

Takahiro Moriyama

List of Publications by Year in descending order

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135
papers

6,973
citations

117625

34
h-index

60623

81
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136
all docs

136
docs citations

136
times ranked

5819
citing authors

#	ARTICLE	IF	CITATIONS
1	Antiferromagnetic spintronics. <i>Reviews of Modern Physics</i> , 2018, 90, .	45.6	1,536
2	Spin-Torque Ferromagnetic Resonance Induced by the Spin Hall Effect. <i>Physical Review Letters</i> , 2011, 106, 036601.	7.8	1,323
3	Fast domain wall motion in the vicinity of the angular momentum compensation temperature of ferrimagnets. <i>Nature Materials</i> , 2017, 16, 1187-1192.	27.5	321
4	The 2021 Magnonics Roadmap. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 413001.	1.8	287
5	Observation of superconducting diode effect. <i>Nature</i> , 2020, 584, 373-376.	27.8	211
6	Spin torque control of antiferromagnetic moments in NiO. <i>Scientific Reports</i> , 2018, 8, 14167.	3.3	190
7	Vanishing skyrmion Hall effect at the angular momentum compensation temperature of a ferrimagnet. <i>Nature Nanotechnology</i> , 2019, 14, 232-236.	31.5	137
8	Soliton-like magnetic domain wall motion induced by the interfacial Dzyaloshinskii-Moriya interaction. <i>Nature Physics</i> , 2016, 12, 157-161.	16.7	125
9	Anti-damping spin transfer torque through epitaxial nickel oxide. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	116
10	Bulk Dzyaloshinskii-Moriya interaction in amorphous ferrimagnetic alloys. <i>Nature Materials</i> , 2019, 18, 685-690.	27.5	116
11	Alternative to the topological interpretation of the transverse resistivity anomalies in SrRuO_3 . <i>Physical Review B</i> , 2018, 98, .	17.7	107
12	Microwave-assisted magnetization switching of Ni ₈₀ Fe ₂₀ in magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2007, 90, 152503.	3.3	87
13	Snell's Law for Spin Waves. <i>Physical Review Letters</i> , 2016, 117, 037204.	7.8	87
14	Sequential write-read operations in FeRh antiferromagnetic memory. <i>Applied Physics Letters</i> , 2015, 107, .	3.3	79
15	High Spin Torque Efficiency of Magnetic Tunnel Junctions with MgO/CoFeB/MgO Free Layer. <i>Applied Physics Express</i> , 2012, 5, 093008.	2.4	74
16	Tunable Magnon-Magnon Coupling Mediated by Dynamic Dipolar Interaction in Synthetic Antiferromagnets. <i>Physical Review Letters</i> , 2020, 125, 017203.	7.8	72
17	Traveling surface spin-wave resonance spectroscopy using surface acoustic waves. <i>Journal of Applied Physics</i> , 2015, 118, .	2.5	68
18	Temperature dependence of spin-orbit effective fields in Pt/GdFeCo bilayers. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	66

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19	Reduction of the spin-torque critical current by partially canceling the free layer demagnetization field. Applied Physics Letters, 2009, 94, .	3.3	62
20	Correlation of the Dzyaloshinskiiâ€“Moriya interaction with Heisenberg exchange and orbital asphericity. Nature Communications, 2018, 9, 1648.	12.8	60
21	Low Magnetic Damping of Ferrimagnetic GdFeCo Alloys. Physical Review Letters, 2019, 122, 127203.	7.8	60
22	Spin Seebeck Imaging of Spin-Torque Switching in Antiferromagnetic Pt/NiO Heterostructures. Physical Review X, 2019, 9, .	8.9	58
23	Spin-transfer torques for domain wall motion in antiferromagnetically coupled ferrimagnets. Nature Electronics, 2019, 2, 389-393.	26.0	55
24	Antiferromagnet-mediated spin transfer between a metal and a ferromagnet. Physical Review B, 2015, 92, .	3.2	49
25	Modulation of the magnetic domain size induced by an electric field. Applied Physics Letters, 2016, 109, .	3.3	49
26	Spin-Orbit-Torque Memory Operation of Synthetic Antiferromagnets. Physical Review Letters, 2018, 121, 167202.	7.8	49
27	Tunnel Barrier Enhanced Voltage Signal Generated by Magnetization Precession of a Single Ferromagnetic Layer. Physical Review Letters, 2008, 100, 067602.	7.8	45
28	Field-free superconducting diode effect in noncentrosymmetric superconductor/ferromagnet multilayers. Nature Nanotechnology, 2022, 17, 823-828.	31.5	45
29	Large anomalous Hall effect in L12-ordered antiferromagnetic Mn3Ir thin films. Applied Physics Letters, 2020, 116, .	3.3	41
30	Phase locking and frequency doubling in spin-transfer-torque oscillators with two coupled free layers. Physical Review B, 2012, 86, .	3.2	39
31	Temperature dependence of magnetoresistance in GdFeCo/Pt heterostructure. Applied Physics Express, 2016, 9, 073001.	2.4	39
32	Real-time evolution of tunneling magnetoresistance during annealing in CoFeB/MgO/CoFeB magnetic tunnel junctions. Applied Physics Letters, 2008, 92, .	3.3	38
33	Intrinsic and extrinsic antiferromagnetic damping in NiO. Physical Review Materials, 2019, 3, .	2.4	38
34	Magnetic droplet nucleation with a homochiral Néel domain wall. Physical Review B, 2017, 95, .	3.2	36
35	Spinâ€“orbit torque based physical unclonable function. Journal of Applied Physics, 2020, 128, .	2.5	35
36	Tunnel magnetoresistance and spin torque switching in MgO-based magnetic tunnel junctions with a Co/Ni multilayer electrode. Applied Physics Letters, 2010, 97, .	3.3	34

