

Suzuki-Lab. Publications List

鈴木研究室 論文・著書・解説等発表リスト

1. (更新中・・・)
2. R. Ishikawa, M. Goto, H. Nomura, and Y. Suzuki, "Implementation of skyrmion cellular automaton using Brownian motion and magnetic dipole interaction", Applied Physics Letters, 119, 072402 (2021) [10.1063/5.0053797](https://doi.org/10.1063/5.0053797)
3. Y. Suzuki, S. Miki, Y. Imai, E. Tamura, "Diffusion of a magnetic skyrmion in two-dimensional space", Physics Letters A, 413, 127603 (2021) [10.1016/j.physleta.2021.127603](https://doi.org/10.1016/j.physleta.2021.127603)
4. S. Miki, Y. Jibiki, E. Tamura, M. Goto, M. Oogane, J. Cho, R. Ishikawa, H. Nomura, and Y. Suzuki, "Brownian Motion of Magnetic Skyrmions in One- and Two-Dimensional Systems", Journal of the Physical Society of Japan, 90, 083601 (2021) [10.7566/JPSJ.90.083601](https://doi.org/10.7566/JPSJ.90.083601)
5. S. Lee, H. Koike, M. Goto, S. Miwa, Y. Suzuki, N. Yamashita, R. Ohshima, E. Shigematsu, Y. Ando, M. Shiraishi, "Synthetic Rashba spin-orbit system using a silicon metal-oxide semiconductor", Nature Materials, 20, 1228-1232 (2021) [10.1038/s41563-021-01026-y](https://doi.org/10.1038/s41563-021-01026-y)
6. Y. Yamada, M. Goto, T. Yamane, N. Degawa, T. Suzuki, A. Shimura, S. Aoki, T. Mizuno, J. Urabe, S. Hara, S. Miwa, and Y. Suzuki, "Quasi-maser operation using magnetic tunnel junctions", Applied Physics Letters, 118, 192402 (2021) [10.1063/5.0050151](https://doi.org/10.1063/5.0050151)
7. M. Goto, H. Nomura, and Y. Suzuki, "Stochastic skyrmion dynamics under alternating magnetic fields", Journal of Magnetism and Magnetic Materials, 536, 167974(2021) [10.1016/j.jmmm.2021.167974](https://doi.org/10.1016/j.jmmm.2021.167974)
8. K. Hon, Y. Kuwabiraki, M. Goto, R. Nakatani, Y. Suzuki, and H. Nomura, "Numerical simulation of artificial spin ice for reservoir computing", Applied Physics Express, 14, 3, 033001 (2021) [10.35848/1882-0786/abdc8](https://doi.org/10.35848/1882-0786/abdc8)
9. M. Goto, Y. Yamada, A. Shimura, T. Suzuki, N. Degawa, T. Yamane, S. Aoki, J. Urabe, S. Hara, H. Nomura, and Y. Suzuki, "Uncooled sub-GHz spin bolometer driven by auto-oscillation", Nature Communications, 12, 536 (2021) [10.1038/s41467-020-20631-0](https://doi.org/10.1038/s41467-020-20631-0)
10. Y. Tanaka, M. Goto, A. K. Shukla, K. Yoshikawa, H. Nomura, S. Miwa, S. Tomishima, and Y. Suzuki, "Physically Unclonable Functions with Voltage-Controlled Magnetic Tunnel Junctions", IEEE Transactions on Magnetics, 57, 3400806 (2021) [10.1109/TMAG.2020.3042715](https://doi.org/10.1109/TMAG.2020.3042715)
11. T. N. Anh Nguyen, Q. N. Pham, D. D. Lam, K. T. Do, T. H. Nguyen, H. K. Vu, D. L.

- Vu, M. Goto, M. Fukumoto, T. Watakabe, R. Okuno, S. Hasebe, H. Tomita, Y. Suzuki, H. Kubota, A. Fukushima, and K. Yakushiji, "Low frequency $1/f$ noise in deep submicron-sized magnetic tunnel junctions", *Journal of Applied Physics*, 129, 024503 (2020) [10.1063/5.0013789](https://doi.org/10.1063/5.0013789)
12. J. Cho, E. Tamura, C. Liu, S. Miki, C.-Y. You, J.-S. Kim, H. Nomura, M. Goto, R. Nakatani and Y. Suzuki, "Manipulating 1-dimensional skyrmion motion by the external magnetic field gradient", *New Journal of Physics*, 22, 103053 (2020) [10.1088/1367-2630/abead](https://doi.org/10.1088/1367-2630/abead)
 13. S. Kobayashi, Y. Matsuzaki, H. Morishita, S. Miwa, Y. Suzuki, M. Fujiwara, and N. Mizuochi, "Electrical Control for Extending the Ramsey Spin Coherence Time of Ion-Implanted Nitrogen-Vacancy Centers in Diamond", *Physical Review Applied*, 14, 044033 (2020) [10.1103/PhysRevApplied.14.044033](https://doi.org/10.1103/PhysRevApplied.14.044033)
 14. F. Bonell, M. Goto, G. Sauthier, J. F. Sierra, A. I. Figueroa, M. V. Costache, S. Miwa, Y. Suzuki, and S. O. Valenzuela, "Control of Spin – Orbit Torques by Interface Engineering in Topological Insulator Heterostructures", *Nano Letters*, 20, 5893 (2020) [10.1021/acs.nanolett.0c01850](https://doi.org/10.1021/acs.nanolett.0c01850)
 15. N. Yamashita, S. Lee, R. Ohshima, E. Shigematsu, H. Koike, Y. Suzuki, S. Miwa, M. Goto, Y. Ando, and M. Shiraishi, "Enhancement of spin signals by thermal annealing in silicon-based lateral spin valves", *AIP Advances*, 10, 095021 (2020) [10.1063/5.0022160](https://doi.org/10.1063/5.0022160)
 16. H. Koike, S. Lee, R. Ohshima, E. Shigematsu, M. Goto, S. Miwa, Y. Suzuki, T. Sasaki, Y. Ando, and M. Shiraishi, "Over 1% magnetoresistance ratio at room temperature in non-degenerate silicon-based lateral spin valves", *Applied Physics Express*, 13(8), 083002(2020) [10.35848/1882-0786/aba22c](https://doi.org/10.35848/1882-0786/aba22c)
 17. Y. Jibiki, M. Goto, E. Tamura, J. Cho, S. Miki, R. Ishikawa, H. Nomura, T. Srivastava, W. Lim, S. Auffret, C. Baraduc, H. Bea, and Y. Suzuki, "Skyrmion Brownian circuit implemented in continuous ferromagnetic thin film", *Applied Physics Letters* 117, 082402 (2020) [10.1063/5.0011105](https://doi.org/10.1063/5.0011105)
 18. R. Miyakaze, S. Sakamoto, T. Kawabe, T. Tsukahara, Y. Kotani, K. Toyoki, T. Nakamura, M. Goto, Y. Suzuki, and S. Miwa, "Voltage-controlled magnetic anisotropy in an ultrathin nickel film studied by operando x-ray magnetic circular dichroism spectroscopy", *Physical Review B*, 102(1), 014419 (2020) [10.1103/PhysRevB.102.014419](https://doi.org/10.1103/PhysRevB.102.014419)
 19. R. Okuno, Y. Yamada, M. Goto, Y. Mizuno, T. Yamane, N. Degawa, T. Suzuki, A. Shimura, S. Aoki, J. Urabe, S. Hara, H. Nomura, Y. Suzuki, "Enhanced electric control of magnetic anisotropy via high thermal resistance capping layers in

- magnetic tunnel junctions", *Journal of Physics: Condensed Matter*, 32(38), 384001 (2020) [10.1088/1361-648X/ab94f3](https://doi.org/10.1088/1361-648X/ab94f3)
20. J. Cho, E. Tamura, C. Liu, S. Miki, C.-Y. You, J.-S. Kim, H. Nomura, M. Goto, R. Nakatani, Y. Suzuki, "Manipulating 1-dimensional skyrmion motion by the external magnetic field gradient", [arXiv:2005.05011](https://arxiv.org/abs/2005.05011), 2020/06/11
 21. R. Ishihara, Y. Ando, S. Lee, R. Ohsima, M. Goto, S. Miwa, Y. Suzuki, H. Koike, M. Shiraishi, "Gate-Tunable Spin XOR Operation in a Silicon-Based Device at Room Temperature", *Physical Review Applied*, 13(4), 044010 (2020) [10.1103/PhysRevApplied.13.044010](https://doi.org/10.1103/PhysRevApplied.13.044010)
 22. T. Yamamoto, T. Nozaki, H. Imamura, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, Y. Suzuki, S. Yuasa, "Voltage-Driven Magnetization Switching Using Inverse-Bias Schemes", *Physical Review Applied*, 13(1), 014045 (2020) [10.1103/PhysRevApplied.13.014045](https://doi.org/10.1103/PhysRevApplied.13.014045)
 23. S. Lee, F. Rortais, R. Ohshima, Y. Ando, M. Goto, S. Miwa, Y. Suzuki, H. Koike, M. Shiraishi, "Investigation of gating effect in Si spin MOSFET", *Applied Physics Letters*, 116(2), 022403(2020) [10.1063/1.5131823](https://doi.org/10.1063/1.5131823)
 24. Takayuki Nozaki, Masaki Endo, Masahito Tsujikawa, Tatsuya Yamamoto, Tomohiro Nozaki, Makoto Konoto, Hiroyuki Ohmori, Yutaka Higo, Hitoshi Kubota, Akio Fukushima, Masanori Hosomi, Masafumi Shirai, Yoshishige Suzuki, and Shinji Yuasa, "Voltage-controlled magnetic anisotropy in an ultrathin Ir-doped Fe layer with a CoFe termination layer", *APL Materials*, 8(1), 011108 (2020) [10.1063/1.5132626](https://doi.org/10.1063/1.5132626)
 25. H. Nomura, T. Furuta, K. Tsujimoto, Y. Kuwabiraki, N. Samura, E. Tamura, M. Goto, R. Nakatani, H. Kubota and Y. Suzuki, "Randomly generated node-state-update procedure for dipole-coupled magnetic reservoir computing with voltage control of the magnetism", *Journal of Physics D: Applied Physics*, 53, 094001, (2019) [10.1088/1361-6463/ab5a27](https://doi.org/10.1088/1361-6463/ab5a27)
 26. 後藤 穰, 地引 勇磨, 田村 英一, Jaehun Cho, 野村 光, T. Srivastava, W. Lim, S. Auffret, C. Baraduc, H. Bea, 鈴木 義茂, "スキルミオンのブラウン運動", *応用電子物性分科会研究会資料*, 25, 5 pp151-154, (2019)
 27. H. Nomura, K. Tsujimoto, M. Goto, N. Samura, R. Nakatani, Y. Suzuki, "Reservoir computing with two-bit input task using dipole-coupled nanomagnet array ", *Japanese Journal of Applied Physics*, 59, SEEG02, (2019) [10.7567/1347-4065/ab2406](https://doi.org/10.7567/1347-4065/ab2406)
 28. H. Nomura, T. Furuta, K. Tsujimoto, Y. Kuwabiraki, N. Samura, E. Tamura, M. Goto, R. Nakatani, H. Kubota and Y. Suzuki, "Randomly generated node-state-

- update procedure for dipole-coupled magnetic reservoir computing with voltage control of the magnetism", *Journal of Physics D: Applied Physics*, 53, 094001, (2019) [10.1088/1361-6463/ab5a27](https://doi.org/10.1088/1361-6463/ab5a27)
29. 野村 光、鈴木義茂、久保田 均、” 強磁性トンネル接合を用いた集積型リザーバー計算モジュールの提案”, *電気学会誌*, 一般社団法人電気学会, vol. 139, No. 10, pp674-678, 2019/10/1 [10.1541/ieejjournal.139.674](https://doi.org/10.1541/ieejjournal.139.674)
 30. Y. Jibiki, M. Goto, E. Tamura, J. Cho, H. Nomura, T. Srivastava, W. Lim, S. Auffret, C. Baraduc, H. Bea, Y. Suzuki, "Skyrmion Brownian circuit implemented in a continuous ferromagnetic thin film", [arXiv:1909.10130](https://arxiv.org/abs/1909.10130), 2019/09/23
 31. E. Tamura, Y. Suzuki, "Theory of Skyrmionic Diffusion: Hidden Diffusion Coefficients and Breathing Diffusion", [arXiv : 1907.06926](https://arxiv.org/abs/1907.06926), 2019/7/16
 32. H. Nomura, T. Furuta, K. Tsujimoto, Y. Kuwabiraki, F. Peper, E. Tamura, S. Miwa, M. Goto, R. Nakatani, and Y. Suzuki, "Reservoir computing with dipole-coupled nanomagnets", *Japanese Journal of Applied Physics*, 58, 7, 070901(2019) [10.7567/1347-4065/ab2406](https://doi.org/10.7567/1347-4065/ab2406)
 33. J. Suwardy, M. Goto, Y. Suzuki, and S. Miwa, "Voltage-controlled magnetic anisotropy and Dzyaloshinskii–Moriya interactions in CoNi/MgO and CoNi/Pd/MgO", *Japanese Journal of Applied Physics*, 58, 060917(2019) [10.7567/1347-4065/ab21a6](https://doi.org/10.7567/1347-4065/ab21a6)
 34. H. Nomura, T. Furuta, K. Tsujimoto, Y. Kuwabiraki, F. Peper, E. Tamura, S. Miwa, M. Goto, R. Nakatani, and Y. Suzuki, "Reservoir computing with dipole-coupled nanomagnets", *Japanese Journal of Applied Physics*, 58, 070901(2019) [10.7567/1347-4065/ab2406](https://doi.org/10.7567/1347-4065/ab2406)
 35. 後藤 穰, 若竹陽介, Ugwumsinachi Kalu Oji, 三輪真嗣, 鈴木義茂, 久保田 均, 薬師寺啓, 福島章雄, 湯浅新治, Nikita Strelkov, Bernard Dieny, "ナノ磁性体中の熱を利用したマイクロ波技術", *自動車技術*, 73 2019.6, pp96-97, 2019/6/1(解説)
 36. Y. Jibiki, M. Goto, M. Tsujikawa, P. Risius, S. Hasebe, X. Xu, K. Nawaoka, T. Ohkubo, K. Hono, M. Shirai, S. Miwa, and Y. Suzuki, "Interface resonance in Fe/Pt/MgO multilayer structure with large voltage controlled anisotropy change", *Applied Physics Letters*, 114, 082405 (2019) [10.1063/1.5082254](https://doi.org/10.1063/1.5082254)
 37. T. Yamamoto, T. Nozaki, H. Imamura, Y. Shiota, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, Y. Suzuki, and S. Yuasa, "Improvement of write error rate in voltage-driven magnetization switching", *Journal of Physics D: Applied Physics* 52 164001, pp1-5 (2019) [10.1088/1361-6463/ab03c2](https://doi.org/10.1088/1361-6463/ab03c2)
 38. H. Nomura, T. Furuta, K. Tsujimoto, Y. Kuwabiraki, F. Peper, E. Tamura, S. Miwa, M. Goto, R. Nakatani, Y. Suzuki, "Reservoir computing with dipole-coupled

nanomagnets", arXiv:1810.13140v2, 14 Feb (2019)

