

Tomohiro Taniguchi

List of Publications by Year in descending order

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118
papers

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citations

186265

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118
all docs

118
docs citations

118
times ranked

5150
citing authors

#	ARTICLE	IF	CITATIONS
1	Hot Carrier-Assisted Intrinsic Photoresponse in Graphene. Science, 2011, 334, 648-652.	12.6	876
2	Observation of the Dirac fluid and the breakdown of the Wiedemann-Franz law in graphene. Science, 2016, 351, 1058-1061.	12.6	491
3	Highly sensitive nanoscale spin-torque diode. Nature Materials, 2014, 13, 50-56.	27.5	228
4	Spin-Transfer Torques Generated by the Anomalous Hall Effect and Anisotropic Magnetoresistance. Physical Review Applied, 2015, 3, .	3.8	172
5	Creating and probing electron whispering-gallery modes in graphene. Science, 2015, 348, 672-675.	12.6	170
6	Evidence for a fractional fractal quantum Hall effect in graphene superlattices. Science, 2015, 350, 1231-1234.	12.6	155
7	Spin-Torque Oscillator Based on Magnetic Tunnel Junction with a Perpendicularly Magnetized Free Layer and In-Plane Magnetized Polarizer. Applied Physics Express, 2013, 6, 103003.	2.4	144
8	Spin-transfer torque induced by the spin anomalous Hall effect. Nature Electronics, 2018, 1, 120-123.	26.0	108
9	Physical reservoir computing based on spin torque oscillator with forced synchronization. Applied Physics Letters, 2019, 114, .	3.3	106
10	Current-driven asymmetric magnetization switching in perpendicularly magnetized CoFeB/MgO heterostructures. Physical Review B, 2015, 91, .	3.2	78
11	Tunable Magnon-Magnon Coupling Mediated by Dynamic Dipolar Interaction in Synthetic Antiferromagnets. Physical Review Letters, 2020, 125, 017203.	7.8	72
12	Critical current destabilizing perpendicular magnetization by the spin Hall effect. Physical Review B, 2015, 92, .	3.2	69
13	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, 2014, 7, 023003.	2.4	52
14	Large spin anomalous Hall effect in Bi_2Te_3 : Symmetry and magnetization switching. Physical Review B, 2019, 100, .	3.2	52
15	Thermally assisted spin transfer torque switching in synthetic free layers. Physical Review B, 2011, 83, .	3.2	51
16	Effect of MgO Cap Layer on Gilbert Damping of FeB Electrode Layer in MgO-Based Magnetic Tunnel Junctions. Applied Physics Express, 2013, 6, 073002.	2.4	49
17	Scaling up electrically synchronized spin torque oscillator networks. Scientific Reports, 2018, 8, 13475.	3.3	49
18	Critical Field of Spin Torque Oscillator with Perpendicularly Magnetized Free Layer. Applied Physics Express, 2013, 6, 123003.	2.4	48

#	ARTICLE	IF	CITATIONS
19	Determination of Penetration Depth of Transverse Spin Current in Ferromagnetic Metals by Spin Pumping. Applied Physics Express, 0, 1, 031302.	2.4	42
20	Future prospects of MRAM technologies. , 2013, , .		42
21	Spin torque switching of an in-plane magnetized system in a thermally activated region. Physical Review B, 2013, 87, .	3.2	41
22	Magnetization reversal condition for a nanomagnet within a rotating magnetic field. Physical Review B, 2014, 90, .	3.2	36
23	Enhancement of the Gilbert damping constant due to spin pumping in noncollinear ferromagnet/nonmagnet/ferromagnet trilayer systems. Physical Review B, 2007, 76, .	3.2	35
24	Evaluation of memory capacity of spin torque oscillator for recurrent neural networks. Japanese Journal of Applied Physics, 2018, 57, 120307.	1.5	35
25	Input-driven bifurcations and information processing capacity in spintronics reservoirs. Physical Review Research, 2020, 2, .	3.6	32
26	Highly efficient spin-orbit torque in Pt/Co/Ir multilayers with antiferromagnetic interlayer exchange coupling. Physical Review B, 2020, 101, .	3.2	31
27	Critical current of spin-transfer-torque-driven magnetization dynamics in magnetic multilayers. Physical Review B, 2008, 78, .	3.2	30
28	Giant perpendicular magnetic anisotropy in Ir/Co/Pt multilayers. Physical Review Materials, 2019, 3, .	2.4	29
29	Large amplitude microwave emission and reduced nonlinear phase noise in Co ₂ Fe(Ge _{0.5} Ga _{0.5}) Heusler alloy based pseudo spin valve nanopillars. Applied Physics Letters, 2011, 99, .	3.3	28
30	Damping parameter and interfacial perpendicular magnetic anisotropy of FeB nanopillar sandwiched between MgO barrier and cap layers in magnetic tunnel junctions. Applied Physics Express, 2014, 7, 033004.	2.4	28
31	Self-oscillation in spin torque oscillator stabilized by field-like torque. Applied Physics Letters, 2014, 104, .	3.3	27
32	Instability analysis of spin-torque oscillator with an in-plane magnetized free layer and a perpendicularly magnetized pinned layer. Physical Review B, 2016, 93, .	3.2	25
33	Periodic structure of memory function in spintronics reservoir with feedback current. Physical Review Research, 2020, 2, .	3.6	24
34	Magnetization switching by current and microwaves. Physical Review B, 2016, 93, .	3.2	23
35	Achievement of high diode sensitivity via spin torque-induced resonant expulsion in vortex magnetic tunnel junction. Applied Physics Express, 2018, 11, 053001.	2.4	23
36	Penetration Depth of Transverse Spin Current in Ferromagnetic Metals. IEEE Transactions on Magnetics, 2008, 44, 2636-2639.	2.1	22

