Tomohiro Taniguchi

List of Publications by Year
in descending order

118 papers	4,237 citations	186265 28 h-index	118850 62 g-index
118 all docs	118 docs citations	118 times ranked	5150 citing authors

#	Article	IF	Citations
1	Dielectric permittivity, conductivity and breakdown field of hexagonal boron nitride. Materials Research Express, 2022, 9, 065901.	1.6	21
2	Spintronic reservoir computing without driving current or magnetic field. Scientific Reports, 2022, 12, .	3.3	18
3	Noise-induced synchronization of spin-torque oscillators. Physical Review B, 2022, 105, .	3.2	11
4	Reservoir Computing Based on Spintronics Technology. Natural Computing Series, 2021, , 331-360.	2.2	7
5	Out-of-plane magnetization oscillation in spin Hall device assisted by field-like torque. Applied Physics Letters, 2021, 118, 142406.	3.3	2
6	Spinâ€“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
7	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
8	Dependency of high-speed write properties on external magnetic field in spinâ€“orbit torque in-plane magnetoresistance devices. Applied Physics Express, 2021, 14, 013001.	2.4	9
9	Giant charge-to-spin conversion in ferromagnet via spin-orbit coupling. Nature Communications, 2021, 12, 6254.	12.8	20
10	Chaos in spin-torque oscillator with feedback circuit. Physical Review Research, 2021, 3, .	3.6	4
11	Highly efficient spin-orbit torque in Pt/Co/Ir multilayers with antiferromagnetic interlayer exchange coupling. Physical Review B, 2020, 101, .	3.2	31
12	Step-like dependence of memory function on pulse width in spintronics reservoir computing. Scientific Reports, 2020, 10, 19536.	3.3	18
13	Tunable Magnon-Magnon Coupling Mediated by Dynamic Dipolar Interaction in Synthetic Antiferromagnets. Physical Review Letters, 2020, 125, 017203.	7.8	72
14	Phase estimation of spin-torque oscillator by nonlinear spin-torque diode effect. Japanese Journal of Applied Physics, 2020, 59, 020903.	1.5	1
15	Large Spin-Orbit-Torque Efficiency Generated by Spin Hall Effect in Paramagnetic Co - Ni - B Alloys. Physical Review Applied, 2020, 14, .	3.8	13
16	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
17	Periodic structure of memory function in spintronics reservoir with feedback current. Physical Review Research, 2020, 2, .	3.6	24
18	Input-driven bifurcations and information processing capacity in spintronics reservoirs. Physical Review Research, 2020, 2, .	3.6	32

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19	Reduction of back switching by large damping ferromagnetic material. Applied Physics Express, 2020, 13, 123002.	2.4	2
20	Synchronization and chaos in spin torque oscillator with two free layers. AIP Advances, 2020, 10, .	1.3	5
21	Coupled Dynamics of Magnetizations in Spin-Hall Oscillators via Spin-Current Injection. IEEE Transactions on Magnetics, 2019, 55, 1-4.	2.1	1
22	Large spin anomalous Hall effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>L</mml:mi><mml:msub><mml:mn>1</mml:mn><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> : Symmetry and magnetization switching. Physical Review B, 2019, 100, .	3.2	52
23	All-optical detection and evaluation of magnetic damping in synthetic antiferromagnet. Applied Physics Letters, 2019, 115, .	3.3	18
24	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
25	Physical reservoir computing based on spin torque oscillator with forced synchronization. Applied Physics Letters, 2019, 114, .	3.3	106
26	Critical current formula of perpendicularly magnetized magnetic random access memory revisited. Japanese Journal of Applied Physics, 2019, 58, 058001.	1.5	4
27	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
28	Synchronization of spin-torque oscillators via spin pumping. AIP Advances, 2019, 9, 035310.	1.3	2
29	Theoretical condition for switching the magnetization in a perpendicularly magnetized ferromagnet via the spin Hall effect. Physical Review B, 2019, 100, .	3.2	13
30	Chaos in nanomagnet via feedback current. Physical Review B, 2019, 100, .	3.2	18
31	Synchronization and chaos in a spin-torque oscillator with a perpendicularly magnetized free layer. Physical Review B, 2019, 100, .	3.2	14
32	Giant perpendicular magnetic anisotropy in Ir/Co/Pt multilayers. Physical Review Materials, 2019, 3, .	2.4	29
33	Spin torque oscillator for microwave assisted magnetization reversal. Japanese Journal of Applied Physics, 2018, 57, 053001.	1.5	9
34	Giant magnetoresistance in perpendicularly magnetized synthetic antiferromagnetic coupling with Ir spacer. AIP Advances, 2018, 8, .	1.3	3
35	Spin-transfer torque induced by the spin anomalous Hall effect. Nature Electronics, 2018, 1, 120-123.	26.0	108
36	Magnetoresistance originated from charge-spin conversion in ferromagnet. AIP Advances, 2018, 8, 055916.	1.3	3

