# PASPS-18 Program

## 12 月 9 日

13:10-13:15 Opening 白石 誠司

13:15-13:45 A-1 **Spin-orbit induced electronic spin polarization and gate controlled persistent spin helix state**
**招待発表**
**好田 誠**
**東北大院・工**

13:45-14:00 A-2 zinc-blende(110)対称量子井戸におけるスピン緩和
明楽浩史, 鈴浦秀勝, 江上喜幸
北海道大学大学院 工学研究院 応用物理学部門

14:00-14:15 A-3 Room temperature process to prepare a crystalline $AlO_x$ spin tunnel barrier on GaAs-based structures
Nozomi Nishizawa and Hiro Munekata
東工大 像情報工学研究所

14:15-14:30 Break

14:30-15:00 A-4 **ORIGIN OF HANLE-LIKE SIGNAL IN 3-TERMINAL DEVICES**
**招待発表**
**Felix Casanova**
**NanoGune, Spain**

15:00-15:15 A-5 Spin lifetime in strained InGaAs channels investigated through all electrical spin injection and detection
T. Akiho, M. Yamamoto, T. Uemura
北海道大学大学院情報科学研究科

15:15-15:30 A-6 $Co_2FeSi$ ホイスラー合金電極を用いた $n$ 型 Ge 中のスピン伝導検出
笠原健司[1],藤田裕一[1],山田晋也[1],澤野憲太郎[2],宮尾正信[1],浜屋宏平[1]
[1]九大院シス情報,
[2]東京都市大総研

15:30-15:45 Break

15:45-16:15 A-7 **Magnon wavenumber modulation and the magnon Hall effect**

**招待発表**

**Kenji Tanabe**
**Institute for Academic Initiatives, Osaka University**
**Department of Physics, Osaka University**

16:15-16:30 A-8 2 層系量子ホール状態における層間核スピン輸送

Minh-Hai Nguyen[1]、寺澤大樹[2]、津田是文[1]、福田昭[2]、澤田安樹[3]
[1]京都大学大学院理学研究科,
[2]兵庫医科大学物理,
[3]京都大学低温物質科学研究センター

16:30-16:45 A-9 Electrical charge state control of individual atomic defect in diamond

Y. Doi[1], T. Makino[2,3], H. Kato[2,3], D. Takeuchi[2,3,] M. Ogura[2,3], H. Okushi[2,3]H. Morishita[1], T. Tashima[1], S. Miwa[1], S. Yamasaki[2,3,] P. Neumann[4], J. Wrachtrup[4], Y. Suzuki[1,2], N. Mizuochi[1,2]
[1] Graduate School of Engineering Science, Osaka University
[2]Energy Technology Research Institute-National Institute of Advanced Industrial Science and Technology,
[3] CREST, Japan Sciente Technology,
[4] Physikalisches Institut, Universität Stuttgart

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16:45-17:00 A-10 単一量子リングにおける g 因子測定と価電子帯混合度の評価

鍛治怜奈[1], 穂積貴人[1], 八山雄太[1], 冨井拓真[1], 笹倉弘理[2], 定昌史[3], 足立智[1]
[1] 北海道大学大学院工学研究院,
[2] 北海道大学創成研究機構,
[3] 理化学研究所

17:00-17:15 Break

## -Poster Session-

17:15-18:30

P-1 Electrical and spin transport properties across perpendicular magnetized Cu/Ni multilayers/GaAs(001) interfaces

Yasuhiro Shirahata, Eiji Wada, Ryota Shiina, Mitsuru Itoh, and Tomoyasu Taniyama
Materials and Structures Laboratory, Tokyo Institute of Technology

P-2 Magnetic property of Li codoped (Ga,Mn)As

S. Miyakozawa,[1]* L. Chen,[2,3,1] F. Matsukura,[2,1] and H. Ohno[1,2,3]
[1]Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University
[3] WPI-Advanced Institute for Materials Research, Tohoku University
[2] Center for Spintronics Integrated Systems, Tohoku University

P-3 Optical Isolator Utilizing Surface Plasmons in Ferromagnetic Metal /Double-dielectric Layers for Integration into Photonic Integrated Circuits

T.Kaihara[1], H. Shimizu[1], V. Zayets[2], H. Saito[2], K.Ando[2], and S. Yuasa[2]
[1] Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology
[2] Spintronics Research Cennter, National Institute of Advanced Industrial Science and Technology

P-4 IV 族強磁性半導体 GeFe 薄膜におけるキュリー温度及び格子定数の成長温度依存性

若林勇希, 伴芳祐,大矢忍, 田中雅明
東京大学大学院工学系研究科電気系工学専攻

P-5 Magnetic properties and light emitting in Eu-doped GaN: theoretical approach

A. Masago, T. Fukushima, and H. Katayama-Yoshida
Graduate School of Engineering Science, Osaka University

P-6 Temperature dependence of electric-field effects on magnetic anisotropies inTa-CoFeB-MgO