<https://arxiv.org/abs/1810.13140>

39. S. Lee, F. Rortais, R. Ohshima, Y. Ando, S. Miwa, Y. Suzuki, H. Koike, and M. Shiraishi", Quantitative and systematic analysis of bias dependence of spin accumulation voltage in a nondegenerate Si-based spin valve", *Phys. Rev. B* 99, 064408 (2019) [10.1103/PhysRevB.99.064408](https://doi.org/10.1103/PhysRevB.99.064408)
40. S. Miwa, M. Suzuki, M. Tsujikawa, T. Nozaki, T. Nakamura, M. Shirai, S. Yuasa, and Y. Suzuki, "Perpendicular magnetic anisotropy and its electric-field-induced change at metal-dielectric interfaces", *Journal of Physics D: Applied Physics*, 52, 063301 22pp (2019) [10.1088/1361-6463/aaef18](https://doi.org/10.1088/1361-6463/aaef18)
41. Y. Suzuki, S. Miwa, "Magnetic anisotropy of ferromagnetic metals in low-symmetry systems", *Physics Letters A*, 383 (11) 25 pp1203-1206 (2019) [10.1016/j.physleta.2019.01.020](https://doi.org/10.1016/j.physleta.2019.01.020)
42. T. Yamamoto, T. Nozaki, H. Imamura, Y. Shiota, T. Ikeura, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, Y. Suzuki, "Write-Error Reduction of Voltage-Torque-Driven Magnetization Switching by a Controlled Voltage Pulse", *Physical Review Applied*, 11, 1, 014013 (2019) [10.1103/PhysRevApplied.11.014013](https://doi.org/10.1103/PhysRevApplied.11.014013)
43. T. Nozaki, Y. Jibiki, M. Goto, E. Tamura, T. Nozaki, H. Kubota, A. Fukushima, S. Yuasa and Y. Suzuki, "Brownian motion of skyrmion bubbles and its control by voltage applications", *Applied Physics Letters* 114, 012402 (2019) [10.1063/1.5070101](https://doi.org/10.1063/1.5070101)
44. M. Goto, Y. Wakatake, U.K. Oji, S. Miwa, N. Strelkov, B. Dieny, H. Kubota, K. Yakushiji, A. Fukushima, S. Yuasa, and Y. Suzuki, "Microwave amplification in a magnetic tunnel junction induced by heat-to-spin conversion at the nanoscale", *Nature Nanotechnology* 14, 40-43 (2019) [10.1038/s41565-018-0306-9](https://doi.org/10.1038/s41565-018-0306-9)
45. H. Imamura, T. Nozaki, S. Yuasa, and Y. Suzuki, "Deterministic Magnetization Switching by Voltage Control of Magnetic Anisotropy and Dzyaloshinskii-Moriya Interaction under an In-Plane Magnetic", *Physical Review Applied*, 10, 054039 (2018) [10.1103/PhysRevApplied.10.054039](https://doi.org/10.1103/PhysRevApplied.10.054039)
46. H. Nomura, F. Peper, E. Tamura, S. Miwa, M. Goto, K. Tsujimoto, Y. Kuwabiraki, T. Furuta, R. Nakatani, Y. Suzuki, "Reservoir computing with dipole coupled nanomagnets array", arXiv:1810.13140v1, 31 Oct (2018) <https://arxiv.org/abs/1810.13140v1>
47. J. Suwardy, K. Nawaoka, J. Cho, M. Goto, Y. Suzuki, and S. Miwa, "Voltage-controlled magnetic anisotropy and voltage-induced Dzyaloshinskii-Moriya interaction change at the epitaxial Fe(001)/MgO(001) interface engineered by Co

- and Pd atomic-layer insertion", *Physical Review B*, 98, 144432 (2018)
[10.1103/PhysRevB.98.144432](https://doi.org/10.1103/PhysRevB.98.144432)
48. T. Furuta, K. Fujii, K. Nakajima, S. Tsunegi, H. Kubota, Y. Suzuki, and S. Miwa, "Macromagnetic Simulation for Reservoir Computing Utilizing Spin Dynamics in Magnetic Tunnel Junctions", *Physical Review Applied* 10, 034063 (2018)
[10.1103/PhysRevApplied.10.034063](https://doi.org/10.1103/PhysRevApplied.10.034063)
49. 野崎隆行、塩田陽一、三輪真嗣、山本竜也、鈴木義茂、湯浅新治, "電圧スピン制御技術の進展", 月刊機能材料 (CMC 出版), 2018-8 Vol.38.No.8 pp12-22(2018) (解説)
50. T. Yamamoto, T. Nozaki, Y. Shiota, H. Imamura, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, Y. Suzuki, and S. Yuasa, "Thermally Induced Precession-Orbit Transition of Magnetization in Voltage-Driven Magnetization Switching", *Physical Review Applied*, 10, 024004 (2018) [10.1103/PhysRevApplied.10.024004](https://doi.org/10.1103/PhysRevApplied.10.024004)
51. J. Cho, S. Miwa, K. Yakushiji, H. Kubota, A. Fukushima, C.-Y. You, S. Yuasa, Y. Suzuki, "Effect of Electric Field on the Exchange-Stiffness Constant in a Co₁₂Fe₇₂B₁₆ Disk-Shaped Nanomagnet 65 nm in Diameter", *Physical Review Applied* 10, 014033 (2018) [10.1103/PhysRevApplied.10.014033](https://doi.org/10.1103/PhysRevApplied.10.014033)
52. D. Saida, Y. Jibiki, M. Takagishi, T. Daibou, S. Kashiwada, M. Yakabe, J. Ito, M. Fukumoto, M. Goto, S. Miwa, and Y. Suzuki, "Periodic Fluctuations of Switching Probability in Spin-Transfer Magnetization Switching in Magnetic Tunnel Junctions", *IEEE Trans. Mag.* 54 (9), 1400405, (2018)
[10.1109/TMAG.2018.2839086](https://doi.org/10.1109/TMAG.2018.2839086)
53. A. K. Shukla, M. Goto, X. Xu, K. Nawaoka, J. Suwardy, T. Ohkubo, K. Hono, S. Miwa & Y. Suzuki, "Voltage-Controlled Magnetic Anisotropy in Fe_{1-x}Co_x/Pd/MgO system", *SCIENTIFIC REPORTS*, 8:10362 (2018) [10.1038/s41598-018-28445-3](https://doi.org/10.1038/s41598-018-28445-3)
54. A. Bose, D. D. Lam, S. Bhuktare, S. Dutta, H. Singh, Y. Jibiki, M. Goto, S. Miwa, and A. A. Tulapurkar, "Observation of Anomalous Spin Torque Generated by a Ferromagnet", *Phys. Rev. Applied* 9, 064026(2018)
[10.1103/PhysRevApplied.9.064026](https://doi.org/10.1103/PhysRevApplied.9.064026)
55. N. Yamashita, Y. Ando, H. Koike, S. Miwa, Y. Suzuki, and M. Shiraishi, "Thermally Generated Spin Signals in a Nondegenerate Silicon Spin Valve", *Physical Review Applied*, 9, 054002 (2018) [10.1103/PhysRevApplied.9.054002](https://doi.org/10.1103/PhysRevApplied.9.054002)
56. J. Cho, N.-H. Kim, J. Jung, D.-S. Han, H. J. M. Swagten, J.-S. Kim, and C.-Y. You, "Thermal Annealing Effects on the Interfacial Dzyaloshinskii–Moriya Interaction Energy Density and Perpendicular Magnetic Anisotropy", *IEEE Trans. Mag.* 54.6.June 2018 [10.1109/TMAG.2018.2814569](https://doi.org/10.1109/TMAG.2018.2814569)
57. T. Ikeura, T. Nozaki, Y. Shiota, T. Yamamoto, H. Imamura, H. Kubota, A.

- Fukushima, Y. Suzuki, and S. Yuasa, "Reduction in the write error rate of voltage-induced dynamic magnetization switching using the reverse bias method", *Japanese Journal of Applied Physics* 57, 040311 (2018) [10.7567/JJAP.57.040311](https://doi.org/10.7567/JJAP.57.040311)
58. S. Iihama, T. Taniguchi, K. Yakushiji, A. Fukushima, Y. Shiota, S. Tsunegi, R. Hiramatsu, S. Yuasa, Y. Suzuki and H. Kubota, "Spin-transfer torque induced by the spin anomalous Hall effect", *Nature Electronics*, VOL.1 pp120-123 (2018) [10.1038/s41928-018-0026-z](https://doi.org/10.1038/s41928-018-0026-z)
59. T. Nozaki, T. Yamamoto, S. Tamaru, H. Kubota, A. Fukushima, Y. Suzuki, and S. Yuasa, "Enhancement in the interfacial perpendicular magnetic anisotropy and the voltage-controlled magnetic anisotropy by heavy metal doping at the Fe/MgO interface", *APL Materials* 6, 026101 (2018) [10.1063/1.5018162](https://doi.org/10.1063/1.5018162)
60. T. Kawabe, K. Shimose, M. Goto, Y. Suzuki, and S. Miwa, "Magnetic tunnel junction with Fe(001)/Co phthalocyanine/MgO(001) single-crystal multilayer", *Applied Physics Express*, 11, 013201 (2018) [10.7567/APEX.11.013201](https://doi.org/10.7567/APEX.11.013201)
61. T. Kawabe, K. Yoshikawa, M. Tsujikawa, T. Tsukahara, K. Nawaoka, Y. Kotani, K. Toyoki, M. Goto, M. Suzuki, T. Nakamura, M. Shirai, Y. Suzuki, and S. Miwa, "Electric-field-induced changes of magnetic moments and magnetocrystalline anisotropy in ultrathin cobalt films", *Physical Review B* 96, 220412(R) (2017) [10.1103/PhysRevB.96.220412](https://doi.org/10.1103/PhysRevB.96.220412)
62. H. Singh, K. Konishi, A. Bose, S. Bhuktare, S. Miwa, A. Fukushima, K. Yakushiji, S. Yuasa, H. Kubota, Y. Suzuki, and A. A. Tulapurkar, "Effect of external magnetic field on locking range of spintronic feedback nano oscillator", *AIP Advances* 8, 056010 (2018) [10.1063/1.5007324](https://doi.org/10.1063/1.5007324)
63. H. Singh, K. Konishi, S. Bhuktare, A. Bose, S. Miwa, A. Fukushima, K. Yakushiji, S. Yuasa, H. Kubota, Y. Suzuki, and A. A. Tulapurkar, "Integer, Fractional, and Sideband Injection Locking of a Spintronic Feedback Nano-Oscillator to a Microwave Signal", *Physical Review Applied*, 8, 064011 (2017) [10.1103/PhysRevApplied.8.064011](https://doi.org/10.1103/PhysRevApplied.8.064011)
64. T. Nozaki, A. Koziol-Rachwał, M. Tsujikawa, Y. Shiota, X. Xu, T. Ohkubo, T. Tsukahara, S. Miwa, M. Suzuki, S. Tamaru, H. Kubota, A. Fukushima, K. Hono, M. Shirai, Y. Suzuki and S. Yuasa, "Highly efficient voltage control of spin and enhanced interfacial perpendicular magnetic anisotropy in iridium-doped Fe/MgO magnetic tunnel junctions", *NPG Asia Materials*, 9, e451(2017) [10.1038/am.2017.204](https://doi.org/10.1038/am.2017.204)
65. J. Cho, N.-H. Kim, S. K. Kang, H.-K. Hwang, J. Jung, H. J M Swagten, J.-S. Kim, and C.-Y. You, "The sign of the interfacial Dzyaloshinskii–Moriya interaction in

- ultrathin amorphous and polycrystalline magnetic films", *J. Phys. D: Appl. Phys.* 50 (2017) 425004 (7pp) [10.1088/1361-6463/aa89d4](https://doi.org/10.1088/1361-6463/aa89d4)
66. S. Miwa, J. Fujimoto, P. Risius, K. Nawaoka, M. Goto, and Y. Suzuki, "Strong bias effect on voltage-driven torque at epitaxial Fe|MgO interface", *Physical Review X*, 7, 031018(2017) [10.1103/PhysRevX.7.031018](https://doi.org/10.1103/PhysRevX.7.031018)
67. A. Koziol-Rachwał, T. Nozaki, K. Freindl, J. Korecki, S. Yuasa & Y. Suzuki, "Enhancement of perpendicular magnetic anisotropy and its electric field-induced change through interface engineering in Cr/Fe/MgO", *Scientific Reports* 7, 5993(2017) [10.1038/s41598-017-05994-7](https://doi.org/10.1038/s41598-017-05994-7)
68. Y. Shiota, T. Nozaki, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, S. Yuasa, and Y. Suzuki, "Reduction in write error rate of voltage-driven dynamic magnetization switching by improving thermal stability factor", *Applied Physics Letters* 111, 022408 (2017) [10.1063/1.4990680](https://doi.org/10.1063/1.4990680)
69. Ikegami, K., Shiota, Y., Nozaki, T., Abe, K., Noguchi, H., Yuasa, S., Suzuki, Y., Fujita, S., "Voltage-controlled magnetic tunnel junction based MRAM for replacing high density DRAM circuits corresponding to 2X nm generation", 2017 IEEE International Magnetism Conference, INTERMAG 2017 *所属に阪大無し [10.1109/INTMAG.2017.8007706](https://doi.org/10.1109/INTMAG.2017.8007706)
70. S. Miwa, M. Suzuki, M. Tsujikawa, K. Matsuda, T. Nozaki, K. Tanaka, T. Tsukahara, K. Nawaoka, M. Goto, Y. Kotani, T. Ohkubo, F. Bonell, E. Tamura, K. Hono, T. Nakamura, M. Shirai, S. Yuasa, Y. Suzuki, "Voltage controlled interfacial magnetism through platinum orbits", *Nature Communications* 8, 15848 (2017) [10.1038/ncomms15848](https://doi.org/10.1038/ncomms15848)
71. D. Saida, S. Kashiwada, M. Yakabe, T. Daibou, K. Abe, H. Noguchi, J. Ito, S. Fujita, M. Fukumoto, S. Miwa, Y. Suzuki, "1x-to 2x-nm MTJ switching at sub-3 ns pulses with compatible current in sub-20 nm CMOS for high performance embedded STT-MRAM", *International Symposium on VLSI Technology, Systems and Application (VLSI-TSA) in 2017* [10.1109/VLSI-TSA.2017.7942491](https://doi.org/10.1109/VLSI-TSA.2017.7942491)
72. K. Hayashi, Y. Matsumura, S. Kobayashi, H. Morishita, H. Koike, S. Miwa, N. Mizuochi, and Y. Suzuki, "Electron paramagnetic resonance study of MgO thin-film grown on silicon", *Journal of Applied Physics* 121, 21, 213901(2017) [10.1063/1.4983752](https://doi.org/10.1063/1.4983752)
73. T. Tsukahara, T. Kawabe, K. Shimose, T. Furuta, R. Miyakaze, K. Nawaoka, M. Goto, T. Nozaki, S. Yuasa, Y. Kotani, K. Toyoki, M. Suzuki, T. Nakamura, Y. Suzuki, and S. Miwa, "Characterization of the magnetic moments of ultrathin Fe film in an external electric field via high-precision x-ray magnetic circular