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37	An analytical computation of magnetic field generated from a cylinder ferromagnet. Journal of Magnetism and Magnetic Materials, 2018, 452, 464-472.	2.3	20
38	Evaluation of memory capacity of spin torque oscillator for recurrent neural networks. Japanese Journal of Applied Physics, 2018, 57, 120307.	1.5	35
39	Spin-current driven spontaneous coupling of ferromagnets. Physical Review B, 2018, 98, .	3.2	6
40	Scaling up electrically synchronized spin torque oscillator networks. Scientific Reports, 2018, 8, 13475.	3.3	49
41	Out-of-Plane Auto-Oscillation in Spin Hall Oscillator With Additional Polarizer. IEEE Transactions on Magnetics, 2018, 54, 1-5.	2.1	2
42	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
43	Phase dynamics of oscillating magnetizations coupled via spin pumping. Physical Review B, 2018, 97, .	3.2	7
44	Mutual synchronization of spin-torque oscillators consisting of perpendicularly magnetized free layers and in-plane magnetized pinned layers. Applied Physics Express, 2018, 11, 013005.	2.4	17
45	Synchronization of Spin Torque Oscillators through Spin Hall Magnetoresistance. IEEE Transactions on Magnetics, 2017, 53, 1-7.	2.1	2
46	Dynamic coupling of ferromagnets via spin Hall magnetoresistance. Physical Review B, 2017, 95, .	3.2	11
47	Fluctuation theorem of a mesoscopic engine and spin switching. Fortschritte Der Physik, 2017, 65, 1600049.	4.4	0
48	Indirect excitation of self-oscillation in perpendicular ferromagnet by spin Hall effect. Applied Physics Letters, 2017, 111, 022410.	3.3	4
49	Relaxation time and critical slowing down of a spin-torque oscillator. Physical Review B, 2017, 96, .	3.2	17
50	Spin-transfer torque in ferromagnetic bilayers generated by anomalous Hall effect and anisotropic magnetoresistance. Proceedings of SPIE, 2016, 9931, .	0.8	3
51	Phenomenological Spin Transport Theory Driven by Anomalous Nernst Effect. Journal of the Physical Society of Japan, 2016, 85, 074705.	1.6	3
52	Magnetoresistance generated from charge-spin conversion by anomalous Hall effect in metallic ferromagnetic/nonmagnetic bilayers. Physical Review B, 2016, 94, .	3.2	18
53	Joule heating in spin Hall geometry. Applied Physics Express, 2016, 9, 073005.	2.4	2
54	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