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37	Tunneling magnetoresistance in (001)-oriented FeCo/MgO/FeCo magnetic tunneling junctions grown by sputtering deposition. Applied Physics Letters, 2006, 88, 222503.	3.3	33
38	Magnetic tunnel junction based microwave detector. Applied Physics Letters, 2009, 95, .	3.3	33
39	Current-Induced Effective Fields Detected by Magnetotransport Measurements. Applied Physics Express, 2013, 6, 113002.	2.4	33
40	Fe/MgO/FeCo(100) epitaxial magnetic tunnel junctions prepared by using in situ plasma oxidation. Journal of Applied Physics, 2003, 93, 8041-8043.	2.5	30
41	Magnetic tunnel junctions with L10-ordered FePt alloy electrodes. Journal of Applied Physics, 2004, 95, 6789-6791.	2.5	30
42	Magnetic Moment Orientation-Dependent Spin Dissipation in Antiferromagnets. Physical Review Letters, 2017, 119, 267204.	7.8	30
43	Tunnel-barrier-enhanced dc voltage signals induced by magnetization dynamics in magnetic tunnel junctions. Physical Review B, 2008, 78, .	3.2	29
44	Chiral magnetic domain wall in ferrimagnetic GdFeCo wires. Applied Physics Express, 2015, 8, 073001.	2.4	29
45	Edge mixing dynamics in graphene pn junctions in the quantum Hall regime. Nature Communications, 2015, 6, 8066.	12.8	28
46	Current-Induced Magnetic Domain Wall Motion in a Co/Ni Nanowire with Structural Inversion Asymmetry. Applied Physics Express, 2013, 6, 033001.	2.4	27
47	Transition in mechanism for current-driven magnetic domain wall dynamics. Applied Physics Express, 2014, 7, 053006.	2.4	27
48	Microscopic Investigation into the Electric Field Effect on Proximity-Induced Magnetism in Pt. Physical Review Letters, 2018, 120, 157203.	7.8	26
49	Spin-polarized transport in hybrid (Zn,Cr)Te/Al ₂ O ₃ /Co magnetic tunnel junctions. Applied Physics Letters, 2006, 88, 202501.	3.3	25
50	Temperature dependence of magnetic resonance in ferrimagnetic GdFeCo alloys. Applied Physics Express, 2019, 12, 093001.	2.4	24
51	Resistive detection of the Néel temperature of Cr ₂ O ₃ thin films. Applied Physics Letters, 2019, 114, .	3.3	23
52	Interfacial Dzyaloshinskii-Moriya interaction studied by time-resolved scanning Kerr microscopy. Physical Review B, 2015, 92, .	3.2	21
53	Linewidth broadening of optical precession mode in synthetic antiferromagnet. Applied Physics Express, 2014, 7, 063010.	2.4	19
54	Tradeoff between low-power operation and thermal stability in magnetic domain-wall-motion devices driven by spin Hall torque. Applied Physics Express, 2014, 7, 053003.	2.4	19

