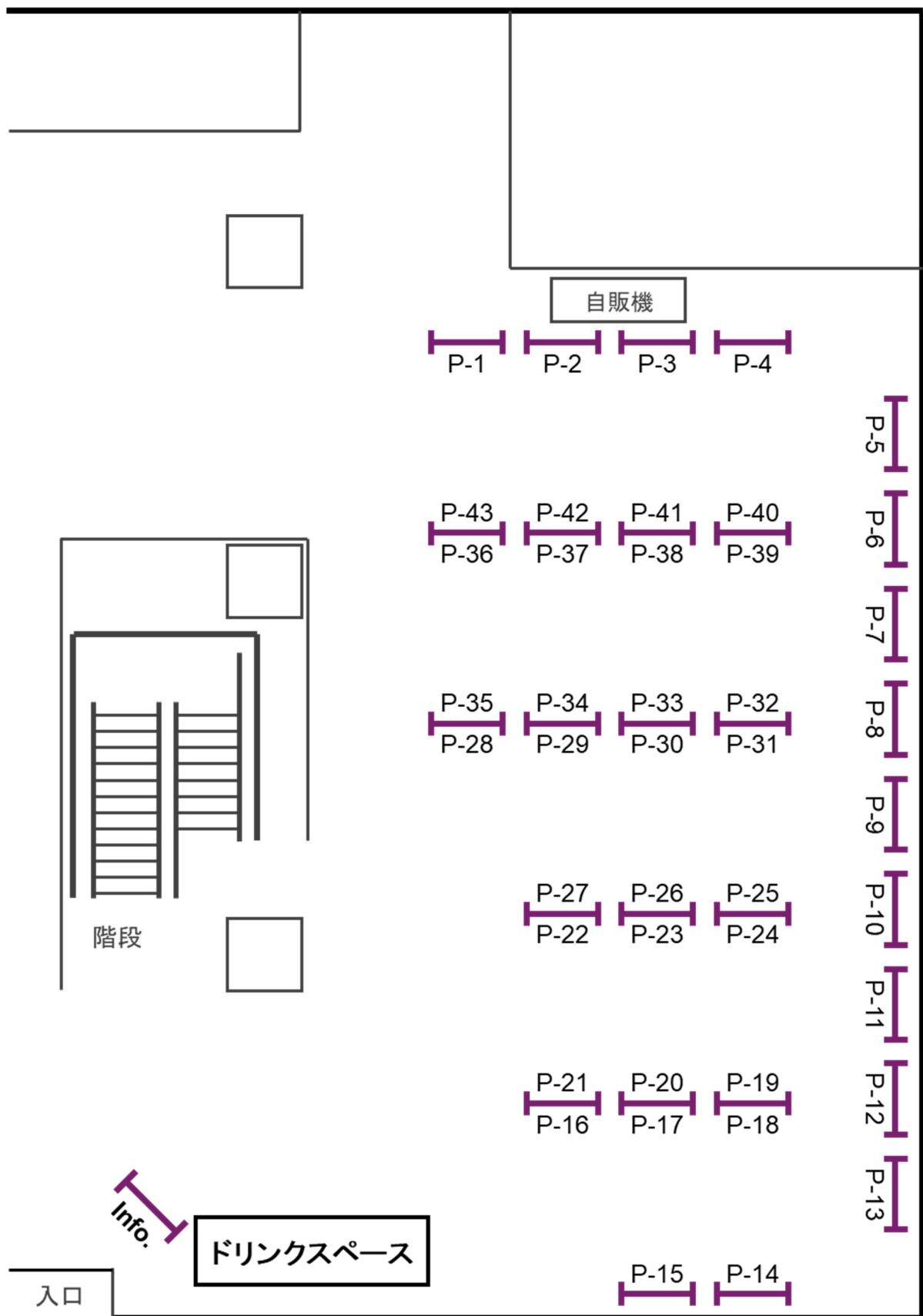
アクセス

電車 仙台市地下鉄東西線 青葉通一番町 南1出口より徒歩 15 分
仙台市地下鉄南北線 五橋駅 北2出口より徒歩 10 分
JR 仙台駅より徒歩 20 分

バス 乗車 仙台市営バス仙台駅前 11 番のりば
701 系統（東北大学病院前--八木山動物公園駅）八木山動物公園駅行
704 系統（東北大学病院前--緑ヶ丘三丁目）緑ヶ丘三丁目行
706 系統（東北大学病院前--西高校入口）西高校入口行
下車 東北大正門前