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55	Magnetization switching by current and microwaves. Physical Review B, 2016, 93, .	3.2	23
56	Crossover between fast and slow excitation of magnetization by spin torque. Applied Physics Express, 2016, 9, 073003.	2.4	2
57	Observation of the Dirac fluid and the breakdown of the Wiedemann-Franz law in graphene. Science, 2016, 351, 1058-1061.	12.6	491
58	Current-Induced Instability of a Perpendicular Ferromagnet in Spin Hall Geometry. IEEE Transactions on Magnetics, 2016, 52, 1-4.	2.1	2
59	Heat production by diffusion of pure spin current. Journal of Magnetism and Magnetic Materials, 2016, 400, 168-170.	2.3	3
60	Critical current destabilizing perpendicular magnetization by the spin Hall effect. Physical Review B, 2015, 92, .	3.2	69
61	Stable oscillation in spin torque oscillator excited by a small in-plane magnetic field. Journal of Applied Physics, 2015, 118, 053903.	2.5	9
62	Magnetization switching by microwaves initially rotating in opposite direction to precession. Applied Physics Express, 2015, 8, 123002.	2.4	4
63	Magnetization switching by microwaves synchronized in the vicinity of precession frequency. Applied Physics Express, 2015, 8, 083004.	2.4	10
64	Nonlinear analysis of magnetization dynamics excited by spin Hall effect. Physical Review B, 2015, 91, .	3.2	20
65	Evidence for a fractional fractal quantum Hall effect in graphene superlattices. Science, 2015, 350, 1231-1234.	12.6	155
66	Current-driven asymmetric magnetization switching in perpendicularly magnetized CoFeB/MgO heterostructures. Physical Review B, 2015, 91, .	3.2	78
67	Spin-Transfer Torques Generated by the Anomalous Hall Effect and Anisotropic Magnetoresistance. Physical Review Applied, 2015, 3, .	3.8	172
68	Fluctuation Theorem for a Small Engine and Magnetization Switching by Spin Torque. Physical Review Letters, 2015, 114, 186601.	7.8	14
69	Creating and probing electron whispering-gallery modes in graphene. Science, 2015, 348, 672-675.	12.6	170
70	Large amplitude oscillation of magnetization in spin-torque oscillator stabilized by field-like torque. Journal of Applied Physics, 2015, 117, 17C504.	2.5	6
71	Current dependence of spin torque switching rate based on Fokker-Planck approach. Journal of Applied Physics, 2014, 115, 17C708.	2.5	5
72	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

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73	Role of Magnetic Field in Self-Oscillation of Nanomagnet Excited by Spin Torque. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	2
74	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
75	Dissipation due to pure spin-current generated by spin pumping. Physical Review B, 2014, 90, .	3.2	16
76	Linewidth of power spectrum originated from thermal noise in spin torque oscillator. Applied Physics Express, 2014, 7, 053004.	2.4	14
77	Observations of thermally excited ferromagnetic resonance on spin torque oscillators having a perpendicularly magnetized free layer. Journal of Applied Physics, 2014, 115, 17C740.	2.5	16
78	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
79	Highly sensitive nanoscale spin-torque diode. Nature Materials, 2014, 13, 50-56.	27.5	228
80	Theoretical Study of Spin-Torque Oscillator with Perpendicularly Magnetized Free Layer. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	14
81	Magnetization reversal condition for a nanomagnet within a rotating magnetic field. Physical Review B, 2014, 90, .	3.2	36
82	Self-oscillation in spin torque oscillator stabilized by field-like torque. Applied Physics Letters, 2014, 104, .	3.3	27
83	Bias field angle dependence of the self-oscillation of spin torque oscillators having a perpendicularly magnetized free layer and in-plane magnetized reference layer. Applied Physics Express, 2014, 7, 063005.	2.4	19
84	Dependence of spin torque diode voltage on applied field direction. Journal of Applied Physics, 2013, 114, .	2.5	10
85	Spin torque assisted magnetization switching in thermally activated region. Journal of the Korean Physical Society, 2013, 62, 1773-1777.	0.7	0
86	Future prospects of MRAM technologies. , 2013, , .		42
87	Thermally activated switching rate of a nanomagnet in the presence of spin torque. Physical Review B, 2013, 88, .	3.2	20
88	Spin torque switching of an in-plane magnetized system in a thermally activated region. Physical Review B, 2013, 87, .	3.2	41
89	Current Dependence of Spin Torque Switching Barrier. Applied Physics Express, 2013, 6, 103005.	2.4	8
90	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