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55	Electric-field-induced modulation of the anomalous Hall effect in a heterostructured itinerant ferromagnet SrRuO_3 . Physical Review B, 2017, 96, .	3.2	19
56	Enhanced antiferromagnetic resonance linewidth in NiO/Pt and NiO/Pd. Physical Review B, 2020, 101, .	3.2	18
57	Observation of a Goos-Hänchen-like Phase Shift for Magnetostatic Spin Waves. Physical Review Letters, 2018, 121, 137201.	7.8	17
58	Observation of nonreciprocal superconducting critical field. Applied Physics Express, 2021, 14, 073003.	2.4	17
59	Real-time observation of Snell's law for spin waves in thin ferromagnetic films. Applied Physics Express, 2014, 7, 053001.	2.4	16
60	In-plane field-driven crossover in the spin-torque mechanism acting on magnetic domain walls in Co/Ni. Physical Review B, 2015, 91, .	3.2	16
61	Origin of threshold current density for asymmetric magnetoresistance in Pt/Py bilayers. Applied Physics Express, 2017, 10, 073001.	2.4	16
62	Enhanced perpendicular magnetocrystalline anisotropy energy in an artificial magnetic material with bulk spin-momentum coupling. Physical Review B, 2019, 99, .	3.2	16
63	Possible contribution of high-energy magnons to unidirectional magnetoresistance in metallic bilayers. Applied Physics Express, 2019, 12, 063001.	2.4	16
64	Laser stimulated THz emission from Pt/CoO/FeCoB. Applied Physics Letters, 2020, 117, .	3.3	16
65	Spin-transfer torque in nanoscale magnetic devices. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 3617-3630.	3.4	15
66	Precise control of magnetic domain wall displacement by a nanosecond current pulse in Co/Ni nanowires. Applied Physics Express, 2015, 8, 073008.	2.4	15
67	Observation of magnon Hall-like effect for sample-edge scattering in unsaturated YIG. Physica Status Solidi (B): Basic Research, 2016, 253, 783-787.	1.5	15
68	Effect of spin Hall torque on current-induced precessional domain wall motion. Applied Physics Express, 2014, 7, 033005.	2.4	14
69	Spin-wave-induced domain wall motion in perpendicularly magnetized system. Applied Physics Express, 2014, 7, 033001.	2.4	14
70	Current induced antiferro-ferromagnetic transition in FeRh nanowires. Japanese Journal of Applied Physics, 2015, 54, 073002.	1.5	14
71	Giant Anomalous Hall Conductivity at the Pt/CrO ₂ Interface. Physical Review Applied, 2020, 13, .	3.8	14
72	Spin-wave wavelength down-conversion at thickness steps. Applied Physics Express, 2018, 11, 053002.	2.4	13

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73	Spin current transmission in polycrystalline NiO films. Applied Physics Express, 2018, 11, 073003.	2.4	12
74	Field-sweep-rate and time dependence of transverse resistivity anomalies in ultrathin SrRuO_3 films. Physical Review B, 2020, 101, .	3.2	12
75	Tailoring THz antiferromagnetic resonance of NiO by cation substitution. Physical Review Materials, 2020, 4, .	2.4	12
76	Proposal for quantifying the Dzyaloshinskyâ€Moriya interaction by domain walls annihilation measurement. Japanese Journal of Applied Physics, 2014, 53, 108001.	1.5	11
77	Observation of asymmetry in domain wall velocity under transverse magnetic field. APL Materials, 2016, 4, 032504.	5.1	11
78	Anomalous behavior of $1/f$ noise in graphene near the charge neutrality point. Applied Physics Letters, 2016, 108, .	3.3	11
79	Elastic constants of beta tungsten thin films studied by picosecond ultrasonics and density functional theory. Applied Physics Letters, 2020, 116, 021901.	3.3	11
80	Magnetization reversal by microwave in magnetic tunnel junctions. Journal of Applied Physics, 2008, 103, 07A906.	2.5	10
81	Switching local magnetization by electric-field-induced domain wall motion. Applied Physics Express, 2016, 9, 063004.	2.4	10
82	In Vitro Heating With Polyethylene Glycol Coated Fe Nanoparticles. IEEE Transactions on Magnetics, 2006, 42, 3602-3604.	2.1	9
83	Ferromagnetic Resonance in Magnetite Thin Films. IEEE Transactions on Magnetics, 2014, 50, 1-3.	2.1	9
84	Spin motive force induced in Fe_3O_4 thin films with negative spin polarization. Applied Physics Express, 2015, 8, 123001.	2.4	9
85	Temperature dependence of current-induced magnetic domain wall motion in an asymmetric Co/Ni nanowire. Japanese Journal of Applied Physics, 2015, 54, 038004.	1.5	9
86	Layer thickness dependence of current induced effective fields in ferromagnetic multilayers. Journal of Applied Physics, 2015, 117, .	2.5	9
87	Contributions of Co and Fe orbitals to perpendicular magnetic anisotropy of MgO/CoFeB bilayers with Ta, W, IrMn, and Ti underlayers. Applied Physics Express, 2017, 10, 073006.	2.4	9
88	Evaluation of electric field effect on interface magnetic properties by propagating spin wave in Pt/Co/MgO structures. Japanese Journal of Applied Physics, 2018, 57, 080309.	1.5	9
89	Microscopic origin of electric-field-induced modulation of Curie temperature in cobalt. Applied Physics Express, 2018, 11, 073002.	2.4	9
90	Distinct domain reversal mechanisms in epitaxial and polycrystalline antiferromagnetic NiO films from high-field spin Hall magnetoresistance. Applied Physics Letters, 2020, 116, 192402.	3.3	9