ポスター配置図

会場: 電気通信研究所 本館1階



プログラム

3月16日(土)

9:30-10:00	Registration
9:50-10:00	Welcome greeting

Session I

10:00-10:40 招待講演	Inv-1	Mechanical sensing using spintronics devices Daichi Chiba ^{1,2,3,4} ¹ International Center for Synchrotron Radiation Innovation Smart, Tohoku University, Japan, ² SANKEN(Institute of Scientific and Industrial Research), Osaka University, Japan, ³ Center for Spintronics Research Network at Osaka, Osaka University, Japan, ⁴ Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Japan
10:40-11:00	O-1	Mechanism of enhanced double-exchange interaction in a La_{2/3}Sr_{1/3}MnO₃ membrane free from epitaxial strain Takahito Takeda ¹ , Takuma Arai ¹ , Kohei Yamagami ² , Le Duc Anh ^{1,3} , Masaaki Tanaka ^{1,3,4} , Masaki Kobayashi ^{1,3} , and Shinobu Ohya ^{1,3,4} ¹ Department of Electrical Engineering and Information Systems, The University of Tokyo, ² Japan Synchrotron Radiation Research Institute (JASRI), ³ Center for Spintronics Research Network, The University of Tokyo, ⁴ Institute for Nano Quantum Information Electronics (NanoQuine), The University of Tokyo
11:00-11:20	O-2	Spin scattering mechanism in strained n-Si_{0.1}Ge_{0.9} T. Okada ¹ , K. Kawashima ¹ , M. Yamada ^{2,3,4} , T. Naito ¹ , Y. Wagatsuma ⁵ , K. Sawano ⁵ , and K. Hamaya ^{2,1,4} ¹ Grad. Sch. Eng. Sci., Osaka Univ., ² CSRN, Osaka Univ., ³ JST PRESTO, ⁴ OTRI, Osaka Univ., ⁵ Tokyo City Univ.
11:20-12:00 招待講演	Inv-2	Shift current photovoltaics in in-plane ferroelectric SnS K. Nagashio Department of Materials Engineering, The University of Tokyo, Japan,
12:00-13:15		Lunch

Session II

13:15-13:55 招待講演	Inv-3	Towards Topological Josephson Junction Koji Ishibashi ^{1,2} ¹ Advanced Device Laboratory, RIKEN, Japan, ² Center for Emergent Matter Science (CEMS), Japan
13:55-14:15	O-3	Rashba electronic states in monoatomic bismuth and antimony thin films studied by high-resolution ARPES K. Yaegashi ¹ , T. Kawakami ¹ , K. Sugawara ^{1,2,3} , T. Takahashi ¹ , and T. Sato ^{1,2,4,5,6} ¹ Determent of Physics., Tohoku University, Japan, ² Advanced Institute for Materials Research, Tohoku University, Japan, ³ Precursory Research for Embryonic Science and Technology (PRESTO), Japan Science and Technology Agency (JST), Japan, ⁴ Center for Spintronics Research Network, Tohoku University, Japan, ⁵ International Center for Synchrotron Radiation Innovation Smart (SRIS), Tohoku University, Japan, ⁶ Mathematical Science Center for CO-creative Society (MathCCS), Tohoku University, Japan
14:15-14:35	O-4	Elimination of voltage hysteresis of magnetic skyrmions M. Kasagawa ¹ , ○S. Miki ¹⁻³ , K.T. Hashimoto ¹ , R. Ishikawa ⁴ , Y. Shiota ^{5,6} , M. Goto ¹⁻³ , H. Nomura ¹⁻³ , Y. Suzuki ¹⁻³ ¹ Graduate School of Engineering Science, Osaka University, Japan, ² Center for Spintronics Research Network (CSRN), Graduate School of Engineering Science, Osaka