- dichroism spectroscopy”, Japanese Journal of Applied Physics, 56, 060304 (2017)
[10.7567/JJAP.56.060304](https://doi.org/10.7567/JJAP.56.060304)
74. S. Lee, N. Yamashita, Y. Ando, S. Miwa, Y. Suzuki, H. Koike, and M. Shiraishi, "Investigation of spin scattering mechanism in silicon channels of Fe/MgO/Si lateral spin valves", Appl. Phys. Lett. 110, 192401 (2017) [10.1063/1.4982966](https://doi.org/10.1063/1.4982966)
 75. M. Suzuki, T. Tsukahara, R. Miyakaze, T. Furuta, K. Shimose, M. Goto, T. Nozaki, S. Yuasa, Y. Suzuki, and S. Miwa, "Extended X-ray absorption fine structure analysis of voltage-induced effects in the interfacial atomic structure of Fe/Pt/MgO", Applied Physics Express 10, 063006 (2017) [10.7567/APEX.10.063006](https://doi.org/10.7567/APEX.10.063006)
 76. T. Shimo-Oka, Y. Tokura, Y. Suzuki, and N. Mizuochi, "Fast phase manipulation of the single nuclear spin in solids by rotating fields", Phys. Rev. A 95, 032316(2017)
[10.1103/PhysRevA.95.032316](https://doi.org/10.1103/PhysRevA.95.032316)
 77. B. F. Vermeulen, J. Wu, J. Swerts, S. Couet, I. P Radu, G. Groeseneken, C. Detavernier, S. Miwa, Y. Suzuki, and K. Martens, "Perpendicular magnetic anisotropy of CoFeB/Ta bilayers on ALD HfO₂", AIP Advances, 7, 055933 (2017)
[10.1063/1.4978007](https://doi.org/10.1063/1.4978007)
 78. H. Noguchi, K. Ikegami, K. Abe, S. Fujita, Y. Shiota, T. Nozaki, S. Yuasa, and Y. Suzuki, "Novel Voltage Controlled MRAM (VCM) with Fast Read/Write Circuits for Ultra Large Last Level Cache", IEEE Conference Proceedings, IEDM,2016 IEEE International, 16, 675-678 (2016) [10.1109/IEDM.2016.7838494](https://doi.org/10.1109/IEDM.2016.7838494)
 79. D. Saida, S. Kashiwada, M. Yakabe, T. Daibou, M. Fukumoto, S. Miwa, Y. Suzuki, K. Abe, H. Noguchi, J. Ito, and S. Fujita, "1x- to 2x-nm perpendicular MTJ Switching at Sub-3-ns Pulses Below 100 μ A for High Performance Embedded STT-MRAM for Sub-20-nm CMOS", IEEE Transactions on Electron Devices, 64, 2, 427-431(2017) [10.1109/TED.2016.2636326](https://doi.org/10.1109/TED.2016.2636326)
 80. J. Cho, S. Miwa, K. Yakushiji, S. Tamaru, H. Kubota, A. Fukushima, S. Fujimoto, E. Tamura, C.-Yeol You, S. Yuasa, and Y. Suzuki, "Spin-wave eigenmodes in single disk-shaped FeB nanomagnet", Physical Review B 94, 184411 (2016)
[10.1103/PhysRevB.94.184411](https://doi.org/10.1103/PhysRevB.94.184411)
 81. D. Saida, S. Kashiwada, M. Yakabe, T. Daibou, N. Hase, M. Fukumoto, S. Miwa, Y. Suzuki, H. Noguchi, S. Fujita and J. Ito, "Sub-3 ns pulse with sub-100 μ A switching of 1x-2x nm perpendicular MTJ for high-performance embedded STT-MRAM towards sub-20 nm CMOS", 2016 IEEE Symposium on VLSI Technology, INSPEC Accession Number: 16322229 Electronic ISSN: 2158-9682
[10.1109/VLSIT.2016.7573412](https://doi.org/10.1109/VLSIT.2016.7573412)
 82. A. Koziol-Rachwał, T. Nozaki, V. Zayets, H. Kubota, A. Fukushima, S. Yuasa, and

- Y. Suzuki, "The effect of the MgO buffer layer thickness on magnetic anisotropy in MgO/Fe/Cr/MgO buffer/MgO(001)", *Journal of Applied Physics* 120, 085303 (2016) [10.1063/1.4961203](https://doi.org/10.1063/1.4961203)
83. D. Kumar, K. Konishi, N. Kumar, S. Miwa, A. Fukushima, K. Yakushiji, S. Yuasa, H. Kubota, C. V. Tomy, A. Prabhakar, Y. Suzuki & A. Tulapurkar, "Coherent microwave generation by spintronic feedback oscillator", *Scientific Reports* | 6:30747 (2016) [10.1038/srep30747](https://doi.org/10.1038/srep30747)
84. 小林悟士, 森下弘樹, 松崎雄一郎, 三輪真嗣, 鈴木義茂, 水落憲和, "ダイヤモンド NV 中心における電界によるスピニコヒーレンス時間の長時間化", *ニューダイヤモンドフォーラム会誌* 32, 11-15 (2016).
85. A. Bose, A K. Shukla, K. Konishi, S. Jain, N. Asam, S. Bhuktare, H. Singh, D. D. Lam, Y. Fujii, S. Miwa, Y. Suzuki, and A. A. Tulapurkar, "Observation of thermally driven field-like spin torque in magnetic tunnel Junctions", *Applied Physics Letters*, 109, 032406 (2016) [10.1063/1.4958833](https://doi.org/10.1063/1.4958833)
86. M. Goto, K. Nawaoka, S. Miwa, S. Hatanaka, N. Mizuochi, and Y. Suzuki, Electric field modulation of tunneling anisotropic magnetoresistance in tunnel junctions with antiferromagnetic electrodes, *Japanese Journal of Applied Physics* 55 (8), 080304(2016) [10.7567/JJAP.55.080304](https://doi.org/10.7567/JJAP.55.080304)
87. T. Tahara, Y. Ando, M. Kamno, H. Koike, K Tanaka, S. Miwa, Y. Suzuki, T. Sasaki, T. Oikasa, and M. Shiraishi, "Observation of large spin accumulation voltages in non-degenerate Si spin devices due to spin drift effect", *Physical Review B* 93, 214406 (2016) [10.1103/PhysRevB.93.214406](https://doi.org/10.1103/PhysRevB.93.214406)
88. N. Fukui, H. Morishita, S. Kobayashi, S. Miwa, N. Mizuochi, and Y. Suzuki, "Ferromagnetic-resonance induced electromotive forces in Ni₈₁Fe₁₉ *p*-type diamond", *Solid State Communications* 243, 44-48 (2016) [10.1016/j.ssc.2016.06.001](https://doi.org/10.1016/j.ssc.2016.06.001)
89. T. Nozaki, A. Koziol-Rachwał, W. Skowroński, V. Zayets, Y. Shiota, S. Tamaru, H. Kubota, A. Fukushima, S. Yuasa, and Y. Suzuki, "Large Voltage-Induced Changes in the Perpendicular Magnetic Anisotropy of an MgO-Based Tunnel Junction with an Ultrathin Fe Layer", *Physical Review Applied* 5, 044006 (2016) [10.1103/PhysRevApplied.5.044006](https://doi.org/10.1103/PhysRevApplied.5.044006)
90. T. V. Pham, S. Miwa, and Y. Suzuki, "Tunneling anisotropic magnetoresistance in Fe nanoparticles embedded in MgO matrix", *Journal of Electronic Materials* 45(5), 2597-2600 (2016) [10.1007/s11664-016-4428-2](https://doi.org/10.1007/s11664-016-4428-2)
91. J. Cho, Y. Fujii, K. Konishi, J. Yoon, N.-H. Kim, J. Jung, S. Miwa, M.-H. Jung, Y. Suzuki, and C.-Y. You, "Study of spin dynamics and damping on the magnetic

- nanowire arrays with various nanowire widths”, *Journal of Magnetism and Magnetic Materials* **409**, 99-103 (2016). [10.1016/j.jmmm.2016.02.090](https://doi.org/10.1016/j.jmmm.2016.02.090)
92. 久保田均、田丸慎吾、常木澄人、薬師寺啓、福島章雄、三輪真嗣、鈴木義茂, “高周波スピントロニクスデバイス”, *月刊化学工業*, **67**(3), 173-180 (2016)
93. Y. Doi, T. Fukui, H. Kato, T. Makino, S. Yamasaki, T. Tashima, H. Morishita, S. Miwa, F. Jelezko, Y. Suzuki, and N. Mizuochi, “Pure negatively charged state of the NV center in n-type diamond”, *Physical Review B* **93**, 081203(R) (2016)
[10.1103/PhysRevB.93.081203](https://doi.org/10.1103/PhysRevB.93.081203)
94. (応物論文賞)Y. Shiota, T. Nozaki, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, S. Yuasa, and Y. Suzuki, "Evaluation of write error rate for voltage-driven dynamic magnetization switching in magnetic tunnel junctions with perpendicular magnetization", *Applied Physics Express* **9**, 013001(2016)
[10.7567/APEX.9.013001/pdf](https://doi.org/10.7567/APEX.9.013001/pdf)
95. Y. Shiota, D. Sekiya, R. Matsumoto, A. Fukushima, K. Yakushiji, T. Nozaki, K. Konishi, S. Miwa, H. Kubota, S. Yuasa, and Y. Suzuki, “Three-Terminal Device for Realizing a Voltage-Driven Spin Transistor”, *IEEE Transactions on Magnetics* **51**(12), 4200304 (2015) [10.1109/TMAG.2015.2455021](https://doi.org/10.1109/TMAG.2015.2455021)
96. 鈴木義茂、野崎隆行、塩田陽一、縄岡孝平、三輪真嗣, “電圧による磁気異方性と反交換相互作用の制御”, *固体物理*, **50**(11), 643-656 (2015)
97. T. Tahara, H. Koike, M. Kameno, T. Sasaki, Y. Ando, K. Tanaka, S. Miwa, Y. Suzuki, and M. Shiraishi, “Room-temperature operation of Si spin MOSFET with high on/off spin signal ratio”, *Applied Physics Express* **8**, 113004 (2015)
[10.7567/APEX.8.113004](https://doi.org/10.7567/APEX.8.113004)
98. S. Miwa, K. Matsuda, K. Tanaka, Y. Kotani, M. Goto, T. Nakamura, and Y. Suzuki, “Voltage-controlled magnetic anisotropy in Fe|MgO tunnel junctions studied by x-ray absorption spectroscopy”, *Applied Physics Letters* **107**, 162402 (2015)
[10.1063/1.4934568](https://doi.org/10.1063/1.4934568)
99. D. Kim, K. Nawaoka, S. Miwa, S.-Y. Park, Y. Shiota, C.-Y. You, J. Cho, B.-C. Lee, Y. Suzuki, and K. Rhie, “Magnetostatic Spin Wave in a Very Thin CoFeB Film Grown on an Amorphous FeZr Buffer Layer”, *Journal of the Korean Physical Society* **67**(5), 906-910 (2015) [10.3938/jkps.67.906](https://doi.org/10.3938/jkps.67.906)
100. S. Hatanaka, S. Miwa, K. Matsuda, K. Nawaoka, K. Tanaka, H. Morishita, M. Goto, N. Mizuochi, T. Shinjo, and Y. Suzuki, “Tunnel anisotropic magnetoresistance in CoFeB|MgO|Ta junctions”, *Applied Physics Letters* **107**, 082407 (2015).
[10.1063/1.4929682](https://doi.org/10.1063/1.4929682)
101. Y. Shiota, S. Miwa, S. Tamaru, T. Nozaki, H. Kubota, A. Fukushima, Y. Suzuki,

- and S. Yuasa, "Field angle dependence of voltage-induced ferromagnetic resonance under dc bias voltage", *Journal of Magnetism and Magnetic Materials* **400**, 159-162 (2016) [10.1016/j.jmmm.2015.07.042](https://doi.org/10.1016/j.jmmm.2015.07.042)
102. K. Tanaka, S. Miwa, Y. Shiota, N. Mizuochi, T. Shinjo, and Y. Suzuki, "Large voltage-induced magnetic anisotropy field change in ferrimagnetic FeGd", *Applied Physics Express* **8**, 073007 (2015) [10.7567/APEX.8.073007](https://doi.org/10.7567/APEX.8.073007)
103. D. D. Lam, F. Bonell, Y. Shiota, S. Miwa, T. Nozaki, E. Tamura, N. Mizuochi, T. Shinjo, Y. Suzuki, and S. Yuasa, "Growth of perpendicularly magnetized thin films on a polymer buffer and voltage-induced change of magnetic anisotropy at the MgO|CoFeB interface", *AIP Advances* **5**, 067132 (2015) [10.1063/1.4922602](https://doi.org/10.1063/1.4922602)
104. K. Nawaoka, S. Miwa, Y. Shiota, N. Mizuochi, and Y. Suzuki, "Voltage induction of interfacial Dzyaloshinskii–Moriya interaction in Au/Fe/MgO artificial multilayer", *Applied Physics Express* **8**, 063004 (2015) [10.7567/APEX.8.063004](https://doi.org/10.7567/APEX.8.063004)
105. W. Skowroński, T. Nozaki, Y. Shiota, S. Tamaru, K. Yakushiji, H. Kubota, A. Fukushima, S. Yuasa, Y. Suzuki, "Perpendicular magnetic anisotropy of Ir/CoFeB/MgO trilayer system tuned by electric fields", *Appl. Phys. Express*, **8**, 053003 (2015) [10.7567/APEX.8.053003](https://doi.org/10.7567/APEX.8.053003)
106. T. Shimo-Oka, H. Kato, S. Yamasaki, F. Jelezko, S. Miwa, Y. Suzuki, and N. Mizuochi, "Control of coherence among the spins of a single electron and the three nearest neighbor ^{13}C nuclei of a nitrogen-vacancy center in diamond", *Applied Physics Letters* **106**, 153103 (2015) [10.1063/1.4917539](https://doi.org/10.1063/1.4917539)
107. Y. Matsuzaki, X. Zhu, K. Kakuyanagi, H. Toida, T. Shimo-Oka, N. Mizuochi, K. Nemoto, K. Semba, W. J. Munro, H. Yamaguchi, S. Saito, "Improving the Coherence Time of a Quantum System via a Coupling to a Short-Lived System", *Physical Review Letters*, **114**, 120501 (2015) [10.1103/PhysRevLett.114.120501](https://doi.org/10.1103/PhysRevLett.114.120501)
108. W. Skowronski, T. Nozaki, D. D. Lam, Y. Shiota, K. Yakushiji, H. Kubota, A. Fukushima, S. Yuasa, and Y. Suzuki, "Underlayer material influence on electric-field controlled perpendicular magnetic anisotropy in CoFeB/MgO magnetic tunnel junctions", *Phys. Rev. B* **91**, 184410 (2015) [10.1103/PhysRevB.91.184410](https://doi.org/10.1103/PhysRevB.91.184410)
109. K. Nawaoka, Y. Shiota, S. Miwa, E. Tamura, N. Mizuochi, T. Shinjo, Y. Suzuki, "Voltage modulation of propagating spin waves in Fe", *Journal of Applied Physics* **117**, 17A905 (2015). [10.1063/1.4914060](https://doi.org/10.1063/1.4914060)
110. 鈴木義茂, "単結晶人工格子からスピントロニクスへ", まぐね, **10.2**.(2015)
111. Y. Suzuki, S. Miwa, T. Nozaki, and Y. Shiota, "Control of spins in a nano-sized magnet using electric-current and voltage", *AAPPS Bulletin Vol. 25*, No. 1, pp. 17-24 (2015)