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37	Theory of spin accumulation and spin-transfer torque in a magnetic domain wall. <i>Physical Review B</i> , 2009, 79, .	3.2	21
38	Thermal switching rate of a ferromagnetic material with uniaxial anisotropy. <i>Physical Review B</i> , 2012, 85, .	3.2	21
39	Dielectric permittivity, conductivity and breakdown field of hexagonal boron nitride. <i>Materials Research Express</i> , 2022, 9, 065901.	1.6	21
40	Thermally activated switching rate of a nanomagnet in the presence of spin torque. <i>Physical Review B</i> , 2013, 88, .	3.2	20
41	Nonlinear analysis of magnetization dynamics excited by spin Hall effect. <i>Physical Review B</i> , 2015, 91, .	3.2	20
42	An analytical computation of magnetic field generated from a cylinder ferromagnet. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 452, 464-472.	2.3	20
43	Giant charge-to-spin conversion in ferromagnet via spin-orbit coupling. <i>Nature Communications</i> , 2021, 12, 6254.	12.8	20
44	Numerical Study on Spin Torque Switching in Thermally Activated Region. <i>Applied Physics Express</i> , 2012, 5, 063009.	2.4	19
45	Bias field angle dependence of the self-oscillation of spin torque oscillators having a perpendicularly magnetized free layer and in-plane magnetized reference layer. <i>Applied Physics Express</i> , 2014, 7, 063005.	2.4	19
46	Magnetoresistance generated from charge-spin conversion by anomalous Hall effect in metallic ferromagnetic/nonmagnetic bilayers. <i>Physical Review B</i> , 2016, 94, .	3.2	18
47	All-optical detection and evaluation of magnetic damping in synthetic antiferromagnet. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	18
48	Chaos in nanomagnet via feedback current. <i>Physical Review B</i> , 2019, 100, .	3.2	18
49	Step-like dependence of memory function on pulse width in spintronics reservoir computing. <i>Scientific Reports</i> , 2020, 10, 19536.	3.3	18
50	Spintronic reservoir computing without driving current or magnetic field. <i>Scientific Reports</i> , 2022, 12, .	3.3	18
51	Relaxation time and critical slowing down of a spin-torque oscillator. <i>Physical Review B</i> , 2017, 96, .	3.2	17
52	Mutual synchronization of spin-torque oscillators consisting of perpendicularly magnetized free layers and in-plane magnetized pinned layers. <i>Applied Physics Express</i> , 2018, 11, 013005.	2.4	17
53	Dissipation due to pure spin-current generated by spin pumping. <i>Physical Review B</i> , 2014, 90, .	3.2	16
54	Observations of thermally excited ferromagnetic resonance on spin torque oscillators having a perpendicularly magnetized free layer. <i>Journal of Applied Physics</i> , 2014, 115, 17C740.	2.5	16

