

Peer-Reviewed Papers

- (1) Hard X-ray Photoelectron Spectroscopy Study of Pt/Y₃Fe₅O₁₂
M. Kobata, K. Yoshii, T. Fukuda, I. Kawasaki, T. Okane, H. Yamagami, T. Yaita, K. Harii, J. Ieda, S. Okayasu, T. Hioki, T. Kikkawa, and E. Saitoh
JPS Conf. Proc. **30**, 011192 (2020).
- (2) Experimental Realization of a Passive Gigahertz Frequency-Division Demultiplexer for Magnonic Logic Networks
F. Heussner, G. Talmelli, M. Geilen, B. Heinz, T. Brächer, T. Meyer, F. Ciubotaru, C. Adelman, K. Yamamoto, A. A. Serga, B. Hillebrands, and P. Pirro
Phys. Status Solidi RRL **14**, 1900695 (2020)
- (3) Electric field effect on the magnetic domain wall creep velocity in Pt/Co/Pd structures with different Co thicknesses
T. Koyama, J. Ieda, and D. Chiba
Appl. Phys. Lett. **116**, 092405 (2020).
- (4) Acoustic ferromagnetic resonance and spin pumping induced by surface acoustic waves
J. Puebla, M. Xu, B. Rana, K. Yamamoto, S. Maekawa, and Y. Otani
J. Phys. D: Appl. Phys. **53**, 264002 (2020).
- (5) Dynamical spin-to-charge conversion on the edge of quantum spin Hall insulator
Y. Araki, T. Misawa, and K. Nomura
Phys. Rev. Research **2**, 023195 (2020).
- (6) Observation of Gyromagnetic Spin Wave Resonance in NiFe Films
Y. Kurimune, M. Matsuo, and Y. Nozaki
Phys. Rev. Lett. **124**, 217205 (2020).
- (7) Giant spin hydrodynamic generation in laminar flow
R. Takahashi, H. Chudo, M. Matsuo, K. Harii, Y. Ohnuma, S. Maekawa, and E. Saitoh
Nat. Commun. **11**, 3009 (2020).
- (8) Kondo effect driven by chirality imbalance
D. Suenaga, K. Suzuki, Y. Araki, and S. Yasui
Phys. Rev. Research **2**, 023312 (2020).
- (9) Enhancement of domain-wall mobility detected by NMR at the angular momentum compensation temperature
M. Imai, H. Chudo, M. Matsuo, S. Maekawa, and E. Saitoh
Phys. Rev. B **102**, 014407 (2020).
- (10) Ultralow-energy magnon anomaly in yttrium iron garnet
S. Shamoto, Y. Yasui, M. Matsuura, M. Akatsu, Y. Kobayashi, Y. Nemoto, and J. Ieda
Phys. Rev. Research **2**, 033235 (2020).
- (11) Nonreciprocal surface acoustic wave propagation via magneto-rotation coupling
M. Xu, K. Yamamoto, J. Puebla, K. Baumgaertl, B. Rana, K. Miura, H. Takahashi, D. Grundler, S.

- Maekawa, and Y. Otani
Sci. Adv. **6**, eabb1724 (2020).
- (12) Tolerance of spin-Seebeck thermoelectricity against irradiation by swift heavy ions
S. Okayasu, K. Harii, M. Kobata, K. Yoshii, T. Fukuda, M. Ishida, J. Ieda, and E. Saitoh
J. Appl. Phys. **128**, 083902 (2020).
- (13) Magnetic field dependence of the nonlocal spin Seebeck effect in Pt/YIG/Pt systems at low temperatures
K. Oyanagi, T. Kikkawa, E. Saitoh,
AIP ADVANCES **10**, 1 (2020)
- (14) Magnon polarons in the spin Peltier effect
R. Yahiro, T. Kikkawa, R. Ramos, K. Oyanagi, T. Hioki, S. Daimon, E. Saitoh
Phys. Rev. B **101**, 024407 (2020)
- (15) Absence of evidence of spin transport through amorphous $\text{Y}_3\text{Fe}_5\text{O}_{12}$
J. M. Gomez-Perez, K. Oyanagi, R. Yahiro, R. Ramos, L. E. Hueso, E. Saitoh, F. Casanova,
Appl. Phys. Lett. **116**, 032401 (2020)
- (16) Bidirectional energy filtering for electronic and phonon transport in $\text{Al}_2\text{O}_3/\text{ZnO}$ superlattice films with anisotropy
W-Y. Lee, N-W. Park, S-Y. Kang, M-S. Kang, Thi Thu Trang Bui, J-H. Seok, G-S. Kim, E. Saitoh,
S-K. Lee,
J. Alloy. Comp. **815**, 152482 (2019)
- (17) Snell's law for spin waves at a 90 degrees magnetic domain wall
T. Hioki, T. Tsuboi, T. H. Johansen, T. Hashimoto, E. Saitoh,
Appl. Phys. Lett. **116**, 112402 (2020)
- (18) Electric current control of spin helicity in an itinerant helimagnet
N. Jiang, Y. Nii, H. Arisawa, E. Saitoh, Y. Onose,
Nature Commun. **11**, 1601 (2020)
- (19) Crystalline dependence of spin transmission in Cr_2O_3 thin films
J. G. Qin, D. Z. Zhou, Y. Chen, E. Saitoh, X. F. Jin,
J. Mag. Mag. Mat. **501**, 166362 (2020)
- (20) Large-scale MoS_2 thin films with a chemically formed holey structure for enhanced Seebeck thermopower and their anisotropic properties
M. S. Kang, S. Y. Kang, W. Y. Lee, N. W. Park, K. C. Kwon, S. Choi, G. S. Kim, J. Nam, K. S. Kim,
E. Saitoh, H. W. Jang, S. K. Lee,
J. Mater. Chem. A **8**, 8669 (2020)
- (21) Enhanced Spin Seebeck Effect in Monolayer Tungsten Diselenide Due to Strong Spin Current Injection at Interface
S. K. Lee, W. Y. Lee, T. Kikkawa, C. T. Le, M. S. Kang, G. S. Kim, A. D. Nguyen, Y. S. Kim, N. W. Park, E. Saitoh,