112. T. Miyazaki, Y. Miyamoto, T. Makino, H. Kato, S. Yamasaki, T. Fukui, Y. Doi, N. Tokuda, M. Hatano, N. Mizuochi, "Atomistic mechanism of perfect alignment of nitrogen-vacancy centers in diamond", *Appl. Phys. Lett.*, **105**, 261601 (2014) [10.1063/1.4904988](https://doi.org/10.1063/1.4904988)
113. S. Jain, D. D. Lam, A. Bose, H. Sharma, V. R. Palkar, C. V. Tomy, Y. Suzuki, A. A. Tulapurkar, "Magneto-Seebeck effect in spin-valve with in-plane thermal gradient", *AIP Advances*, **4**, 127145 (2014) [10.1063/1.4905137](https://doi.org/10.1063/1.4905137)
114. 三輪真嗣, 鈴木義茂, "スピントルクによるナノ磁性体の高周波スピンドイナミクス", 第198回研究会資料, *Bulletin of Topical Symposium of the Magnetism Society of Japan* **198**, 9-14-11-21 日本磁気学会 ISSN 1882-2940 NDL ID:025958938 (2014)
115. Y. Shiota, S. Miwa, S. Tamaru, T. Nozaki, H. Kubota, A. Fukushima, Y. Suzuki, and S. Yuasa, "High-output microwave detector using voltage-induced ferromagnetic resonance", *Applied Physics Letters* **105**, 192408 (2014). [10.1063/1.4902025](https://doi.org/10.1063/1.4902025)
116. L. Gerhard, F. Bonell, W. Wulfhekel, Y. Suzuki, "Influence of an electric field on the spin-reorientation transition in Ni/Cu(100)", *Appl. Phys. Lett.*, **105**, 152903 (2014) [10.1063/1.4898188](https://doi.org/10.1063/1.4898188)
117. H-R. Lee, K. Lee, J. Cho, Y-H. Choi, C-Y. You, M-H. Jung, F. Bonell, Y. Shiota, S. Miwa, and Y. Suzuki, "Spin-orbit torque in a bulk perpendicular magnetic anisotropy Pd/FePd/MgO system", *Scientific Reports* **4**, 6548 (2014). [10.1038/srep06548](https://doi.org/10.1038/srep06548)
118. 水落憲和, "ダイヤモンド中の NV 中心を用いた単一光子発生と量子情報素子への応用", *光学 (日本光学会 会誌)*, **43** 巻, 8 号, p. 376-381 (2014).
119. Koide, T., Mamiya, K., Asakura, D., Osatune, Y., Fujimori, A., Suzuki, Y., Katayama, T., Yuasa, S., "Gigantic transverse x-ray magnetic circular dichroism in ultrathin Co in Au/Co/Au(001)", *Journal of Physics: Conference Series*, **502** (1), 012002 (2014) [10.1088/1742-6596/502/1/012002](https://doi.org/10.1088/1742-6596/502/1/012002)
120. (第38回応用物理学学会論文賞) T. Fukui, Y. Doi, T. Miyazaki, Y. Miyamoto, H. Kato, T. Matsumoto, T. Makino, S. Yamasaki, R. Morimoto, N. Tokuda, M. Hatano, Y. Sakagawa, H. Morishita, T. Tashima, S. Miwa, Y. Suzuki, and N. Mizuochi, "Perfect selective alignment of nitrogen-vacancy center in diamond", *Applied Physics Express* **7**, 055201 (2014). [10.7567/APEX.7.055201](https://doi.org/10.7567/APEX.7.055201)
121. X. Zhu, Y. Matsuzaki, R. Amsuss, K. Kakuyanagi, T. Shimo-Oka, N. Mizuochi, K. Nemoto, K. Semba, W. J. Munro, S. Saito, "Observation of dark states in a superconductor diamond quantum hybrid system", *Nature Communications*, **5**, 3524 (2014) [10.1038/ncomms4524](https://doi.org/10.1038/ncomms4524)

122. (著書) Y. Suzuki, A. A. Tulapurkar, Y. Shiota and C. Chappert, "3-Spin Injection and Voltage Effects in Magnetic Nanopillars and Its Applications", "Nanomagnetism and spintronics", Elsevier (Second Edition), Chapter 3, pp108-176, (2014)
123. K. Ando, S. Fujita, J. Ito, S. Yuasa, Y. Suzuki, Y. Nakatani, T. Miyazaki, H. Yoda, "Spin-transfer torque magnetoresistive random-access memory technologies for normally off computing (invited)", *J. Appl. Phys.*, 115, 172607 (2014)
[10.1063/1.4869828](https://doi.org/10.1063/1.4869828)
124. Y. Doi, T. Makino, H. Kato, D. Takeuchi, M. Ogura, H. Okushi, H. Morishita, T. Tashima, S. Miwa, S. Yamasaki, P. Neumann, J. Wrachtrup, Y. Suzuki, and N. Mizuochi, "Deterministic Electrical Charge-State Initialization of Single Nitrogen-Vacancy Center in Diamond", *Physical Review X* 4, 011057 (2014).
[10.1103/PhysRevX.4.011057](https://doi.org/10.1103/PhysRevX.4.011057)
125. S. Tamaru, H. Kubota, K. Yakushiji, M. Konoto, T. Nozaki, A. Fukushima, H. Imamura, T. Taniguchi, H. Arai, S. Tsunegi, S. Yuasa, and Y. Suzuki, "Observations of thermally excited ferromagnetic resonance on spin torque oscillators having a perpendicularly magnetized free layer", *Journal of Applied Physics*, 115, 17C740 (2014) [10.1063/1.4868494](https://doi.org/10.1063/1.4868494)
126. T. Sasaki, T. Suzuki, Y. Ando, H. Koike, T. Oikawa, Y. Suzuki, and M. Shiraishi, "Local magnetoresistance in Fe/MgO/Si lateral spin valve at room temperature", *Applied Physics Letters* 104, 052404 (2014) [10.1063/1.4863818](https://doi.org/10.1063/1.4863818)
127. 富田博之, 三輪真嗣, 鈴木義茂, "スピントルク発振素子のセンサ応用の可能性について", *信学技報 IEICE Technical Report*, 113,407,29-34 (2014)
128. H. Maehara, H. Kubota, Y. Suzuki, T. Seki, K. Nishimura, Y. Nagamine, K. Tsunekawa, A. Fukushima, H. Arai, T. Taniguchi, H. Imamura, K. Ando, S. Yuasa, "High Q factor over 3000 due to out-of-plane precession in nano-contact spin-torque oscillator based on magnetic tunnel junctions", *Applied Physics Express*, 7(2), 023003 (2014) [10.7567/APEX.7.023003](https://doi.org/10.7567/APEX.7.023003)
129. T. V. Pham, S. Miwa, Do Bang, T. Nozaki, F. Bonell, E. Tamura, N. Mizuochi, T. Shinjo, Y. Suzuki, "Spin-dependent tunneling in magnetic tunnel junctions with Fe nanoparticles embedded in an MgO matrix", *Solid State Communications* 183, 18-21(2014). [10.1016/j.ssc.2013.12.023](https://doi.org/10.1016/j.ssc.2013.12.023)
130. 高橋良彰, 塩田陽一, 三輪真嗣, Frédéric Bonell, 水落憲和, 新庄 輝也, 鈴木義茂, "Fe/MgO/Gd を用いた磁気トンネル接合素子の作製および磁気抵抗効果の低温電気測定", *大阪大学低温センター研究報告書*, 57-60(2014)
131. 水落憲和, "ダイヤモンド中の NV 中心を用いた量子情報素子の研究", *固体物理 (特集*

号・量子コンピューターへの道) , 48, 11, 121-131 (2013)

132. H. Maehara, H. Kubota, Y. Suzuki, T. Seki, K. Nishimura, Y. Nagamine, K. Tsunekawa, A. Fukushima, A. M. Deac, K. Ando, S. Yuasa, "Large Emission Power over 2 μ W with High Q Factor Obtained from Nanocontact Magnetic-Tunnel-Junction-Based Spin Torque Oscillator", *Applied Physics Express*, **6**, 113005 (2013) [10.7567/APEX.6.113005](https://doi.org/10.7567/APEX.6.113005)
133. T. Nozaki, T. Ohkubo, Y. Shiota, H. Kubota, A. Fukushima, K. Hono, Y. Suzuki, S. Yuasa, "Growth of a High-Quality Ultrathin Fe(001) Layer on MgO(001) by Insertion of an Ultrathin γ -Fe₂O₃ Layer", *Applied Physics Express*, **6**, 113004 (2013) [10.7567/APEX.6.113004](https://doi.org/10.7567/APEX.6.113004)
134. S. Miwa, S. Ishibashi, H. Tomita, T. Nozaki, E. Tamura, K. Ando, N. Mizuochi, T. Saruya, H. Kubota, K. Yakushiji, T. Taniguchi, H. Imamura, A. Fukushima, S. Yuasa, Y. Suzuki, "Highly sensitive nanoscale spin-torque diode", *Nature Materials*, **13**, 50-56 (2014) [10.1038/NMAT3778](https://doi.org/10.1038/NMAT3778)
135. S. Saito, X. Zhu, R. Amsuss, Y. Matsuzaki, K. Kakuyanagi, T. Shimo-oka, N. Mizuochi, K. Nemoto, W. J. Munro, K. Semba, "Realizing Quantum Memories for Superconducting Qubits: Storage and Retrieval of entangled quantum states", *Phys. Rev. Lett.*, **111**, 107008 (2013) [10.1103/PhysRevLett.111.107008](https://doi.org/10.1103/PhysRevLett.111.107008)
136. Y. Shiota, F. Bonell, S. Miwa, N. Mizuochi, T. Shinjo, and Y. Suzuki, "Opposite signs of voltage-induced perpendicular magnetic anisotropy change in CoFeB|MgO junctions with different underlayers", *Applied Physics Letters* **103**, 082410 (2013). [10.1063/1.4819199](https://doi.org/10.1063/1.4819199)
137. 野崎隆行、塩田陽一、鈴木義茂, "電界によるスピン制御技術", *工業材料*, **61.8**, 27-31 (2013)
138. S. Miwa, Y. Fujii, H. Kubota, K. Yakushiji, S. Ishibashi, T. Saruya, A. Fukushima, S. Yuasa, and Y. Suzuki, "Nonlinear thermal effect on sub-gigahertz ferromagnetic resonance in magnetic tunnel junction", *Applied Physics Letters* **103**, 042404 (2013). [10.1063/1.4816357](https://doi.org/10.1063/1.4816357)
139. Y. T. Takahashi, Y. Shiota, S. Miwa, F. Bonell, N. Mizuochi, T. Shinjo, and Y. Suzuki, "Fabrication of Fe/MgO/Gd magnetic tunnel junctions.", *IEEE Transactions on Magnetism* **49**(7), 4417-4420 (2013). [10.1109/TMAG.2013.2247745](https://doi.org/10.1109/TMAG.2013.2247745)
140. S. Miwa, S.-I. Kim, Y. Jo, S.-Y. Park, N. Mizuochi, T. Shinjo, and Y. Suzuki, "Spin-torque magnetic resonance of Fe nanoparticles in Fe/MgO/Fe magnetic tunnel junctions", *Journal of the Korean Physics Society* **62**, 2206-2209 (2013). [10.3938/jkps.62.2206](https://doi.org/10.3938/jkps.62.2206)
141. D. D. Lam, F. Bonell, S. Miwa, Y. Shiota, K. Yakushiji, H. Kubota, T. Nozaki, A.

- Fukushima, S. Yuasa, and Y. Suzuki, "Composition dependence of perpendicular magnetic anisotropy in Ta/CoxFe80-xB20/MgO/Ta (x=0, 10, 60) multilayers.", *Journal of Magnetism* **18**(1), 5-8 (2013). [10.4283/JMAG.2013.18.1.005](https://doi.org/10.4283/JMAG.2013.18.1.005)
142. S. Kobayashi, S. Miwa, F. Bonell, S. Yoshikuni, T. Seki, M. Shiraishi, T. Shinjo, N. Mizuochi, and Y. Suzuki, "Characterization of MgO Thin Films Grown on Carbon Materials by Molecular Beam Epitaxy.", *Japanese Journal of Applied Physics (Rapid Communications)* **52**, 070208 (2013). [10.7567/JJAP.52.070208](https://doi.org/10.7567/JJAP.52.070208)
143. D. D. Lam, F. Bonell, S. Miwa, Y. Shiota, K. Yakushiji, H. Kubota, T. Nozaki, A. Fukushima, S. Yuasa, and Y. Suzuki, "MgO overlayer thickness dependence of perpendicular magnetic anisotropy in CoFeB thin films", *Journal of the Korean Physics Society* **62**(10), 1461-1464 (2013). [10.3938/jkps.62.1461](https://doi.org/10.3938/jkps.62.1461)
144. K. Konishi, D. K. Dixit, A. A. Tulapurkar, S. Miwa, T. Nozaki, H. Kubota, A. Fukushima, S. Yuasa, and Y. Suzuki, "Radio-frequency amplification property of the MgO-based magnetic tunnel junction using field-induced ferromagnetic resonance", *Applied Physics Letters* **102**, 162409 (2013). [10.1063/1.4803050](https://doi.org/10.1063/1.4803050)
145. F. Bonell, Y. T. Takahashi, D. D. Lam, S. Yoshida, Y. Shiota, S. Miwa, T. Nakamura, and Y. Suzuki, "Reversible change in the oxidation state and magnetic circular dichroism of Fe driven by an electric field at the FeCo/MgO interface", *Applied Physics Letters* **102**, 152401 (2013). [10.1063/1.4802030](https://doi.org/10.1063/1.4802030)
146. F. Bonell, D. D. Lam, Y. T. Takahashi, Y. Shiota, S. Miwa, T. Nakamura, and Y. Suzuki, "Investigation of Au and Ag segregation on Fe(001) with soft X-ray absorption", *Surface Science* **616**, 125-130 (2013). [10.1016/j.susc.2013.05.010](https://doi.org/10.1016/j.susc.2013.05.010)
147. 塩田陽一、鈴木義茂、“電界を用いた高速磁化反転”、月刊化学工業、64,3,171-177 (2013)
148. H. Tomita, S. Miwa, T. Nozaki, S. Yamashita, T. Nagase, N. Nishiyama, E. Kitagawa, M. Yoshikawa, T. Daibou, M. Nagamine, T. Kishi, S. Ikegawa, N. Shimomura, H. Yoda, and Y. Suzuki, "Unified understanding of both thermally assisted and precessional spin-transfer switching in perpendicularly magnetized giant magnetoresistive nanopillars", *Applied Physics Letters* **102**, 042409 (2013). [10.1063/1.4789879](https://doi.org/10.1063/1.4789879)
149. 塩田陽一、野崎隆行、鈴木義茂、“電界によるスピン制御技術”、まぐね、8, 1,4-11 (2013)
150. P. Sheng, F. Bonell, S. Miwa, T. Nakamura, Y. Shiota, S. Murakami, D. D. Lam, S. Yoshida, Y. Suzuki, "Detailed Analysis of Spin-Dependent Quantum Interference Effects in Magnetic Tunnel Junctions with Fe Quantum Wells", *Applied Physics Letters* **102**, 032406 (2013). [10.1063/1.4789438](https://doi.org/10.1063/1.4789438)
151. (著書) 鈴木義茂、小西克典、「薄膜の評価技術ハンドブック」、第Ⅱ部、第2章 スピ