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55	Inducing out-of-plane precession of magnetization for microwave-assisted magnetic recording with an oscillating polarizer in a spin-torque oscillator. Applied Physics Letters, 2019, 114, .	3.3	16
56	Synchronized, periodic, and chaotic dynamics in spin torque oscillator with two free layers. Journal of Magnetism and Magnetic Materials, 2019, 483, 281-292.	2.3	15
57	Linewidth of power spectrum originated from thermal noise in spin torque oscillator. Applied Physics Express, 2014, 7, 053004.	2.4	14
58	Theoretical Study of Spin-Torque Oscillator with Perpendicularly Magnetized Free Layer. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	14
59	Fluctuation Theorem for a Small Engine and Magnetization Switching by Spin Torque. Physical Review Letters, 2015, 114, 186601.	7.8	14
60	Synchronization and chaos in a spin-torque oscillator with a perpendicularly magnetized free layer. Physical Review B, 2019, 100, .	3.2	14
61	Theoretical condition for switching the magnetization in a perpendicularly magnetized ferromagnet via the spin Hall effect. Physical Review B, 2019, 100, .	3.2	13
62	Spin-orbit torque driven magnetization switching in W/CoFeB/MgO-based type-Y three terminal magnetic tunnel junctions. Scientific Reports, 2021, 11, 16676.	3.3	13
63	Large Spin-Orbit-Torque Efficiency Generated by Spin Hall Effect in Paramagnetic Co - Ni - B Alloys. Physical Review Applied, 2020, 14, .	3.8	13
64	Effect of the number of layers on determination of spin asymmetries in current-perpendicular-to-plane giant magnetoresistance. Applied Physics Letters, 2011, 98, .	3.3	11
65	Dynamic coupling of ferromagnets via spin Hall magnetoresistance. Physical Review B, 2017, 95, .	3.2	11
66	Noise-induced synchronization of spin-torque oscillators. Physical Review B, 2022, 105, .	3.2	11
67	Dependence of spin torque diode voltage on applied field direction. Journal of Applied Physics, 2013, 114, .	2.5	10
68	Magnetization switching by microwaves synchronized in the vicinity of precession frequency. Applied Physics Express, 2015, 8, 083004.	2.4	10
69	Stable oscillation in spin torque oscillator excited by a small in-plane magnetic field. Journal of Applied Physics, 2015, 118, 053903.	2.5	9
70	Spin torque oscillator for microwave assisted magnetization reversal. Japanese Journal of Applied Physics, 2018, 57, 053001.	1.5	9
71	Dependency of high-speed write properties on external magnetic field in spin-orbit torque in-plane magnetoresistance devices. Applied Physics Express, 2021, 14, 013001.	2.4	9
72	Bi-quadratic interlayer exchange coupling in Co ₂ MnSi/Ag/Co ₂ MnSi pseudo spin-valve. Journal of Applied Physics, 2011, 110, .	2.5	8

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73	Current Dependence of Spin Torque Switching Barrier. Applied Physics Express, 2013, 6, 103005.	2.4	8
74	Theoretical study on dependence of thermal switching time of synthetic free layer on coupling field. Journal of Applied Physics, 2012, 111, 07C901.	2.5	7
75	Maximizing Spin Torque Diode Voltage by Optimizing Magnetization Alignment. Applied Physics Express, 2013, 6, 053002.	2.4	7
76	Phase dynamics of oscillating magnetizations coupled via spin pumping. Physical Review B, 2018, 97, .	3.2	7
77	Reservoir Computing Based on Spintronics Technology. Natural Computing Series, 2021, , 331-360.	2.2	7
78	Minimization of the Switching Time of a Synthetic Free Layer in Thermally Assisted Spin Torque Switching. Applied Physics Express, 2011, 4, 103001.	2.4	7
79	Boltzmann theory of magnetoresistance due to a spin spiral. Physical Review B, 2010, 81, .	3.2	6
80	Spin-torque diode spectrum of ferromagnetically coupled (FeB/CoFe)/Ru/(CoFe/FeB) synthetic free layer. Journal of Applied Physics, 2012, 111, 07C917.	2.5	6
81	Dependence of Spin Torque Switching Probability on Electric Current. Journal of Nanoscience and Nanotechnology, 2012, 12, 7520-7524.	0.9	6
82	Discontinuous frequency drop in spin torque oscillator with a perpendicularly magnetized FeB free layer. Japanese Journal of Applied Physics, 2014, 53, 060307.	1.5	6
83	Large amplitude oscillation of magnetization in spin-torque oscillator stabilized by field-like torque. Journal of Applied Physics, 2015, 117, 17C504.	2.5	6
84	Spin-current driven spontaneous coupling of ferromagnets. Physical Review B, 2018, 98, .	3.2	6
85	Switching induced by spin Hall effect in an in-plane magnetized ferromagnet with the easy axis parallel to the current. Physical Review B, 2020, 102, .	3.2	6
86	SPIN PUMPING IN FERROMAGNETIC MULTILAYERS. Modern Physics Letters B, 2008, 22, 2909-2929.	1.9	5
87	Current dependence of spin torque switching rate based on Fokker-Planck approach. Journal of Applied Physics, 2014, 115, 17C708.	2.5	5
88	Control of the stochastic response of magnetization dynamics in spin-torque oscillator through radio-frequency magnetic fields. Scientific Reports, 2021, 11, 16285.	3.3	5
89	Synchronization and chaos in spin torque oscillator with two free layers. AIP Advances, 2020, 10, .	1.3	5
90	Magnetization switching by microwaves initially rotating in opposite direction to precession. Applied Physics Express, 2015, 8, 123002.	2.4	4