- Adv. Fung, Mat. 2003192 (2020)
- (22) Surface Coverage Dependence of Spin-to-Charge Current across Pt/MoS₂/Y₃Fe₅O₁₂ Layers via Longitudinal Spin Seebeck Effect
W. Y. Lee, N. W. Park, M. S. Kang, G. S. Kim, H. W. Jang, E. Saitoh, S. K. Lee,
J. Phys. Chem. Lett. **11**, 5338 (2020)
- (23) Observation of Magnon Polarization
Y. Nambu, J. Barker, Y. Okino, T. Kikkawa, Y. Shiomi, M. Enderle, T. Weber, B. Winn, M. Graves-Brook, J. M. Tranquada, T. Ziman, M. Fujita, G. E. W. Bauer, E. Saitoh, K. Kakurai,
Phys. Rev. Lett. **125**, 027201 (2020)
- (24) Efficient Spin Torques in Antiferromagnetic CoO/Pt Quantified by Comparing Field- and Current-Induced Switching
L. Baldrati, C. Schmitt, O. Gomonay, R. Lebrun, R. Ramos, E. Saitoh, J. Sinova, M. Klau,
Phys. Rev. Lett. **125**, 077201 (2020)
- (25) Optomagnonic Barnett effect
K. Nakata and S. Takayoshi,
Phys. Rev. B **102**, 094417 (2020).
- (26) Nuclear Magnetic Relaxation Time near Compensation Temperature in Ferrimagnetic Insulator
M. Mori
J. Phys. Soc. Jpn. **89**, 114705 (2020).
- (27) Non-reciprocal Pumping of Surface Acoustic Waves by Spin Wave Resonance
K. Yamamoto, W. Yu, T. Yu, J. Puebla, M. Xu, S. Maekawa, G. Bauer
J. Phys. Soc. Jpn. **89**, 113702 (2020).
- (28) Reply to Comment on 'Observation of Barnett fields in solids by nuclear magnetic resonance'
H. Chudo, M. Matsuo, K. Harii, S. Maekawa, and E. Saitoh,
Appl. Phys. Express **13**, 109102 (2020)
- (29) Mean-field study of the Bose-Hubbard model in the Penrose lattice
R. Ghadimi, T. Sugimoto, and T. Tohyama
Phys. Rev. B **102**, 224201 (2020).
- (30) Cluster-based Haldane states in spin-1/2 cluster chains
T. Sugimoto, K. Morita, and T. Tohyama
Phys. Rev. Res. **2**, 023420 (2020).

Invited Talks at International Conferences

- (1) 65th Annual Conference on Magnetism and Magnetic Materials Virtual Conference, 2-6 November 2020
"Controlling magnetic anisotropy by Rashba and other spin-orbit couplings"
J. Ieda
- (2) APW-RIKEN-Tsinghua-Kavli workshop 2020 on "Highlights on condensed matter physics" Online Zoom meeting, 2-4 September 2020

"Topological characterization of magneto-static surface spin waves"

K. Yamamoto

Books and Scientific Articles

(1) “エネルギーの将来「スピントロニクス」の挑戦”

FBNews 528, 1-5 (2020).

家田淳一

(2) “角運動量物性としてのバーネット効果”

固体物理 Vol.22 No.9 P.29 (2020).

中堂博之、今井正樹

Patents

None

Awards

2020年10月12日:令和2年度理事長表彰 研究開発功績賞 特賞, 山本慧

Press Release

- (1) 電力制御の小さな横綱「パワースピントロニクス素子」の開発に道—電源回路の小型化とノイズ除去の切り札「負のインダクタンス」の活用に期待—(2021年3月)
- (2) 磁気を用いて音波を一方通行に—音響整流装置の基礎原理開拓—(2020年8月)
- (3) 放射線に負けない熱電発電の実現に向けて—スピン熱電素子が重イオン線に高耐性を持つことを実証—(2020年8月)
- (4) スピン流を介した流体発電現象の大幅な発電効率向上を実現—スピントロニクス技術を応用した新たなナノ流体デバイスへ道—(2020年6月)