ントロニクス評価「磁気抵抗評価」「スピンドイナミクス評価」、pp.294-299、(2013)

152. S. Miwa, S.-Y. Park, S.-I Kim, Y. Jo, N. Mizuochi, T. Shinjo, Y. Suzuki, “Enhancement of Spin Diode Signals from Fe Nanoparticles in MgO-Based Magnetic Tunnel Junctions”, *Applied Physics Express* **5**, 123001 (2012). [10.1143/APEX.5.123001](#)
153. 水落憲和、“ダイヤモンド LED を用いた単一光子発生”, *未来材料* 10 月号、vol.12, no.10, 1-4 (2012)
154. Pham V Thach、三輪真嗣、田村英一、水落憲和、新庄輝也、鈴木義茂、MgO ダブルバリアを有する磁気トンネル接合における伝導特性、大阪大学低温センター研究報告書 平成 23 年度、大阪大学低温センター豊中分室 (2012 年 12 月発行)
155. Y. Suzuki, “Spin Current (Semiconductor Science and Technology.17) Oxford Univ Pr” , 20, “Spin-transfer torque in uniform magnetization”, pp.343-371 (2012)
156. M. Kamenno, Y. Ando, E. Shikoh, T. Shinjo, T. Sasaki, T. Oikawa, Y. Suzuki, T. Suzuki, M. Shiraishi, “Effect of spin drift on spin accumulation voltages in highly doped silicon”, *Applied Physics Letters* **101**, 122413-3 (2012)
157. D. Dixit, K. Konishi, C. V. Tomy, Y. Suzuki, A. A. Tulapurkar, “Spintronic oscillator based on magnetic field feedback”, *Applied Physics Letters* **101**, 122410 (2012)
158. Y. Shiota, S. Miwa, T. Nozaki, F. Bonell, N. Mizuochi, T. Shinjo, H. Kubota, S. Yuasa, and Y. Suzuki, “Pulse voltage-induced dynamic magnetization switching in magnetic tunneling junctions with high resistance-area product”, *Applied Physics Letters* **101**, 102406 (2012).
159. N. Mizuochi, N. Tokuda, M. Ogura, S. Yamasaki, “Isotope Effect of Deuterium Microwave Plasmas on the Formation of Atomically Flat (111) Diamond Surfaces”, *Jpn. J. Appl. Phys.*, **51**, 090106 (2012)
160. Y. Aoki, M. Kamenno, Y. Ando, E. Shikoh, Y. Suzuki, T. Shinjo, and M. Shiraishi., T. Sasaki, T. Oikawa, “Investigation of the inverted Hanle effect in highly doped Si”, *Phys. Rev. B* **86**, 081201-4 (2012)
161. Y. Sakai, E. Tamura, S. Toyokawa, E. Shikoh, V. K. Lazarov, A. Hirohata, T. Shinjo, Y. Suzuki, M. Shiraishi, “Observation of Magnetic-switching and Multiferroic-like Behavior of Co Nanoparticles in a C60 matrix”, *Adv. Func. Mat.*, **22**, 18, 3845–3852 (2012)
162. T. Nozaki, Y. Shiota, S. Miwa, S. Murakami, F. Bonell, S. Ishibashi, H. Kubota, K. Yakushiji, T. Saruya, A. Fukushima, S. Yuasa, T. Shinjo and Y. Suzuki, “Electric-field-induced ferromagnetic resonance excitation in an ultrathin ferromagnetic metal layer”, *Nature Physics* **8**, 491-496 (2012).
163. N. Mizuochi, T. Makino, H. Kato, D. Takeuchi, M. Ogura, H. Okushi, M. Nothaft, P.

- Neumann, A. Gali, F. Jelezko, J. Wrachtrup & S. Yamasaki, “Electrically driven single-photon source at room temperature in diamond” , *Nature Photonics*, 6, 299-303 (2012)
- 164.鈴木義茂、小西克典、「ナノスピントロニクス素子の展開—トンネル磁気抵抗素子を中心として—」、*電子情報通信学会誌*、95,4,294-298 (2012)
- 165.水落憲和、牧野俊晴、加藤宙光、小倉政彦、竹内大輔、大串秀世、山崎聡、「固体初の室温動作する電流注入型単一光子発生素子」、*ニューダイヤモンドフォーラム会誌*、vol. 28, no.4, 17-19 (2012)
- 166.H. Kubota, S. Ishibashi, T. Saruya, T. Nozaki, A. Fukushima, K. Yakushiji, K. Ando, Y. Suzuki, S. Yuasa, “Enhancement of perpendicular magnetic anisotropy in FeB free layers using a thin MgO cap layer”, *J. Appl. Phys.*, 111, 07C723 (2012)
- 167.M. Kamenno, E. Shikoh, T. Oikawa, T. Sasaki, T. Suzuki, Y. Suzuki, M. Shiraishi, “Observation of Weak Temperature Dependence of Spin Diffusion Length in Highly-doped Si by Using a Non-local 3-terminal Method ”, *Journal of Applied Physics*, 111, 07C322 (2012)
- 168.K. Konishi, T. Nozaki , H. Kubota, A. Fukushima, S. Yuasa, Y. Suzuki, “Gain and Fan-Out in a Current-Field Driven Spin Transistor With an Assisting AC Magnetic Field ”, *IEEE Transactions on Magnetics*, 48, 3, 1134-1138 (2012)
- 169.鈴木義茂, “スピントロニクス—スピンの使い方 (基調講座ホップ・ステップ・ジャンプ)” , *応用物理*, 2月号 (2012)
- 170.鈴木義茂、久保田均、Ashwin Tulapurkar, “スピントルクダイオード効果と高周波スピントロニクス” , *まぐね*, 7,2, 73-78 (2012)
- 171.K. Ando, K. Yakushiji, H. Kubota, A. Fukushima, and S. Yuasa, T. Kai, T. Kishi, N. Shimomura, H. Aikawa, M. Yoshikawa, T. Nagase, K. Nishiyama, E. Kitagawa, T. Daibou, M. Amano, S. Takahashi, M. Nakayama, S. Ikegawa, M. Nagamine, J. Ozeki, D. Watanabe, and H. Yoda, T. Nozaki, Y. Suzuki, M. Oogane, S. Mizukami, Y. Ando, T. Miyazaki, Y. Nakatani, “Spin-RAM for Normally-Off Computer ”, *NVMTS Conference Publications*, (2012)
- 172.P. Sheng, Do Bang, T. Nozaki, S. Miwa, and Y. Suzuki, “Spin-dependent quantum well effect in fully epitaxial Cr/ultrathin Fe/MgO/Fe magnetic tunnel junctions ”, *Solid State Communications* **152**, 273-277 (2012).
- 173.Y. Shiota, T. Nozaki, F. Bonell, S. Murakami, T. Shinjo, Y. Suzuki, “Induction of coherent magnetization switching in a few atomic layers of FeCo using voltage pulses”, *Nature Materials*, 11, 39–43 (2012)
- 174.安東健、石橋翔太、三輪真嗣、関貴之、野崎隆行、久保田均、福島章雄、湯浅新治、鈴木義茂、スピントルクダイオード測定を用いたスピントルクの温度依存性評価、大阪大

学低温センター研究報告書 平成 22 年度、大阪大学低温センター豊中分室 (2011 年 12 月発行)

- 175.水落憲和, “ダイヤモンド NV 中心と量子情報”, ニューダイヤモンドフォーラム, 27, 4, 2-6 (2011)
- 176.鈴木義茂, “スピントロニクス基礎と最近の技術動向: 磁界センサのための応答・ノイズ特性を中心として Basis and recent progresses on the Spintronics: Response and noise in spintronic devices”, 電子情報通信学会技術研究報告: 信学技報. 111,233,1-5 (2011)
- 177.X. Zhu, S. Saito, A. Kemp, K. Kakuyanagi, S. Karimoto, H. Nakano, W. J. Munro, Y. Tokura, M. S. Everitt, K. Nemoto, M. Kasu, N. Mizuochi, K. Semba, “Coherent coupling of a superconducting flux qubit to an electron spin ensemble in diamond”, *Nature*, 478,221–224 (2011)
- 178.Y. Suzuki, H. Kubota, A. Tulapurkar, T. Nozaki, “Spin control by application of electric current and voltage in FeCo-MgO junctions”, *Philosophical Transactions of the Royal Society A Mathematical, Physical and Engineering Sciences*, 369,1951,3658-3678 (2011)
- 179.S. Ishibashi, K. Ando, T. Seki, T. Nozaki, H. Kubota, S. Yakata, H. Maehara, A. Fukushima, S. Yuasa, Y. Suzuki, “High Spin-Torque Diode Sensitivity in CoFeB/MgO/CoFeB Magnetic Tunnel Junctions Under DC Bias Currents”, *IEEE Transactions on Magnetics*, 47(10), 3373-3376 (2011)
- 180.Y. Suzuki, H. Kubota, edited by Evgeny Y. Tsymbal, Igor Zutic, “Handbook of Spin Transport and Magnetism”, Hall/CRC, Chapter 14 “Spin Torques in Magnetic Tunnel Junctions”, pp.267-284 (2011)
- 181.鈴木義茂, 小さな磁石の不思議な世界、大阪大学基礎工学部・第 33 回 (平成 23 年度) 公開講座テキスト「未来を拓く先端科学技術」、pp25-29、平成 23 年 7 月 (2011)
- 182.T. Sasaki, T. Oikawa, T. Suzuki, M. Shiraishi, Y. Suzuki, K. Noguchi, “Local and non-local magnetoresistance with spin precession in highly doped Si”, *Applied Physics Letters*, 98(26), 262503 (2011)
- 183.M. Shiraishi, Y. Honda, E. Shikoh, Y. Suzuki, T. Shinjo, T. Sasaki, T. Oikawa, K. Noguchi, T. Suzuki, “Spin transport properties in silicon in a nonlocal geometry”, *Physical Review B*, 83, 241204(R) (2011)
- 184.R. Matsumoto, A. Fukushima, T. Nagahama, E. Tamura, Y. Suzuki, K. Ando, S. Yuasa, “Quantitative Analysis of Coherent and Incoherent Tunneling Currents in MgO-Based Epitaxial Magnetic Tunnel Junctions”, *Jpn. J. Appl. Phys.* 50, 063003, (2011)
- 185.F. Bonell, S. Murakami, Y. Shiota, T. Nozaki, T. Shinjo, Y. Suzuki, “Large change in

- perpendicular magnetic anisotropy induced by an electric field in FePd ultrathin films”, *Appl. Phys. Lett.*, 98, 232510 (2011)
186. H. Tomita, H. Maehara, T. Nozaki, Y. Suzuki, “Negative Dynamic Resistance and RF Amplification in Magnetic Tunnel Junctions”, *J. of Mag.*, 16(2), 140-144 (2011)
187. H. Tomita, T. Nozaki, T. Seki, T. Nagase, K. Nishiyama, E. Kitagawa, M. Yoshikawa, T. Daibou, M. Nagamine, T. Kishi, S. Ikegawa, N. Shimomura, H. Yoda, Y. Suzuki, “High-Speed Spin-Transfer Switching in GMR Nano-Pillars With Perpendicular Anisotropy”, *IEEE Trans. Mag.*, 47, 6, 1599-1602 (2011)
188. Do Bang, T. Nozaki, Y. Suzuki, “Strong quantum interference effect in fully epitaxial Cr/Fe/MgO/Fe magnetic tunnel junctions with ultrathin-Fe electrodes at room temperature”, *Jpn. J. Appl. Phys.*, 109, 07C719 (2011)
189. Y. Shiota, S. Murakami, F. Bonelli, T. Nozaki, T. Shinjo, Y. Suzuki, “Quantitative Evaluation of Voltage-Induced Magnetic Anisotropy Change by Magnetoresistance Measurement”, *Appl. Phys. Express*, 4, 043005 (2011)
190. T. Suzuki, T. Sasaki, T. Oikawa, M. Shiraishi, Y. Suzuki, K. Noguchi, “Room-Temperature Electron Spin Transport in a Highly Doped Si Channel”, *Appl. Phys. Express*, 4, 023003 (2011)
191. A. A. Tulapurkar, Y. Suzuki, “Boltzmann approach to dissipation produced by a spin-polarized current”, *Phys. Rev. B*, 83, 012401-1-4 (2011)
192. T. Sasaki, T. Oikawa, M. Shiraishi, Y. Suzuki, K. Noguchi, “Comparison of spin signals in silicon between nonlocal four-terminal and three-terminal methods”, *Appl. Phys. Lett.*, 98, 012508 (2011)
193. 富田博之、野崎隆行、鈴木義茂、他、“面内および垂直磁化ナノピラーのスピン注入による高速磁化反転 Fast magnetization reversal by using spin injection in longitudinal and perpendicular magnetic nano-pillars”, *日本磁気学会研究会資料*, 175, 25-30 (2010)
194. T. Seki, H. Tomita, T. Shinjo, Y. Suzuki, “rf auto-oscillations in antiferromagnetically coupled layers with different coupling strengths”, *Appl. Phys. Lett.*, 97, 162508-1-3 (2010)
195. S. Ishibashi, T. Seki, T. Nozaki, H. Kubota, S. Yakata, A. Fukushima, S. Yuasa, H. Maehara, K. Tsunekawa, D.D. Djayaprawira, Y. Suzuki, “Large Diode Sensitivity of CoFeB/MgO/CoFeB Magnetic Tunnel Junctions”, *Appl. Phys. Express*, 3, 073001-1-3 (2010).
196. T. Sasaki, T. Oikawa, T. Suzuki, M. Shiraishi, Y. Suzuki, K. Noguchi, “Evidence of Electrical Spin Injection Into Silicon Using MgO Tunnel Barrier”, *IEEE Trans. Mag.*, 46, 6, 1436-1439 (2010)