University, Japan, ³Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University, Japan, ⁴ULVAC-Osaka University Joint Research Laboratory for Future Technology, Osaka University, Japan, ⁵Institute for Chemical Research, Kyoto University, Japan, ⁶Center for Spintronics Research Network (CSRN), Institute for Chemical Research, Kyoto University, Japan

14:35-14:50

Break

Session III

14:50-15:30
招待講演

Inv-4

Inducing helical edge states at electrostatically defined topological domain boundaries

H. Irie, T. Akiho, N. Kumada and K. Muraki
NTT Basic Research Laboratories, NTT Corporation, Japan

15:30-15:50

O-5

Formation of quantum dots and analysis of Kondo effect in ZnO

K. Noro^{1,2}, K. Matsumura^{1,2}, T. Kumasaka¹, Y. Fujiwara^{1,2}, Y. Kozuka³, A. Tsukazaki^{4,5}, M. Kawasaki^{6,7}, T. Otsuka^{1,2,5,8,9}

¹Research Institute of Electric Communication, Tohoku University, Japan, ²Graduate School of Engineering, Tohoku University, Japan, ³Research Center for Materials Nanoarchitectonics, National Institute for Materials Science, Japan, ⁴Institute for Materials Research, Tohoku University, Japan, ⁵Center for Spintronics Integrated Systems, Tohoku University, Japan, ⁶Quantum-Phase Electronics Center, University of Tokyo, Japan, ⁷Department of Applied Physics, University of Tokyo, Japan, ⁸Center for Emergent Matter Science, RIKEN, Japan ⁹Advanced Institute for Materials Research, Tohoku University, Japan

15:50-16:10

O-6

Slowly generated anomalously large nuclear field in bulk n-AlGaAs

A. Shen¹, J. Chen¹, R. Kaji¹, T. Uemura², and S. Adachi¹

¹Graduate School of Engineering, Hokkaido University, Japan, ²Graduate School of Information Science and Technology, Hokkaido University, Japan

16:10-16:50

招待講演

Inv-5

Fabrication of Point-Defect Spin Qubits in Diamond and Their Quantum Sensing Applications

S. Onoda

Quantum Materials and Applications Research Center (QUARC), National Institutes for Quantum Science and Technology (QST), Japan

16:50-17:00

Break

Poster session

17:00-18:30

P1~P43 電気通信研究所本館 1 階

18:30-19:00

Transfer to Reception place

19:00-20:30

Welcome Reception @さくらキッチン

3月17日(日)

Session IV

9:00-9:40 招待講演	Inv-6	Optical generation of electron spin textures in semiconductors J. Ishihara Graduate School of Engineering, Tohoku University, Japan
9:40-10:00	O-7	Time Evolution of Electron Spin Waves with Arbitrary Wavenumbers in a GaAs/AlGaAs Two-Dimensional Electron Gas and Its Applications K. Kikuchi ¹ , M. Hiyama ¹ , J. Ishihara ¹ , S. Yamamoto ¹ , Y. Ohno ² , T. Mori ³ , K. Miyajima ³ , and M. Kohda ^{1,4,5,6} ¹ Graduate School of Engineering, Tohoku University, Japan, ² University of Tsukuba, Japan, ³ Tokyo University of Science, Japan, ⁴ Center for Science and Innovation in Spintronics, Tohoku University, Japan, ⁵ Division for the Establishment of Frontier Sciences of Organization for Advanced Studies, Tohoku University, Sendai, Japan, ⁶ Quantum Materials and Applications Research Center, National Institutes for Quantum Science and Technology, Japan
10:00-10:20	O-8	Magneto-optical Kerr spectroscopy of suspended WSe₂ monolayers with electrically tunable deflection G. Mariani ¹ , Y. Kunihashi ¹ , L. Smet ¹ , T. Wakamura ¹ , S. Sasaki ¹ , J. Ishihara ² , M. Kohda ² , J. Nitta ^{1,2} and H. Sanada ¹ ¹ NTT Basic Research Laboratories, NTT Corporation, Japan, ² Department of Material Science, Tohoku University, Japan
10:20-10:40		Break