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91	Critical Field of Spin Torque Oscillator with Perpendicularly Magnetized Free Layer. Applied Physics Express, 2013, 6, 123003.	2.4	48
92	Maximizing Spin Torque Diode Voltage by Optimizing Magnetization Alignment. Applied Physics Express, 2013, 6, 053002.	2.4	7
93	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
94	Theoretical Study of Spin-torque Oscillator Coupled with Nano-magnet by Dipole-dipole Interaction. Journal of the Magnetics Society of Japan, 2013, 37, 218-221.	0.9	1
95	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
96	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
97	Dependence of Spin Torque Switching Probability on Electric Current. Journal of Nanoscience and Nanotechnology, 2012, 12, 7520-7524.	0.9	6
98	Numerical Study on Spin Torque Switching in Thermally Activated Region. Applied Physics Express, 2012, 5, 063009.	2.4	19
99	Proposal of an Experimental Scheme for Determination of Penetration Depth of Transverse Spin Current by a Nonlocal Spin Valve. Journal of the Physical Society of Japan, 2012, 81, 124704.	1.6	1
100	Theory of Spin Torque Assisted Thermal Switching of Single Free Layer. IEEE Transactions on Magnetics, 2012, 48, 3803-3806.	2.1	1
101	Thermal switching rate of a ferromagnetic material with uniaxial anisotropy. Physical Review B, 2012, 85, .	3.2	21
102	Thermally assisted spin transfer torque switching in synthetic free layers. Physical Review B, 2011, 83, .	3.2	51
103	Critical current density of domain wall oscillation due to spin-transfer torque. Journal of Physics: Conference Series, 2011, 292, 012007.	0.4	1
104	Angle dependence of the magnetoresistance of CCP-CPP-GMR system. Journal of Physics: Conference Series, 2011, 266, 012108.	0.4	2
105	Bi-quadratic interlayer exchange coupling in Co2MnSi/Ag/Co2MnSi pseudo spin-valve. Journal of Applied Physics, 2011, 110, .	2.5	8
106	Hot Carrierâ€“Assisted Intrinsic Photoresponse in Graphene. Science, 2011, 334, 648-652.	12.6	876
107	Large amplitude microwave emission and reduced nonlinear phase noise in Co2Fe(Ge0.5Ga0.5) Heusler alloy based pseudo spin valve nanopillars. Applied Physics Letters, 2011, 99, .	3.3	28
108	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

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109	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
110	Time evolution of spin accumulation and spin current in a magnetic domain wall. Journal of Physics: Conference Series, 2010, 200, 062034.	0.4	0
111	Boltzmann theory of magnetoresistance due to a spin spiral. Physical Review B, 2010, 81, .	3.2	6
112	Theory of spin accumulation and spin-transfer torque in a magnetic domain wall. Physical Review B, 2009, 79, .	3.2	21
113	Dependence of critical current of spin transfer torque-driven magnetization dynamics on free layer thickness. Journal of Applied Physics, 2009, 105, 07D119.	2.5	1
114	SPIN PUMPING IN FERROMAGNETIC MULTILAYERS. Modern Physics Letters B, 2008, 22, 2909-2929.	1.9	5
115	Critical current of spin-transfer-torque-driven magnetization dynamics in magnetic multilayers. Physical Review B, 2008, 78, .	3.2	30
116	Penetration Depth of Transverse Spin Current in Ferromagnetic Metals. IEEE Transactions on Magnetics, 2008, 44, 2636-2639.	2.1	22
117	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
118	Determination of Penetration Depth of Transverse Spin Current in Ferromagnetic Metals by Spin Pumping. Applied Physics Express, 0, 1, 031302.	2.4	42