197. Seung-Seok Ha, Nam-Hee Kim, Sukmock Lee, Chun-Yeol You, Y. Shiota, T. Maruyama, T. Nozaki, Y. Suzuki, "Voltage induced magnetic anisotropy change in ultrathin Fe₈₀Co₂₀/MgO junctions with Brillouin light scattering", *Appl. Phys. Lett.*, 96, 142512 (2010)
198. Z. Tang, S. Tanabe, D. Hatanaka, T. Nozaki, T. Shinjo, S. Mizukami, Y. Ando, Y. Suzuki, M. Shiraishi, "Investigation of spin-dependent transport properties and spin-spin interactions in a CuPc-Co nano-composite system", *Jpn. J. Appl. Phys.*, 49, 33002-1-4 (2010).
199. T. Sasaki, T. Oikawa, T. Suzuki, M. Shiraishi, Y. Suzuki, K. Noguchi, "Temperature dependence of spin diffusion length in silicon by Hanle-type spin precession", *Appl. Phys. Lett.*, 96, 12, 122101-1-3 (2010)
200. T. Nozaki, Y. Shiota, M. Shiraishi, T. Shinjo, Y. Suzuki, "強磁性トンネル接合における電圧誘起磁気異方性変化の電気測定 / Electrical detection of voltage-induced magnetic anisotropy change in magnetic tunnel junctions", *J. Magn. Soc. Jpn.*, 34, 3, 289-292 (2010)
201. T. Wada, T. Yamane, T. Seki, T. Nozaki, Y. Suzuki, H. Kubota, A. Fukushima, S. Yuasa, H. Maehara, Y. Nagamine, K. Tsunekawa, D.D. Djayaprawira, N. Watanabe, "Spin-transfer-torque-induced rf oscillations in CoFeB/MgO/CoFeB magnetic tunnel junctions under a perpendicular magnetic field", *Physical Review B*, 81(10), 104410-1-7 (2010).
202. T. Seki, H. Tomita, M. Shiraishi, T. Shinjo, Y. Suzuki, "Coupled-Mode Excitations Induced in an Antiferromagnetically Coupled Multilayer by Spin-Transfer Torque", *Appl. Phys. Express*, 3, 033001-1-3 (2010).
203. Do Bang, T. Nozaki, Y. Suzuki, K. Rhie, T.-S. Kim, A. Fukushima, S. Yuasa, E. Minamitani, H. Nakanishi, H. Kasai, S. Yuasa, E. Minamitani, H. Nakanishi, H. Kasai, "Study of Kondo effect in MgO-based magnetic tunnel junctions by electron tunnelling spectroscopy", *J. Phys. Conf. Ser.*, 200, 052004-1-4 (2010)
204. A. A. Tulapurkar, Y. Suzuki, "Contribution of electron-magnon scattering to spin-dependent Seebeck effect in a ferromagnet", *Solid State Comm.*, 150, 466-470 (2010)
205. T. Nozaki, Y. Shiota, M. Shiraishi, T. Shinjo, Y. Suzuki, "Voltage-induced perpendicular magnetic anisotropy change in magnetic tunnel junctions", *Appl. Phys. Lett.*, 96, 022506-1-3 (2010).
206. 石橋翔太、鈴木義茂, "MTJs 素子における低温でのスピントルクダイオード測定", 大阪大学低温センターだより, 149, 10-14 (2010)
207. H. Yoda, T. Kishi, T. Nagase, M. Yoshikawa, K. Nishiyama, E. Kitagawa, T. Daibou, M. Amano, N. Shimomura, S. Takahashi, T. Kai, M. Nakayama, H. Aikawa, S.

- Ikegawa, M. Nagamine, J. Ozeki, S. Mizukami, M. Oogane, Y. Ando, S. Yuasa, K. Yakushiji, H. Kubota, Y. Suzuki, Y. Nakatani, T. Miyazaki, K. Ando, "High efficient spin transfer torque writing on perpendicular magnetic", *Current Applied Physics* 10, e87–e89 (2010)
208. T. Yoshioka, T. Nozaki, T. Seki, M. Shiraishi, T. Shinjo, Y. Suzuki, Y. Uehara, "Microwave-Assisted Magnetization Reversal in a Perpendicularly Magnetized Film", *Appl. Phys. Express*, 3, 013002-1-3 (2010)
209. 鈴木義茂、ナノスピントロニクスの研究、阪大ナノサイエンスワールド 201、大阪大学 ナノサイエンス・ナノテクノロジー研究推進機構企画推進室発行、p66-67、2010年3月
210. K. Muramoto, M. Shiraishi, N. Mitoma, T. Nozaki, T. Shinjo, Y. Suzuki, "Analysis of degradation in graphene-based spin valves", *Appl. Phys. Express*, 2, 123004-1-3 (2009).
211. 湯浅新治、久保田均、福島章雄、薬師寺啓、長浜太郎、鈴木義茂、安藤功兒, "Creating non-volatile electronics by spintronics technology-Toward developing ultimate green IT devices-", *Synthesiology-English edition*, 2,3,194-205.(2009)
212. Y. Suzuki, T. Nozaki, "Large voltage-induced magnetic anisotropy change in a few atomic layers of iron", *Annual Report of Osaka University*, 10,27-29,61-63 (2009)
213. 畑中大樹、白石誠司、鈴木義茂, "有機 - 強磁性金属ナノコンポジットにおける巨大磁気抵抗効果の起源", *低温センター研究報告書*, 平成 20 年度, 53-58 (2009)
214. 湯浅新治, 鈴木義茂, "第 20 回つくば賞受賞「MgO トンネル素子の巨大トンネル磁気抵抗効果の実現と産業応用」", *産総研トピックス/産総研 Today*, 27 Nov.(2009) / Jan.(2010)
215. R. Matsumoto, A. Fukushima, K. Yakushiji, S. Yakata, T. Nagahama, H. Kubota, T. Katayama, Y. Suzuki, K. Ando, S. Yuasa, B. Georges, V. Cros, J. Grollier, A. Fert, "Spin-torque-induced switching and precession in fully epitaxial Fe/MgO/Fe magnetic tunnel junctions", *Physical Review B*, 80(17), 174405-1-8 (2009)
216. 関剛斎, 和田朋之, 富田博之, 山根健量, 升方康智, A. A. Tulapurkar, 野崎隆行, 白石誠司, 新庄輝也, 鈴木義茂, 久保田均, 福島章雄, 湯浅新治, 前原大樹, 永峰佳紀, 恒川孝二, D. D. Djayaprawira, 渡辺直樹, "MgO-MTJ および CPP-GMR におけるスピントルク発振--発振の高出力化および高周波化にむけて", *社団法人日本磁気学会研究会資料*, 168 23-27(2009)
217. M. Shiraishi, M. Ohishi, R. Nouchi, N. Mitoma, T. Nozaki, T. Shinjo, Y. Suzuki, "Robustness of spin polarization in graphene-based spin valves", *Adv. Func. Mat.*, 19, 3711-3716 (2009)
218. J. Masuko, M. Matsubara, J. Hashimoto, H. Kanai, Y. Uehara, T. Ibusuki, M. Sato,

- T. Wada, Y. Suzuki, "Microwave Oscillations of the Giant Magnetoresistive Element in a Magnetic Field Perpendicular to the Plane", *IEEE Trans. Mag.*, 45, 10, 3430-3433 (2009)
219. Y. Suzuki, A. Tulapurkar, C. Chappert, "Nanomagnetism and spintronics(Elsevier)", Chapter 3, "Spin-injection phenomena and its applications", pp.93-153(2009)
220. T. Wada, T. Yamane, T. Seki, T. Nozaki, Y. Suzuki, H. Kubota, A. Fukushima, S. Yuasa, H. Maehara, T. Nagamine, K. Tsunekawa, D. D. Dyayaprawira, N. Watanabe, "強磁性トンネル接合素子におけるスピントルク発振の磁場方位依存性/ Field Orientation Dependence of Spin-torque Induced RF Oscillations in Magnetic Tunnel Junctions", *日本応用磁気学会誌 / J. Magn. Soc. Jpn.*, 31, 6, 435-438(2007) / 33, 4, 379-383 (2009)
221. 湯浅新治、久保田均、福島章雄、薬師寺啓、長浜太郎、鈴木義茂、安藤功兒 / S. Yuasa, H. Kubota, A. Fukushima, K. Yakushiji, T. Nagahama, Y. Suzuki, K. Ando, "スピントロニクス技術による不揮発エレクトロニクスの創成--究極のグリーン IT 機器の実現に向けて / Creating non-volatile electronics by spintronics technology-Toward developing ultimate green IT devices", *構成学 / Synthesiology-English edition*, 2,3,211-222 / 2,3, 194-205 (2009)
222. T. Nozaki, H. Kubota, S. Yuasa, M. Shiraishi, T. Shinjo, Y. Suzuki, "rf amplification in a three-terminal magnetic tunnel junction with a magnetic vortex structure", *Appl. Phys. Lett.*, 95, 022513-1-3 (2009)
223. 久保田均、鈴木義茂、「スピントロニクスの基礎と材料・応用技術の最前線 (CMC 出版)」、第4章「スピン注入磁化反転と自励発振」, (2009)
224. Seung-Seok HA, Nam-Hee Kim, Chun-Yeol You, Sukmock Lee, K.Ohta, T. Maruyama, K. Konishi, T. Nozaki, Y. Suzuki, W. Van Roy, "Brillouin light scattering study of the magnetic anisotropy in bcc-Fe(100) ultrathin films grown on GaAs(100) surfaces with different reconstructions", *IEEE Trans. Mag.*, 45, 6, 2527-2530 (2009)
225. D. Hatanaka, S. Tanabe, H. Kusai, R. Nouchi, T. Nozaki, T. Shinjo, Y. Suzuki, H. Wang, K. Takanashi, M. Shiraishi, "Enhanced magnetoresistance due to charging effects in a molecular nano-composite spin device", *Physical Review B*, 79(23),235402-1-5 (2009)
226. K. Konishi, T. Nozaki, H. Kubota, A. Fukushima, S. Yuasa, M. Shiraishi, Y. Suzuki, "Current-field driven "Spin Transistor" ", *Appl. Phys. Express*, 2, 063004-1-3 (2009).
227. R. Matsumoto, A. Fukushima, K. Yakushiji, S. Nishioka, T. Nagahama, T. Katayama, Y. Suzuki, K. Ando, S. Yuasa, "Spin-dependent tunneling in epitaxial Fe/Cr/MgO/Fe magnetic tunnel junctions with an ultrathin Cr(001) spacer layer", *Physical Review B*, 79(17), 174436-1-8 (2009)

228. T. Seki, H. Tomita, A. Tulapurkar, M. Shiraishi, T. Shinjo, Y. Suzuki, "Spin-transfer induced ferromagnetic resonance for Fe/Cr/Fe layers with an antiferromagnetic coupling field", *Appl. Phys. Lett.*, 94, 212505-1-3 (2009)
229. Y. Shiota, T. Maruyama, T. Nozaki, T. Shinjo, M. Shiraishi, Y. Suzuki, "Voltage-assisted Magnetization Switching in Ultrathin Fe₈₀Co₂₀ Alloy Layers", *Appl. Phys. Express*, 2, 63001-1-3 (2009).
230. T. Sasaki, T. Oikawa, T. Suzuki, M. Shiraishi, Y. Suzuki, K. Tagami, "Electrical spin injection into silicon using MgO tunnel barrier", *Appl. Phys. Express*, 2, 53003-1-3 (2009).
231. S. Yakata, H. Kubota, Y. Suzuki, K. Yakushiji, A. Fukushima, S. Yuasa, K. Ando, "Influence of perpendicular magnetic anisotropy on spin-transfer switching current in CoFeB/MgO/CoFeB magnetic tunnel junctions", *J. Appl. Phys.*, 105, 07D131 (2009)
232. Do Bang, T. Nozaki, D. D. Djayaprawira, M. Shiraishi, Y. Suzuki, A. Fukushima, H. Kubota, T. Nagahama, S. Yuasa, H. Maehara, K. Tsunekawa, Y. Nagamine, N. Watanabe, H. Itoh, "Inelastic tunneling spectra of MgO barrier magnetic tunneling junctions showing large magnon contribution.", *J. Appl. Phys.*, 105, 07C924-1-3 (2009).
233. 久保田 均. 鈴木 義茂. 湯浅 新治, "高密度スピントルク MRAM の実現に向けて (基礎から学ぶスピンを操る科学・技術) Development of high-density MRAM with spin-torque writing", *応用物理*, 78,3,231-235 (2009)
234. K. Ohta, T. Maruyama, T. Nozaki, M. Shiraishi, T. Shinjo, Y. Suzuki, S-S. Ha, C-Y. You, W. Van Roy, "Voltage control of in-plane magnetic anisotropy in ultrathin Fe / n-GaAs (001) Schottky junctions", *Appl. Phys. Lett.*, 94, 032501-1-3 (2009).
235. T. Maruyama, Y. Shiota, T. Nozaki, K. Ohta, N. Toda, M. Mizuguchi, A. A. Tulapurkar, T. Shinjo, M. Shiraishi, S. Mizukami, Y. Ando, Y. Suzuki, "Large voltage-induced magnetic anisotropy change in a few atomic layers of iron", *Nature Nanotechnology*, 4, 158-161 (2009).
236. R. Nouchi, M. Shiraishi, Y. Suzuki, "Transfer characteristics in graphene field-effect transistors with Co contacts", *Appl. Phys. Lett.*, 3, 152104 (2008)
237. 野崎隆行、白石誠司、鈴木義茂, "(技術解説) 金属・分子材料へのスピン注入(Spin injection into metal and molecular materials)", *生産と技術*, 60, 4,19-26 (2008)
238. 鈴木義茂, 湯浅新治 他, "磁気メモリ構造によるマイクロ波発振", *NISTEP Science & Technology Trends*, October, 5 (2008)
239. S. Nishioka, R. Matsumoto, H. Tomita, T. Nozaki, Y. Suzuki, H. Itoh, S. Yuasa, "Spin dependent tunneling spectroscopy in single crystalline bcc-Co/MgO/bcc-Co(001)