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91	Indirect excitation of self-oscillation in perpendicular ferromagnet by spin Hall effect. Applied Physics Letters, 2017, 111, 022410.	3.3	4
92	Critical current formula of perpendicularly magnetized magnetic random access memory revisited. Japanese Journal of Applied Physics, 2019, 58, 058001.	1.5	4
93	Chaos in spin-torque oscillator with feedback circuit. Physical Review Research, 2021, 3, .	3.6	4
94	Spin-transfer torque in ferromagnetic bilayers generated by anomalous Hall effect and anisotropic magnetoresistance. Proceedings of SPIE, 2016, 9931, .	0.8	3
95	Phenomenological Spin Transport Theory Driven by Anomalous Nernst Effect. Journal of the Physical Society of Japan, 2016, 85, 074705.	1.6	3
96	Heat production by diffusion of pure spin current. Journal of Magnetism and Magnetic Materials, 2016, 400, 168-170.	2.3	3
97	Giant magnetoresistance in perpendicularly magnetized synthetic antiferromagnetic coupling with Ir spacer. AIP Advances, 2018, 8, .	1.3	3
98	Magnetoresistance originated from charge-spin conversion in ferromagnet. AIP Advances, 2018, 8, 055916.	1.3	3
99	Angle dependence of the magnetoresistance of CCP-CPP-GMR system. Journal of Physics: Conference Series, 2011, 266, 012108.	0.4	2
100	Role of Magnetic Field in Self-Oscillation of Nanomagnet Excited by Spin Torque. IEEE Transactions on Magnetism, 2014, 50, 1-4.	2.1	2
101	Joule heating in spin Hall geometry. Applied Physics Express, 2016, 9, 073005.	2.4	2
102	Crossover between fast and slow excitation of magnetization by spin torque. Applied Physics Express, 2016, 9, 073003.	2.4	2
103	Current-Induced Instability of a Perpendicular Ferromagnet in Spin Hall Geometry. IEEE Transactions on Magnetism, 2016, 52, 1-4.	2.1	2
104	Synchronization of Spin Torque Oscillators through Spin Hall Magnetoresistance. IEEE Transactions on Magnetism, 2017, 53, 1-7.	2.1	2
105	Out-of-Plane Auto-Oscillation in Spin Hall Oscillator With Additional Polarizer. IEEE Transactions on Magnetism, 2018, 54, 1-5.	2.1	2
106	Synchronization of spin-torque oscillators via spin pumping. AIP Advances, 2019, 9, 035310.	1.3	2
107	Out-of-plane magnetization oscillation in spin Hall device assisted by field-like torque. Applied Physics Letters, 2021, 118, 142406.	3.3	2
108	Reduction of back switching by large damping ferromagnetic material. Applied Physics Express, 2020, 13, 123002.	2.4	2

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109	Dependence of critical current of spin transfer torque-driven magnetization dynamics on free layer thickness. <i>Journal of Applied Physics</i> , 2009, 105, 07D119.	2.5	1
110	Critical current density of domain wall oscillation due to spin-transfer torque. <i>Journal of Physics: Conference Series</i> , 2011, 292, 012007.	0.4	1
111	Proposal of an Experimental Scheme for Determination of Penetration Depth of Transverse Spin Current by a Nonlocal Spin Valve. <i>Journal of the Physical Society of Japan</i> , 2012, 81, 124704.	1.6	1
112	Theory of Spin Torque Assisted Thermal Switching of Single Free Layer. <i>IEEE Transactions on Magnetics</i> , 2012, 48, 3803-3806.	2.1	1
113	Coupled Dynamics of Magnetizations in Spin-Hall Oscillators via Spin-Current Injection. <i>IEEE Transactions on Magnetics</i> , 2019, 55, 1-4.	2.1	1
114	Phase estimation of spin-torque oscillator by nonlinear spin-torque diode effect. <i>Japanese Journal of Applied Physics</i> , 2020, 59, 020903.	1.5	1
115	Theoretical Study of Spin-torque Oscillator Coupled with Nano-magnet by Dipole-dipole Interaction. <i>Journal of the Magnetics Society of Japan</i> , 2013, 37, 218-221.	0.9	1
116	Time evolution of spin accumulation and spin current in a magnetic domain wall. <i>Journal of Physics: Conference Series</i> , 2010, 200, 062034.	0.4	0
117	Spin torque assisted magnetization switching in thermally activated region. <i>Journal of the Korean Physical Society</i> , 2013, 62, 1773-1777.	0.7	0
118	Fluctuation theorem of a mesoscopic engine and spin switching. <i>Fortschritte Der Physik</i> , 2017, 65, 1600049.	4.4	0