Session V

10:40-11:20 招待講演	Inv-7	Photon-spin injection into metal probed by terahertz emission Kazuaki Ishibashi ^{1,2} , Satoshi Iihama ^{3,2} , Kouki Nukui ^{1,2} , and Shigemi Mizukami ^{2,4} ¹ Department of Applied Physics, Graduate School of Engineering, Tohoku University, ² WPI Advanced Institute for Materials Research, Tohoku University, ³ Frontier Research Institute for Interdisciplinary Sciences, Tohoku University, ⁴ Center for Science and Innovation in Spintronics, Tohoku University
11:20-11:40	O-9	Circular polarized light induced electromotive current in Dirac semimetals and topological insulators R. Miyazaki, M. Kawaguchi and M. Hayashi Graduate School of Science, Tokyo University, Japan
11:40-12:00	O-10	Tunable Hanle magnetoresistance in an ultrathin platinum film by ionic gating Y. Maruyama ¹ , R. Oshima ^{1,2} , Y. Ando ^{1,2} , and M. Shiraishi ^{1,2} ¹ Graduate School of Engineering, Kyoto University, Japan, ² Center for Spintronics Research Network, Kyoto University, Japan
12:00-12:15		Closing remarks

Poster 講演一覧

P-1 **Chirality-related anomalous Hall effect in strongly spin-orbit coupled semiconductors**

Hiroaki Ishizuka

Department of Physics, Tokyo Institute of Technology, Japan

P-2 **Influence of applied strain on band structure and optical property of layered semiconductor SnS**

Atsuhiko Mori¹, Kazuki Koyama¹, Jun Ishihara¹, Sota Yamamoto¹, Makoto Kohda¹⁻⁴

¹Graduate School of Engineering, Tohoku University, Japan, ²Center for Science and Innovation in Spintronics, Tohoku University, Japan, ³Division for the Establishment of Frontier Science, Tohoku University, Japan,

⁴Quantum Materials and Applications Research Center, National Institute for Quantum Science and Technology, Japan

P-3 **Microscopic theory of the inverse Edelstein effect in a junction system of a ferromagnetic insulator and a two-dimensional electron gas**

M. Yama¹, M. Matsuo^{2,3,4}, and T. Kato¹

¹Institute for Solid State Physics, The University of Tokyo, Japan, ²Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, China, ³RIKEN Center for Emergent Matter Science (CEMS), Japan, ⁴Advanced Science Research Center, Japan Atomic Energy Agency, Japan

P-4 **Spin Polarization and Magnetoresistance in a Si-based Spin MOSFET**

Sato Shoichi^{1,2}, Tanaka Masaaki^{1,2}, Nakane Ryosho^{1,3}

¹Dept. of Electrical Eng. and Information Systems, ²Center for Spintronics Research Network (CSRN), ³System Design Lab (d.lab), Graduate School of Engineering, The University of Tokyo, Tokyo, Japan

P-5 **Current-driven skyrmion reservoir computing**

M. Taguchi¹, R. Ishikawa², S. Miki^{1,3,4}, H. Nomura^{1,3,4,5}, M. Goto^{1,3,4} and Y. Suzuki^{1,3,4}

¹Graduate School of Engineering Science, Osaka University, Japan, ²ULVAC-Osaka University Joint Research Laboratory for Future Technology, Osaka University, Japan, ³Center for Spintronics Research Network (CSRN), Graduate School of Engineering Science, Osaka University, Japan, ⁴Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives (OTRI), Osaka University, Japan, ⁵International Center for Synchrotron Radiation Innovation Smart (SRIS), Tohoku University, Japan