- junctions”, *Appl. Phys. Lett.*, 93, 122511 (2008)
240. 逢坂哲彌、鈴木義茂、吉沢克仁, “日本磁気学会の財務状況について—学会のさらなる発展のために—”, *まぐね*, 3, 9, 397-401 (2008)
241. 鈴木義茂, “高性能強磁性トンネル接合により高出力の高周波発振に成功-スピントロニクス素子の高周波応用に道-”, *産総研プレス*, 8/28 (2008)
242. S-S. Ha, C-Y. You, S. Lee, K. Ohta, T. Nozaki, Y. Suzuki, W. Van Roy, “Brillouin Light Scattering Study of Magnetic Anisotropy in GaAs/Fe/Au System”, *J. Korean Mag. Soc.*, 8, 4, 1-6 (2008)
243. A.M. Deac, A. Fukushima, H. Kubota, H. Maehara, Y. Suzuki, S. Yuasa, Y. Nagamine, K. Tsunekawa, D. D. Djayaprawira, N. Watanabe, “Bias-driven high-power microwave emission from MgO-based tunnel magnetoresistance devices”, *Nature Physics*, 4, 8, 803-809 (2008)
244. M. Shiraishi, H. Kusai, R. Nouchi, T. Nozaki, T. Shinjo, Y. Suzuki, M. Yoshida, M. Takigawa, “A nuclear magnetic resonance study on rubrene-cobalt nano-composites”, *Appl. Phys. Lett.*, 93, 53103 (2008)
245. R. Nouchi, H. Tomita, A. Ogura, H. Kataura, M. Shiraishi, “Logic Circuits Using Solution-Processed Single-Walled Carbon Nanotube Transistors”, *Appl. Phys. Lett.*, 92, 253507 (2008)
246. H. Tomita, K. Konishi, T. Nozaki, H. Kubota, A. Fukushima, K. Yakushiji, S. Yuasa, Y. Nakatani, T. Shinjo, M. Shiraishi, Y. Suzuki, “Single-shot measurements of spin-transfer switching in CoFeB/MgO/CoFeB magnetic tunnel junctions”, *Appl. Phys. Express*, 1, 6, 61303-1-3 (2008)
247. Y. Suzuki, H. Kubota, “Spin-Torque Diode Effect and Its Application”, *J. Phys. Soc. Jpn.*, 77, 3, 031002 (2008)
248. H. Kubota, A. Fukushima, K. Yakushiji, T. Nagahama, S. Yuasa, K. Ando, H. Maehara, Y. Nagamine, K. Tsunekawa, D. D. Djayaprawira, N. Watanabe, Y. Suzuki, “Quantitative measurement of voltage dependence of spin-transfer torque in MgO-based magnetic tunnel junctions”, *Nature Physics*, 4, 37-41 (2008)
249. 鈴木義茂、「薄膜ハンドブック(オーム社)」、6.6.3 「スピンドイナミクス」, pp911-915(2008)
250. 鈴木義茂, “「巨大磁気抵抗効果の発見」に 2007 年ノーベル物理学賞”, *日本物理学会誌(学界ニュース)*, 63, 1, 57-59 (2008)
251. N. Toda, K. Saito, K. Ohta, H. Maekawa, M. Mizuguchi, M. Shiraishi, Y. Suzuki, “Highly sensitive ferromagnetic resonance measurements using coplanar waveguides / コプレーナウエーブガイドを用いた強磁性共鳴の高感度測定”,

- J. Magn. Soc. Jpn.,31, 6, 435 (2007)
- 252.S. Miwa, M. Shiraishi, S. Tanabe, M. Mizuguchi, T. Shinjo, Y. Suzuki, “Tunnel magnetoresistance of C60-Co nanocomposites and spin-dependent transport in organic semiconductors”, Physical Review B **76**, 214414 (2007).
- 253.H. Maekawa, T. Nozaki, S. Kasai, M. Mizuguchi, M. Shiraishi, T. Ono, Y. Suzuki, “Detection of current-driven magnetic domain wall deformation using anisotropic magnetoresistance effect”, Phys. Stat. Sol.(a), 12, 3987-3990 (2007)
- 254.鈴木義茂, “スピン注入トルクの直接測定に成功一次世代 MRAM の開発を加速する新しい評価技術を確立”, 産総研プレス, 11/22 (2007)
- 255.鈴木義茂, “HDD が T バイト時代に[溝]を掘る新媒体で躍進”, NIKKEI ELECTRONICS, 19 Nov., 89-94 (2007)
- 256.A. Yamaguchi, H. Miyajima, T. Ono, Y. Suzuki, S. Yuasa “The rectification of radio-frequency signal by magnetic domain wall in a single-layered ferromagnetic nanowire”, Appl. Phys. Lett., 91, 132509 (2007)
- 257.H. Kusai, S. Miwa, M. Mizuguchi, T. Shinjo, Y. Suzuki, M. Shiraishi, “Large magnetoresistance in rubrene-cobalt nano-composites”, Chemical Physics Letters **448**, 106-110 (2007).
- 258.T. Nozaki, H. Maekawa, M. Mizuguchi, M. Shiraishi, T. Shinjo, Y. Suzuki, H. Maehara, S. Kasai, T. Ono, “Substantial reduction in the depinning field of vortex domain walls triggered by spin-transfer induced resonance”, Appl. Phys. Lett., 91, 82502 (2007)
- 259.S. Tanabe, S. Miwa, M. Mizuguchi, T. Shinjo, Y. Suzuki and M. Shiraishi, “Spin-dependent transport in nanocomposites of Alq3 molecules and cobalt nanoparticles”, Applied Physics Letters **91**, 063123 (2007).
- 260.R. Matsumoto, S. Nishioka, M. Mizuguchi, M. Shiraishi, H. Maehara, K. Tsunekawa, D.D. Djayaprawira, N. Watanabe, Y. Otani, T. Nagahama, A. Fukushima, H. Kubota, S. Yuasa, Y. Suzuki, “Dependence on Annealing Temperature of Tunneling Spectra in high-resistance CoFeB/MgO/CoFeB Magnetic Tunnel Junctions”, Solid State Comm., 143, 574-578 (2007)
- 261.M. Mizuguchi, Y. Suzuki, T. Nagahama, S. Yuasa, “In situ scanning tunneling microscopy observations of polycrystalline MgO(001) tunneling barriers grown on amorphous CoFeB electrode”, Appl. Phys. Lett.,91, 012507-1-3 (2007)
- 262.M. Ohishi, M. Shiraishi, R. Nouchi, T. Nozaki, T. Shinjo, Y. Suzuki, “Spin injection into a graphene thin film at room temperature”, Jpn. J. Appl. Phys.,46, 25, L605–L607 (2007)
- 263.R. Matsumoto, A. Fukushima, T. Nagahama, Y. Suzuki, K. Ando, S. Yuasa,

- “Oscillation of giant tunneling magnetoresistance with respect to tunneling barrier thickness in fully epitaxial Fe/MgO/Fe magnetic tunnel junctions”, *Appl. Phys. Lett.*, 90, 252506-1-3 (2007)
- 264.久保田均、福島章雄、薬師寺啓、大谷裕一、湯浅新治、安藤功兒、前原大樹、恒川孝二、ダビッド D. ジャヤプラウィラ、長峰佳紀、渡辺直樹、鈴木義茂, “MgO バリアを用いた MTJ 素子におけるスピントルク磁化反転(Spin-Torque-Induced Magnetization Reversal in Magnetic Tunnel Junctions with an MgO Barrier)”, *まぐね/Magnetics Jpn.*, 2, 6, 274-281 (2007)
- 265.鈴木義茂、水口将輝、DEAC-RENNER, Alina Maria、久保田均、福島章雄、湯浅新治、前原大樹、David Djayaprawira、恒川孝二、渡辺直樹, “スピン注入素子の高周波特性—発振・ダイオード効果とマグネティックノイズ (Microwave Properties of Spin Injection Devices-Spontaneous Oscillation, Spin-Torque Diode Effect and Magnetic Noise)”, *まぐね/Magnetics Jpn.*, 2, 6, 282-290 (2007)
- 266.A. Yamaguchi, H. Miyajima, T. Ono, Y. Suzuki, S. Yuasa, A. Tulapurkar, Y. Nakatani, “Rectification of radio frequency current in ferromagnetic nanowire”, *Appl. Phys. Lett.*,90, 182507 (2007)
- 267.鈴木義茂, “スピン偏極電流によるコヒーレント磁化反転とそのダイナミクス”, 文部科学省科学研究費補助金 (基盤研究(B)) 研究成果報告書, (2005)
- 268.鈴木義茂, 「放射光 X 線磁気分光と散乱 (株式会社 IPC)」、附録「磁性多層膜における磁気的交換結合の振動とスピン分極」、pp.237-243 (2007)
- 269.A. A. Tulapurkar, Y. Suzuki, A. Fukushima, H. Kubota, H. Maehara, K. Tsunekawa, D.D. Djayaprawira, N. Watanabe , S. Yuasa, “Spin-torque diode effect in magnetic tunnel junctions” , (reprinted by *Nature*, 438, 17, 339 (2005)), *キャノンアネルバ技報*, 13, 44-47 (2007)
- 270.S. Nishioka, Y.V. Hamada, R. Matsumoto, M. Mizuguchi, M. Shiraishi, A. Fukushima, H. Kubota, T. Nagahama, S. Yuasa, H. Maehara, Y. Nagamine, K. Tsunekawa, D.D. Djayaprawira, N. Watanabe, Y. Suzuki, “Differential conductance measurements of low-resistance CoFeB/MgO/CoFeB magnetic tunnel junctions”, *J. Mag. Mag. Mat.*,310, e649-e651 (2007)
- 271.Y. Otani, H. Kubota, A. Fukushima, H. Maehara, S. Yuasa, Y. Suzuki, “Thermal stability of spin-transfer switching in CPP-GMR devices”, *J. Mag. Mag. Mat.*, 310,2,3, 2026-2028 (2007)
- 272.H. Kohno, G. Tatara, J. Shibata, Y. Suzuki, “Microscopic Calculation of Spin Torques and Forces”, *J. Mag. Mag. Mat.*, 310, 2, 2020-2022 (2007)
- 273.前原大樹, 久保田均, 大石恵, 永峰佳紀, 恒川孝二, ジャヤプラウィ・ダビッド, 福島章雄, 水口将輝, 白石誠司, 湯浅新治, 安藤功兒, 鈴木義茂, “スピントルクダイオードと

- 負性抵抗効果”, 日本応用磁気学会研究会資料, 153 31-35(2007)
- 274.M. Shiraishi, K. Takebe, K. Matsuoka, N. Toda, K. Saito, H. Kataura, “Surface potential analyses of single-walled carbon nanotube/metal interfaces”, *J. Appl. Phys.*, 101, 14311 (2007)
- 275.M. Mizuguchi, Y. Suzuki, T. Nagahama, S. Yuasa, “Surface Morphology of Epitaxial Magnetic Tunnel Junctions”, *J. Nanosci Nanotech.*, 7, 1-4, 255-258 (2007)
- 276.H. Saito, S. Yuasa, K. Ando, Y. Hamada, Y. Suzuki, “Spin-polarized tunneling in metal-insulator-semiconductor Fe/ZnSe/Ga_{1-x}MnXAs magnetic tunnel diodes”, *Appl. Phys. Lett.*, 89, 232502-1-3 (2006)
- 277.鈴木義茂, 「電子材料ハンドブック (朝倉書店)」, 5.6 「スピントロニクス材料」, pp.394-400(2006)
- 278.K. Ishiji, H. Hashizume, Y. Suzuki, E. Tamura, “Magnetic polarization of Cu layers in exchange-coupled Co/Cu multilayers”, *Phys. Rev. B*, 74, 174432-1-9 (2006)
- 279.大谷裕一, 久保田均, 福島章雄, 前原大樹, 湯浅新治, 鈴木義茂, “Co-Fe 及び Co-Fe-B フリー層を用いた CPP-GMR 素子のスピントロニクス注入磁化反転特性”, 日本応用磁気学会誌, 30, 2, 192-195 (2006)
- 280.M. Ohishi, M. Shiraishi, K. Ochi, Y. Kubozono, H. Kataura, “Improvements in the device characteristics of random-network single-walled carbon nanotube transistors by using high-k gate insulators”, *Appl. Phys. Lett.*, 89, 203505 (2006)
- 281.K. Mamiya, T. Koide, Y. Ishida, Y. Osafune, A. Fujimori, Y. Suzuki, T. Katayama, S. Yuasa, “Angle-resolved soft X-ray magnetic circular dichroism in a monatomic Fe layer facing an MgO(001) tunnel barrier”, *Radiation Phys. and Chem.*, 75, 2006, 1872-1877 (2006)
- 282.鈴木義茂, “金属スピントロニクスの新しい展開—トンネル磁気抵抗効果とスピントロニクスダイオード—”, *ATI News*, 4, Nov., 2-6 (2006)
- 283.福島章雄, 久保田均, 山本淳, 鈴木義茂, 湯浅新治, “CPP 構造微小金属接合におけるペルチェ冷却効果”, *まぐね*, 1, 10, 482-488 (2006)
- 284.T. Katayama, S. Yuasa, S. Saito, Y. Kurosaki, T. Saito, T. Kamino, K. Kobayashi, Y. Suzuki, H. Manaka, T. Koide, “X-ray absorption and x-ray magnetic circular dichroism studies on a monatomic bcc-Co(001) layer facing an amorphous Al-O tunnel barrier”, *J. Appl. Phys.*, 100, 023912(2006)
- 285.S. Yuasa, A. Fukushima, H. Kubota, Y. Suzuki, K. Ando, “Giant tunneling magnetoresistance up to 410% at room temperature in fully epitaxial Co/MgO/Co magnetic tunnel junctions with bcc Co₀₀₁... electrodes”, *Appl. Phys. Lett.*, 89, 042505-1-3. (2006)
- 286.H. Kubota, A. Fukushima, Y. Ootani, S. Yuasa, K. Ando, H. Maehara, K. Tsunekawa,

- D. D. Djayaprawira, N. Watanabe, Y. Suzuki, "Dependence of spin-transfer switching current on free layer thickness in Co-Fe-B/MgO/Co-Fe-B magnetic tunnel junctions", *Appl. Phys. Lett.*, 89, 032505-1-3 (2006)
- 287.S. Miwa, M. Shiraishi, M. Mizuguchi, T. Shinjo, Y. Suzuki, "Spin-Dependent Transport in C60-Co Nano-Composites", *Japanese Journal of Applied Physics (Express Letters)* 45(28), L717-L719 (2006).
- 288.鈴木義茂, "スピントロニクススピン依存伝導とスピン注入の基礎", *MSJ サマースクール*, 30, 93-106(2006)
- 289.M. Mizuguchi, Y. Suzuki, T. Nagahama, S. Yuasa, "Microscopic structures of MgO barrier layers in single-crystal Fe/MgO/Fe magnetic tunnel junctions showing giant tunneling magnetoresistance", *Appl. Phys. Lett.*, 88, 251901-1-3 (2006)
- 290.Y. Suzuki, A. Tulapurkar, K. Yagami, T. Devolder, A. Fukushima, H. Kubota, S. Yuasa, P. Crozat, C. Chappert, "Ultrahigh Speed Spin-Transfer Magnetization Switching in Magnetic Multilayers", *Jpn. J. Appl. Phys.*, 45, 5A, 3842-3845 (2006)
- 291.鈴木義茂, A. Tulapurlar, 水口将輝, 久保田均, 福島章雄, 湯浅新治, 前原大樹, 恒川孝二, ダビッド・ジャヤプラウィラ, 渡辺直樹, "金属スピントロニクス素子の新しい展開—スピントルクダイオード—", *キャノンアネルバ技報*, 12, 5-10 (2006)
- 292.A. Fukushima, H. Kubota, A. Yamamoto, Y. Suzuki, S. Yuasa, "Peltier cooling in current-perpendicular-to-plane metallic junctions", *J. Appl. Phys.*, 99, 08H706 (2006)
- 293.M. Mizuguchi, Y. Hamada, R. Matsumoto, S. Nishioka, H. Maehara, K. Tsunekawa, D.D. Djayaprawira, N. Watanabe, T. Nagahama, A. Fukushima, H. Kubota, S. Yuasa, M. Shiraishi, Y. Suzuki, "Tunneling spectroscopy of magnetic tunnel junctions: Comparison between CoFeBMgOCoFeB and CoFeBAl-OCoFeB", *J. Appl. Phys.*, 99, 8T309 (2006)
- 294.M. Mizuguchi, Y. Suzuki, T. Nagahama, S. Yuasa, "Scanning tunneling microscopy observations of single-crystal Fe/MgO/Fe magnetic tunnel junctions", *J. Appl. Phys.*, 99,8, 08T308-1-3 (2006)
- 295.鈴木義茂, "スピントルクダイオード効果—MgO バリヤ巨大トンネル磁気抵抗素子の新しい応用—", *産総研 TODAY*, 6,2,16-19 (2006)
- 296.K. Tsunekawa, D. D. Djayaprawira, S. Yuasa, M. Nagai, H. Maehara, S. Yamagata, E. Okada, N. Watanabe, Y. Suzuki, K. Ando, "Huge Magnetoresistance and Low Junction Resistance in Magnetic Tunnel Junctions With Crystalline MgO Barrier", *IEEE Trans. Mag.*, 42, 2, 103-107 (2006)
- 297.久保田均, 福島章雄, 大谷裕一, 湯浅新治, 安藤功兒, 前原大樹, 恒川孝二, ダビッドジャヤプラウィラ, 渡辺直樹, 鈴木義茂, "MgO バリアを用いた MTJ におけるスピン