A. Okada,[1]* S. Kanai,[1] M. Yamanouchi,[1,2] S. Ikeda,[1,2] F. Matsukura[3,1] and H. Ohno[1,2,3]
[1]Laboratory for Nanoelectronics and Spintronics, Research Institute of Electrical Communication, Tohoku University
[2] Center for Spintronics Integrated Systems, Tohoku University
[3] WPI-Advanced Institute for Materials Research, Tohoku University

P-7 GaMnAs の磁気異方性と異方性磁気抵抗の膜厚依存
— 価電子バンドオフセットと面直歪依存性 —

○野崎 大樹, 堀井 達哉, 加来 滋, 吉野 淳二
東工大・理工

P-8 Enhanced Ferromagnetism in Be-doped (In,Fe)As with ordered structures of Fe clusters

Nguyen Dang Vu, Tetsuya Fukushima, Kazunori Sato, and Hiroshi Katayama-Yoshida
Graduate School of Engineering Science, Osaka University

P-9 Room-temperature grown FeRh films with $B2$-ordered structures

K. Tanikawa, J.Hirayama, S. Yamada,M.Kawano, M. Miyao, and K. Hamaya
Department of Electronics, Kyushu University

P-10 GaN(0001)上への Co 薄膜の成長と室温におけるスピン注入

山口 明哲, 長谷川 繁彦
阪大産研

P-11 Energy dependence of tunneling anisotropic magnetoresistance in GaMnAs

Toshiki Kanaki, Iriya Muneta, Shinobu Ohya, and Masaaki Tanaka
Department of Electrical Engineering and Information Systems, The University of Tokyo

P-12 Electrical detection of circularly polarized light by using a lateral-type ferromagnet/semiconductor junction

H. Ikeda, N. Nishizawa, K. Nishibayashi, and H. Munekata
Imaging Science & Engineering Laboratory, Tokyo Institute of Technology

P-13 Search for the spin analyzing effect in an interference device

Y. Iwasaki, S. W. Kim, Y. Hashimoto, T. Nakamura, Y. Iye and S. Katsumoto
Institute for Solid State Physics, University of Tokyo

P-14 XMCD measurements of ferromagnetic semiconductor (In,Fe)As

S. Sakamoto,[1] M. Kobayashi,[2] G. Shibata,[1] Y. Takahashi,[1] A. Fujimori,[1] T. Koide,[2] Y. Takeda,[3] Y. Saitoh,[3] H. Yamagami,[3,4] L. D. Anh,[5] P. N. Hai,[5] and M. Tanaka[5]
[1]Department of Physics, The University of Tokyo
[2] KEK
[3]Synchrotron Radiation Research Unit, JAEA,
[4]Department of Physics, Kyoto Sangyo University
[5]Department of Electrical Engineering and Information Systems, The University of Tokyo

P-15 希薄磁性半導体(Zn,Cr)Te 中の Cr 不純物準位に関する STM 研究

西村拓,金澤研,吉田昭二,重川秀実,黒田眞司
筑波大学,数理物質研究科

P-16 CdTe(111)A 面上に MBE 成長した三元化合物 CrFeTe の結晶構造と磁性

山脇和真[1], 金澤研[1], 黒田眞司[1], 三留正則[2], 板東義雄[2]
[1]筑波大学大学院 数理物質科学研究科,
[2]物質・材料研究機構

P-17 四元混晶希薄磁性半導体(Zn,Cr,Fe)Te の MBE 成長と磁気特性

○石塚智史[1], 土門武[1], 秋山了太[1], 金澤研[1], 黒田眞司[1]
筑波大院数理物質科学研究科[1]

P-18 希薄磁性半導体(Zn,Co)O 薄膜の n 型ドーピングによる磁性の変化

石川諒[1], 秋山了太[1], 金澤研[1], 黒田眞司[1]
筑波大学大学院 数理物質科学研究科,

P-19 Spin diffusion length evaluation using channel length in lateral spin transport experiments

○Sergey Dushenko[1], Eiji Shikoh[1,2], Yuichiro Ando[1], Teruya Shinjo[1], and Masashi Shiraishi[3]
Osaka Univ. [1],
Osaka City Univ.[2],
Kyoto Univ[3]

P-20 Spin pumping and inverse spin Hall effect in p-type Germanium at room temperature

Mariko Koike[1] Eiji Shikoh,[1] Yuichiro Ando,[1] Teruya Shinjo,[1] Shinya Yamada,[2] Kohei Hamaya,[2] Masashi Shiraishi[1]
[1]Graduate School of Engineering Science, Osaka University,
[2]Department of Electronics, Kyushu University,

P-21 Spin injection efficiency from epitaxial $Fe_3Si$ into Pd

K. Ichiba[1], Y.Ando[1], E. Shikoh[2], T. Shinjo[1], K. Hamaya[3], M. Shiraishi[1]
[1] Graduate School of Engineering Science, Osaka University,
[2]Graduate School of Engineering, Osaka City University,
[3]Department of Electronics, Kyushu University,

P-22 Spin detection using inverse spin Hall effect in bismuth

H. Emoto[1]*, Y. Ando[1], E. Shikoh[2], Y. Fuseya[3], T. Shinjo[1], M. Shiraishi[1]
Osaka Univ. [1],
Osaka City Univ.[2],
Univ. of Electro-Communications[3]

P-23 Electric field effect on NV centers in diamond under high electric field

○Satoshi Kobayashi, Kenichi Nagao, Shinji Miwa, Yoshishige Suzuki,Norikazu Mizuochi
Graduate School of Engineering Science, Osaka Univ.