P-6 **Quantitative measurement of figure of merit for transverse thermoelectric conversion in Fe/Pt metallic multilayers**

T. Yamazaki¹, T. Hirai², T. Yagi³, Y. Yamashita³, K. Uchida^{1,2}, T. Seki^{1,2,4}, and Koki Takanashi^{5,6}

¹Institute for Materials Research, Tohoku University, Japan, ²National Institute for Materials Science, Japan,

³National Institute of Advanced Industrial Science and Technology, Japan, ⁴Center for Science and Innovation in Spintronics, Tohoku University, Japan, ⁵Advanced Science Research Center, Japan Atomic Energy Agency, Japan, ⁶Advanced Institute for Materials Research, Tohoku University, Japan

P-7 **Field-like torque origin of the unconventional spin Hall magnetoresistance in a non-collinear antiferromagnet**

T. Uchimura^{1,2}, J. Han^{1,3}, P. Tang³, J.-Y. Yoon¹, Y. Takeuchi³, Y. Yamane^{1,4}, S. Kanai^{1,2,3,5,6,7,8}, G. E. W. Bauer^{3,7,9,10}, H. Ohno^{1,2,3,7,11}, and S. Fukami^{1,2,3,7,11,12}

¹RIEC, Tohoku Univ., ²Graduate School of Engineering, Tohoku Univ., ³WPI-AIMR, Tohoku Univ., ⁴FRIS, Tohoku Univ., ⁵PRESTO, JST, ⁶DEFS, Tohoku Univ., ⁷CSIS, Tohoku Univ., ⁸QST, ⁹IMR, Tohoku Univ., ¹⁰Kavli ITS, UCAS, ¹¹CIES, Tohoku Univ. ¹²InaRIS

P-8 **Microscopic theory for spin Hall magnetoresistance**

T. Kato¹, T. Ishikawa¹, M. Matsuo²

¹Institute for Solid State Physics, The University of Tokyo, Kashiwa, Japan, ²Kavli Institute for Theoretical Sciences, University of Chinese Academy of Sciences, Beijing, China

P-9 **Current-induced magneto-optical Kerr effect in topological insulator thin films**

Shunzhen Wang¹, Yukihiro Marui^{1,2}, Masashi Kawaguchi¹ and Masamitsu Hayashi¹

¹Graduate School of Science, The University of Tokyo, Japan, ²Research Institute of Electric Communication, Tohoku University, Japan