- 注入磁化反転”, 応用磁気学会研究会, 145 回研究会, 43-48 (2006)
298. 鈴木義茂, A. Tulapurkar, 水口将輝、久保田均、福島章雄、湯浅新治、前原大樹、恒川孝二、D. Djayaprawira、渡辺直樹, “スピン注入磁化反転素子の高周波特性”, 応用磁気学会研究会, 145 回研究会, 49-55 (2006)
299. 大谷裕一、久保田均、福島章雄、前原大樹、湯浅新治、鈴木義茂, “Co-Fe および Co-Fe-B フリー層を用いた CPP-GMR 素子のスピン注入磁化反転特性”, *J.Mag.Soc.Jpn.*, 30, 2, 192-195 (2006)
300. S. Yuasa, Y Suzuki, T. Katayama, K. Ando, “Characterization of growth and crystallization processes in CoFeB/MgO/CoFeB magnetic tunnel junction structure by reflective high-energy electron diffraction”, *Appl. Phys. Lett.*, 87, 242503-1-3 (2005)
301. S. Yuasa, T. Katayama, T. Nagahama, A. Fukushima, H. Kubota, Y. Suzuki, K. Ando, “Giant tunneling magnetoresistance in fully epitaxial body-centered-cubic Co/MgO/Fe magnetic tunnel junctions”, *Appl. Phys. Lett.*, 87, 222508 (2005)
302. A. A. Tulapurkar, Y. Suzuki, A. Fukushima, H. Kubota, H. Maehara, K. Tsunekawa, D. D. Djayaprawira, N. Watanabe, S. Yuasa, “Spin-torque diode effect in magnetic tunnel junctions”, *Nature*, 438, 17, 339-342 (2005)
303. M. Mizuguchi, Y. Suzuki, T. Nagahama, S. Yuasa, “Atomically flat aluminum-oxide barrier layers constituting magnetic tunnel junctions observed by in situ scanning tunneling microscopy”, *Appl. Phys. Lett.*, 87, 17, 171909-1-3 (2005)
304. R. Matsumoto, Y. Hamada, M. Mizuguchi, M. Shiraishi, H. Maehara, K. Tsunekawa, D. D. Djayaprawira, N. Watanabe, Y. Kurosaki, T. Nagahama, A. Fukushima, H. Kubota, S. Yuasa, Y. Suzuki, “Tunneling spectra of sputter-deposited CoFeB/MgO/CoFeB”, *Solid State Comm.*, 136, 611-615 (2005)
305. A. Fukushima, H. Kubota, A. Yamamoto, Y. Suzuki, S. Yuasa, “Peltier Effect in Metallic Junctions With CPP Structure”, *IEEE Trans. Mag.*, 41, 10, 2571-2573 (2005)
306. K. Yagami, A. A. Tulapurkar, A. Fukushima, Y. Suzuki, “Inspection of Intrinsic Critical Currents for Spin-Transfer Magnetization Switching”, *IEEE Trans. Mag.*, 41, 10, 2615-2617 (2005)
307. 鈴木義茂, “「大阪に来て思うこと」-お好み焼きと性能指数-”, 大阪大学低温センターだより (談話室), 132 18-19(2005)
308. H. Kubota, A. Fukushima, Y. Ootani, S. Yuasa, K. Ando, H. Maehara, K. Tsunekawa, D. D. Djayaprawira, N. Watanabe, Y. Suzuki, “Magnetization Switching by Spin-Polarized Current in Low-Resistance Magnetic Tunnel Junction With MgO (001) Barrier”, *IEEE Trans. Mag.*, 41, 10, 2633-2635 (2005)

- 309.H. Kubota, A. Fukushima, Y. Ootani, S. Yuasa, K. Ando, H. Maehara, K. Tsunekawa, D. D. Djayaprawira, N. Watanabe, Y. Suzuki, "Evaluation of Spin-Transfer Switching in CoFeB/MgO/CoFeB Magnetic Tunnel Junctions", *Jpn. J. Appl. Phys.*, 44, L 1237–L 1240 (2005)
- 310.T. Devolder, A. Tulapurkar, Y. Suzuki, C. Chappert, P. Crozat, and K. Yagami, "Temperature study of the spin-transfer switching speed from dc to 100 ps", *J. Appl. Phys.*, 98, 053904-1-6 (2005)
- 311.M. Shiraishi, S. Nakamura, T. Fukao, T. Takenobu, H. Kataura, Y. Iwasa, "Control of carrier injection in tetracyano-p-quinodimethane encapsulated carbon nanotube transistors", *Appl. Phys. Lett.*, 87, 093107 (2005)
- 312.T. Nagahama, S. Yuasa, E. Tamura, and Y. Suzuki, "Spin-Dependent Tunneling in Magnetic Tunnel Junctions with a Layered Antiferromagnetic Cr(001) Spacer: Role of Band Structure and Interface Scattering", *Phys. Rev. Lett.* 95, 086602, 086602-1-4 (2005)
- 313.K. Tsunekawa, D.D. Djayaprawira, M. Nagai, H. Maehara, S. Yamagata, N. Watanabe, S. Yuasa, Y. Suzuki, K. Ando, "Giant tunneling magnetoresistance effect in low-resistance CoFeB/MgO(001)/CoFeB magnetic tunnel junctions for read-head applications", *Appl. Phys. Lett.*, 87, 072503-1-3 (2005)
- 314.鈴木義茂, "スピニエレクトロニクス—スピン依存伝導とスピン注入の基礎—", *MSJ サマースクールテキスト*, 29,131-144 (2005)
- 315.K. Yagami, A. A. Tulapurkar, A. Fukushima, Y. Suzuki, "Estimation of thermal durability and intrinsic critical currents of magnetization switching for spin-transfer based magnetic random access memory", *J. Appl. Phys.*, 97, 10C707 (2005)
- 316.T. Devolder, P. Crozat, C. Chappert, J. Miltat, A. Tulapurkar, Y. Suzuki, K. Yagami, "Instability threshold versus switching threshold in spin-transfer-induced magnetization switching", *Physical Review B*, 71(18), 184401-1-6 (2005)
- 317.C-Y. You, Y. Suzuki, "Tunable interlayer exchange coupling energy by modification of Schottky barrier potentials", *J. Mag. Mag. Mat.*, 293, 2, 774-781 (2005)
- 318.斎藤真司、三代川廣野、片山利一、湯浅新治、神野友之、花島幸司、斎藤敏明、鈴木義茂、間宮一敏、小出常晴, "MgO(001)トンネル障壁界面 Fe(001)単原子層の磁気状態: X線吸収及び X線円磁気二色性による研究", *日本応用磁気学会誌*, 29, 4, 463-467 (2005)
- 319.黒崎義成、長浜太郎、湯浅新治、鈴木義茂、片山利一, "トンネル磁気抵抗効果の Fe(001)電極膜厚依存性 (Electrode Thickness Dependence of the Tunneling Magnetoresistance Effect in fe(001)/Al-O/NiFe Magnetic Tunnel Junctions)", *日本応用磁気学会誌*, 29,4, 446-449 (2005)

- 320.鈴木義茂, “超 Gbit 級 M-RAM の実現に向けて道筋を拓く 高性能トンネル磁気抵抗素子を開発”, 産総研技術開発カタログ, 242-243 (2005)
- 321.D. D. Djayaprawira, K. Tsunekawa, M. Nagai, H. Maehara, S. Yamagata, N. Watanabe, S. Yuasa, Y. Suzuki, K. Ando, “230% room-temperature magnetoresistance in CoFeB/MgO/CoFeB magnetic tunnel junctions”, *Appl. Phys. Lett.*, 86, 9, 092502-1-3 (2005)
- 322.A. Thiaville, Y. Nakatani, J. Miltat, Y. Suzuki, “Micromagnetic understanding of current-driven”, *Europhys. Lett.*, 69 (6), 990–996 (2005)
- 323.T. Devolder, C. Chappert, P. Crozat, A. Tulapurkar, Y. Suzuki, J. Miltat, K. Yagami, “Precharging strategy to accelerate spin-transfer switching below the nanosecond”, *Appl. Phys. Lett.*, 86, 062505-1-3 (2005)
- 324.T. Devolder, A. A. Tulapurkar, K. Yagami, P. Crozat, C. Chappert, A. Fukushima, Y. Suzuki, “Ultra-fast magnetization reversal in magnetic nano-pillars by spin-polarized current”, *J. Mag. Mag. Mat.*, 286, 77-82 (2005)
- 325.T. Kawagoe, Y. Iguchi, A. Yamasaki, Y. Suzuki, K. Koike, S. Suga, “Surface magnetic structure of epitaxial Cr(001) Films on Au(001) studied by Spin-Polarized Scanning Tunneling Spectroscopy”, *Physical Review B*, 71(1), 014427-1-7 (2005)
- 326.K. Miyokawa, S. Saito, T. Katayama, T. Saito, T. Kamino, K. Hanashima, Y. Suzuki, K. Mamiya, T. Koide, S. Yuasa, “X-ray Absorption and X-ray Magnetic Circular Dichroism Studies of a Monoatomic Fe(001) Layer Facing a Single-Crystalline MgO(001) Tunnel Barrier”, *Jpn. J. Appl. Phys.*, 44, 1, L9-L11 (2005)
- 327.A. Fukushima, K. Yagami, A. A. Tulapurkar, Y. Suzuki, H. Kubota, A. Yamamoto, S. Yuasa, “Peltier Effect in Sub-micron-Size Metallic Junctions”, *Jpn. J. Appl. Phys.*, 44, 1, L12-L14 (2005)
- 328.K. Yagami, A. A. Tulapurkar, Y. Suzuki, “Low current spin-transfer switching and its thermal durability in a low saturation magnetization nanomagnet”, *Appl. Phys. Lett.*, 85, 23, 5634-5636 (2004)
- 329.S. Yuasa, T. Nagahama, A. Fukushima, Y. Suzuki, K. Ando, “Giant room-temperature magnetoresistance in single-crystal Fe/MgO/Fe tunnel junctions”, *Nature Materials*, 3, 868-871 (2004)
- 330.A. A. Tulapurkar, T. Devolder, K. Yagami, P. Crozat, C. Chappert, A. Fukushima, Y. Suzuki, “Sub-nanosecond Magnetization Reversal in Magnetic Nanopillars by Spin Angular Momentum Transfer”, *Appl. Phys. Lett.*, 85, 22, 5358-5360 (2004)
- 331.湯浅新治、長浜太郎、福島章雄、鈴木義茂、安藤功児, “巨大な TMR(トンネル磁気抵抗)効果の発生メカニズムを実証—世界最高の出力電圧 550mV を達成—”, 産総研プレス, 11/1 (2004)

- 332.鈴木義茂, “スピントロニクス—スピン依存伝導とスピン注入の基礎—”, MSJ サマースクールテキスト, 28, 185-196 (2004)
- 333.鈴木義茂, 「スピントロニクスの基礎と最前線 (シーエムシー出版)」, 第 14 章 「スピン注入による磁化反転」, (2004)
- 334.鈴木義茂, A. A. Tulapurkar, 福島章雄, 田村英一, 屋上公二郎, “磁気抵抗効果とスピン注入磁化反転の理論と実験”, 日本金属学会セミナーテキスト, 96, 54-63 (2004)
- 335.屋上公二郎, 鈴木義茂, “スピン注入磁化反転の研究動向(Research Trends in Spin Transfer Magnetization Switching)”, 日本応用磁気学会誌, 28, 9, 937-948 (2004)
- 336.小林明子, 前原大樹, 長田智明, 原市聡, 長浜太郎, 福島章雄, 鈴木義茂, “CO+NH₃を用いたエッチングにより形成した TMR 素子(TMR devices fabricated with RIE etching using CO+NH₃)”, 日本応用磁気学会誌, 28, 2, 176-179 (2004)
- 337.屋上公二郎, A. A. Tulapurkar, 鈴木義茂, “飽和磁化低減によるスピン注入磁化反転の反転電流密度の低減(Decreasing the Switching Current in Spin-Momentum Transfer Switching by Decreasing Ms)”, 日本応用磁気学会誌, 28, 2, 149-152 (2004)
- 338.T. Saito, T. Katayama, Y. Kurosaki, M. Endo, S. Saito, T. Kamino, K. Kobayashi, Y. Suzuki, T. Nagahama, S. Yuasa, T. Koide, T. Shidara, H. Manaka, H. Tokano, “X-ray absorption and x-ray magnetic circular dichroism studies of a Co (001) monatomic layer at the interface with Al₂O₃”, J. Mag. Mag. Mat., 272-276,1, E1489-E1490 (2004)
- 339.S. Yuasa, A. Fukushima, T. Nagahama, K. Ando, Y. Suzuki, “High Tunnel Magnetoresistance at Room Temperature in Fully Epitaxial Fe/MgO/Fe Tunnel Junctions due to Coherent Spin-Polarized Tunneling”, Jpn. J. Appl. Phys., 43, 4B, L588-L590 (2004).
- 340.鈴木義茂, 湯浅新治, 長浜太郎, 安藤功兒, “金属スピントロニクスの展開”, アネルバ技報, 10, 7-14 (2004)
- 341.鈴木義茂, 屋上公二郎, A. Tulapurkar, 福島章雄, 田村英一, “スピン注入磁化反転の理論と実験”, 日本応用磁気学会誌, 29,1, 53-62 (2004)
- xxx----
- 342.Y. Yuasa, T. Nagahama, Y. Suzuki, “Spin-Polarized Resonant Tunneling in Magnetic Tunnel Junctions”, Science, 297(5579), pp234-237(2002). DOI: 10.1126/science.1071300
- 343.Y Suzuki, T Katayama, P Bruno, S Yuasa, E Tamura, “Oscillatory Magneto-Optical Effect in a Au (001) Film Deposited on Fe: Experimental Confirmation of a Spin-Polarized Quantum Size Effect”, Phys. Rev. Lett., 80, pp5200, (1998).
- 344.Yoshishige Suzuki, Toshikazu Katayama, Sadafumi Yoshida, Kazunobu Tanaka, Katsuaki Sato, “New magneto-optical transition in ultrathin Fe(100) films”, Phys.

Rev. Lett., 68, pp3355, (1992)