P-24 Voltage-induced-modulation of propagating spin-wave in Fe

K. Nawaoka[1], Y. Shiota[1,2], S. Miwa[1,2], N. Mizuochi[1], T. Shinjo[1], Y. Suzuki[1,2]
[1]. Graduate School of Engineering Science, Osaka University
[2]. CREST, Japan Science Technology

## 12 月 10 日

10:00–10:30 **B–1** **High RF detection sensitivity in MgO–based spin–torque diode**

**招待発表**

**S. Miwa[1], S. Ishibashi[1,2], H. Tomita[1], T. Nozaki[1,2], E. Tamura[1], N. Mizuochi[1], T. Saruya[2],H. Kubota[2], K. Yakushiji[2], T. Taniguchi[2], H. Imamura[2,] A. Fukushima[2], S. Yuasa[2],Y. Suzuki[1,2]**

**[1]. Graduate School of Engineering Science, Osaka University, Japan**

**[2.] National Institute of Advanced Industrial Science and Technology (AIST), Spintronics Research Center, Japan**

10:30–10:45 B–2 ULTRAFAST TIME–RESOLVED MAGNETO–OPTICAL IMAGING MICROSCOPY

Y. Hashimoto, B. Koene, A. V. Kimel, A. Kiriluk, and Th. Rasing

Radboud University Nijmegen, Institute for Molecules and Materials,

10:45–11:00 B–3 Coupling between single photons and single electron spins in gate–defined double quantum dots

A. Oiwa[1], T. Fujita[1], K. Morimoto[1], H. Kiyama[1], S. Teraoka[1], M. Larsson[1], G. Allison[1], A. Ludwig[2], A. D. Wieck[2] , and S Tarucha[1,3]

[1] Department of Applied Physics, The University of Tokyo

[2] Lehrstuhl für Angewandte Festkörperphysik, Ruhr–Universität Bochum,

[3] Center for Emergent Matter Science (CEMS), RIKEN

11:00–11:15 Break

11:15–11:45 **B–4** **Ferromagnetic semiconductors: carrier induced ferromagnetism and electric–field effects**

**招待発表**

**Fumihiro Matsukura**

**WPI–Advanced Institute for Materials Research, Tohoku University**

**Center for Spintronics Integrated Systems, Tohoku University**

11:45–12:00 B–5 Valence band ordering restored by the $p$-$d$ exchange interaction in GaMnAs

Iriya Muneta, Hiroshi Terada, Shinobu Ohya, and Masaaki Tanaka

Department of Electrical Engineering and Information Systems, The University of Tokyo

12:00–12:15 B–6 Adiabatic Spin–Transistor Action in Diluted Magnetic Semiconductors

C. Betthausen[1], T. Dollinger[2], H. Saarikoski[2,4], V. Kolkovsky[3], G. Karczewski[3], T. Wojtowicz[3],K. Richter[2], and D. Weiss[1]

[1] Department of Experimental and Applied Physics, Regensburg University, Germany

[2] Department of Theoretical Physics, Regensburg University,

[3] Institute of Physics, Polish Academy of Sciences,

[4] RIKEN Center for Emergent Matter Science (CEMS),

12:15–13:30 Lunch

13:30–14:00 **B-7** **SPIN-WAVE HEAT CONVEYER**

**招待発表**

**T. An[1,2,*], K. Uchida[1,3], K. Yamaguchi[1,2], K. Harii[2,4], J. Ohe[2,5], Y. Kajiwara[1,2],H. Adachi[2,4], B. Hillebrands[6], S. Maekawa[2,4], and E. Saitoh[1,2,4,7]**
**[1]IMR, Tohoku Univ.**
**[2]CREST, JST,**
**[3]PRESTO, JST,**
**[4]ASRC, JAEA,**
**[5]Department of Physics, Toho Univ.,**
**[6]Fachbereich Physik and Landesforschungszentrum OPTIMAS, Technische Universität Kaiserslautern,**
**[7]WPI-AIMR, Tohoku Univ.*Present address: RIKEN,**

14:00–14:15 B-8 Spin injection into Nb/InAs/Nb Andreev junctions

K. Takai, T. Nakamura, Y. Hashimoto, Y. Iye, and S. Katsumoto
Institute for Solid State Physics, The University of Tokyo

14:15–14:30 B-9 Effect of rf sputtering power on electric field modulation of coercivity in Co ultra-thin films

Tomohiro Koyama[1], Aya Obinata[1], Yuki Hibino[1], and Daichi Chiba[1,2].
[1]Department of Applied Physics, Faculty of Engineering, The University of Tokyo,
[2]PRESTO, Japan Science and Technology Agency,

14:30–15:00 **B-10** **Spin-charge conversion in solution-processed conducting polymer**

**招待発表**

**Kazuya Ando**
**Department of Applied Physics and Physico-Informatics, Keio University**

15:00–15:15 Closing