- P-10 **Investigation of side-gated skyrmion device**
R. Ishikawa¹, S. Miki²⁻⁴, M. Goto²⁻⁴, H. Nomura²⁻⁴, and Y. Suzuki²⁻⁴
¹ULVAC-Osaka University Joint Research Laboratory for Future Technology, Osaka University, Japan, ²Graduate School of Engineering Science, Osaka University, Japan, ³Center for Spintronics Research Network (CSRN), Osaka University, ⁴Spintronics Research Network Division, Institute for Open and Transdisciplinary Research Initiatives, Osaka University
- P-11 **Interfacial spin-orbit field in epitaxial Fe/GaAs heterostructure**
H. Ding¹, J. Ishihara¹, S. Karube², M. Ogawa³, S. Yamamoto¹, T. Uemura³ and M. Kohda^{1,4-6}
¹Graduate School of Engineering, Tohoku University, Japan, ²Institute for Chemical Research, Kyoto University, Japan, ³Faculty of Information Science and Technology, Hokkaido University, Japan, ⁴Center for Science and Innovation in Spintronics, Tohoku University, Japan, ⁵Division for the Establishment of Frontier Science, Tohoku University, Japan, ⁶Quantum Materials and Applications Research Center, National Institute for Quantum Science and Technology, Japan
- P-12 **Growth of tetragonal MnGa nano-layer on metastable cubic AlN films**
Naoki Kamata^{1,2}, Kenya Suzuki^{1,2}, Deepak Kumar², and Shigemi Mizukami^{2,3}
¹Dept. Appl. Phys., Grad. Sch. Engin., Tohoku Univ., Japan, ²WPI Advanced Institute for Materials Research (AIMR), Tohoku Univ., Japan, ³Center for Science and Innovation in Spintronics (CSIS), Tohoku Univ., Japan
- P-13 **Demonstration of the in-plane stochastic magnetic tunnel junction based fast probabilistic bit and Bayesian networks**
Haruna Kaneko^{1,2}, Nihal Sanjay Singh³, Shaila Niazi³, Shuvro Chowdhury³, Kemal Selcuk³, Keito Kobayashi^{1,2}, Shun Kanai^{1,2,4-8}, Hideo Ohno^{1,6,7,9}, Kerem Y. Camsari³, and Shunsuke Fukami^{1,2,6,7,9,10}
¹RIEC, Tohoku Univ., ²Graduate School of Engineering, Tohoku Univ., ³Department of Electrical and Computer Engineering, UCSB, ⁴JST PRESTO, ⁵DEFS, Tohoku Univ., ⁶CSIS, Tohoku Univ., ⁷WPI-AIMR, Tohoku Univ., ⁸QST, ⁹CIES, Tohoku Univ., ¹⁰InaRIS
- P-14 **Influence of spin diffusion on spin dynamics near the persistent spin helix in a (001) GaAs /AlGaAs quantum well**
K. Akagi¹, J. Kitagawa², J. Ishihara², S. Yamamoto², Y. Ohno³, and M. Kohda^{1,2,4-6}
¹Department of Materials Science and Engineering, Tohoku University, Japan, ²Graduate School of Engineering, Tohoku University, Japan, ³Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan, ⁴Center for Science and Innovation in Spintronics, Tohoku University, Japan, ⁵Division for the Establishment of Frontier Science, Tohoku University, Japan, ⁶Quantum Materials and Applications Research Center, National Institute for Quantum Science and Technology, Japan
- P-15 **AC magnetoresistance in chiral supramolecular polymer**
Masami Komoike¹, Satoru Yoshida², Francesco Calavalle¹, Ryo Ohshima^{1,3}, Yuichiro Ando^{1,3}, Kazuo Akagi², and Masashi Shiraishi^{1,3}
¹Graduate School of Engineering, Kyoto University, Japan, ²Research Organization of Science and Technology, Ritsumeikan University, Japan, ³Center for Spin Research Network, Kyoto University, Japan
- P-16 **Dynamical magnetoelectric response at magnetic domain wall in fully spin-polarized Weyl semimetal**
Yasufumi Araki¹, Akihiro Ozawa², and Kentaro Nomura³
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- P-17 **Rabi frequency of Electric Dipole Spin Resonance with Cubic-to-momentum Spin-Orbit Interaction**
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- P-18 **Scalable superconducting flux quantum bits with large-area Josephson junctions**
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- P-19 **Fabrication of epitaxial $\text{Cr}_2\text{O}_3(0001)$ thin film on LiNbO_3**
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- P-20 **Dynamics of Weyl singularity points and topological phase transition in multi-terminal Josephson junctions**
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- P-21 **Polarization-dependent optical properties of $\text{MgAl}_2\text{O}_4:\text{Ce}$ under magnetic fields**
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- P-22 **GaAs 量子井戸における空間光変調器を用いた電子スピノ波の波数制御**
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- P-23 **One-dimensional configuration coordinate model of optical spectra in Cr^{3+} -doped α - Al_2O_3 by quasiparticle self-consistent GW**
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- P-24 **Observations of spin orbit torque induced magnetization switching and effective magnetic field in perpendicularly magnetized MnGa/Fe grown on GaAs**
 M. Ogawa, T. Hara, S. Hasebe, M. Yamanouchi, and T. Uemura
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- P-25 **Coexistence of Anomalous Hall Effect and Weak Magnetization in Nominally Collinear Atermagnetic α -MnTe**
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- P-26 **Thermal stability of non-collinear antiferromagnet Mn₃Sn nanoscale single dots**
Y. Sato^{1,2}, Y. Takeuchi^{3,4}, Y. Yamane^{1,5}, J.-Y. Yoon^{1,2}, S. Kanai^{1,2,3,6,7,8,9}, J. Ieda¹⁰, H. Ohno^{1,3,6,11} and S. Fukami^{1,2,3,6,11,12}
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- P-27 **Development of Technology for Detecting the Operating Conditions of Rotating Equipment using Tunnel Magnetoresistance Sensor**
H. Shibuya and M. Oogane
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- P-28 **Ferromagnetic GdN films grown by pulsed laser epitaxy**
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- P-29 **Surface acoustic waves-driven magnon spin Hall effect in atomically thin van der Waals antiferromagnets**
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- P-30 **Simulation of Majority Logic Based on Drift-transported Electron Spin Waves in a GaAs Quantum Well**
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- P-31 **Modulation of Néel temperature in the antiferromagnetic epitaxial Cr₂O₃ thin film by the buffer layer materials**
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- P-32 **Magnetic compensation of Mn₄N films doped with group 11 elements and interlayer exchange coupling in their heterostructures**
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- P-33 **Giant spin Hall angle in highly-conductive Dirac semimetal PtTe₂**
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- P-34 **Growth and evaluation of BiSb topological insulator ultrathin films on Si(111) substrates for superconductor/2D-TI topological quantum bits**
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- P-35 **単層 WS₂/In_{0.04}Ga_{0.96}As ヘテロ構造におけるキャリア授受のゲート電圧変調**
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- P-36 **Spin currents through the non-magnetic chiral structure**
 J. Ohe and Y. Igarashi
 Department of Physics, Toho University, Japan
- P-37 **Detection of Single NV Center by Scanning Photocurrent Microscope**
 S. Nakamura^{1,2}, N. Morioka^{3,4}, N. Mizuochi^{3,4}, S. Mizukami^{2,5}, and H. Morishita^{5,2}
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- P-38 **Enhanced Magnetization and Change in Magnetic Anisotropy in La_{2/3}Sr_{1/3}MnO₃ membranes Released from a Substrate**
 T. Arai¹, S. Kaneta-Takada¹, L. D. Anh^{1,2}, M. Kobayashi^{1,2}, M. Seki^{1,2}, H. Tabata^{1,2}, M. Tanaka^{1,2,3}, and S. Ohya^{1,2,3}
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- P-39 **Dynamical Majorana Ising spin response in a topological superconductor-magnet hybrid by microwave irradiation**
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- P-40 **Spatial structure dynamics of spins in semiconductor quantum ring structures**
 T. Nakahara and K. Morita
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- P-41 **First-Principles Calculation on Anomalous Hall Effect in Alttermagnetic CaCrO₃**
 Kunihiko Yamauchi, Thi Phuong Thao Nguyen, and Tamio Oguchi
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- P-42 **Microscopic Origin of Magnetism in Monolayer Transition-Metal Dihalides**
 Thi Phuong Thao Nguyen, Kunihiko Yamauchi, and Tamio Oguchi
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- P-43 **Efficient spin-orbit-torque single-layer magnetization switching in SrRuO₃ induced by enhanced spin Berry curvature by oxygen octahedral rotation**
 H. Horiuchi¹, Y. K. Wakabayashi², Y. Araki³, J. Ieda³, M. Yamanouchi⁴, S. Kaneta-Takada¹, Y. Taniyasu², H. Yamamoto², Y. Krockenberger², M. Tanaka^{1,5} and S. Ohya^{1,5}
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