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91	Direct measurement of barrier asymmetry in $\text{AlO}_x/\text{ZrO}_2$ magnetic tunnel junctions using off-axis electron holography. <i>Physical Review B</i> , 2007, 75, .	3.2	8
92	Nonlinear effective spin-mixing conductance in $\text{Pt}/\text{Ni}_{80}\text{Fe}_{20}/\text{Pt}$ thin films. <i>Journal of Applied Physics</i> , 2009, 105, 07C705.	2.5	8
93	Injection locking at zero field in two free layer spin-valves. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	8
94	Different stochastic behaviors for magnetic field and current in domain wall creep motion. <i>Applied Physics Express</i> , 2014, 7, 053005.	2.4	8
95	Ferromagnetic resonance measurements in sub-nanometer Fe films. <i>Applied Physics Express</i> , 2015, 8, 073003.	2.4	8
96	Temperature dependence of spin Hall magnetoresistance in W/CoFeB bilayer. <i>Japanese Journal of Applied Physics</i> , 2016, 55, 080308.	1.5	8
97	Microstructure, magnetic, and spin-dependent transport properties of $(\text{Zn},\text{Cr})\text{Te}$ films fabricated by magnetron sputtering. <i>Physical Review B</i> , 2008, 77, .	3.2	7
98	Parity effect of bipolar quantum Hall edge transport around graphene antidots. <i>Scientific Reports</i> , 2015, 5, 11723.	3.3	7
99	Influence of sloped electric field on magnetic-field-induced domain wall creep in a perpendicularly magnetized Co wire. <i>Japanese Journal of Applied Physics</i> , 2017, 56, 050305.	1.5	7
100	Homodyne detection of ferromagnetic resonance by a non-uniform radio-frequency excitation current. <i>Applied Physics Express</i> , 2018, 11, 053008.	2.4	7
101	High thermal stability and low driven current achieved by vertical domain wall motion memory with artificial ferromagnet. <i>Applied Physics Express</i> , 2021, 14, 023001.	2.4	7
102	Ferromagnetic resonance measurement using stroboscopic magneto-optical Kerr effect. <i>Journal of Applied Physics</i> , 2015, 117, 213908.	2.5	6
103	Micro-focused Brillouin light scattering study of the magnetization dynamics driven by Spin Hall effect in a transversely magnetized NiFe nanowire. <i>Journal of Applied Physics</i> , 2015, 117, 17D504.	2.5	6
104	Spin torque in FeRh alloy measured by spin-torque ferromagnetic resonance. <i>Applied Physics Express</i> , 2018, 11, 013008.	2.4	6
105	Magnetic domain writing defined by electrical gating in Pt/Co film. <i>Applied Physics Letters</i> , 2018, 113, .	3.3	6
106	Spin-orbit precession effect in a $\text{Py}/\text{Pt}/\text{Co}$ tri-layer structure detected by ferromagnetic resonance. <i>Applied Physics Express</i> , 2020, 13, 083001.	2.4	6
107	Electrical control of superparamagnetism. <i>Applied Physics Express</i> , 2017, 10, 013004.	2.4	5
108	Correlation between magnetic properties and depinning field in field-driven domain wall dynamics in GdFeCo ferrimagnets. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	5

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109	Choking Nonlocal Magnetic Damping in Exchange-Biased Ferromagnets. <i>Physical Review Applied</i> , 2019, 11, .	3.8	5
110	Imaging of caustic-like spin wave beams using optical heterodyne detection. <i>Applied Physics Letters</i> , 2020, 116, 192411.	3.3	5
111	Structure and tunnel magnetoresistance in Fe/MgF ₂ /Co junctions with an oxide seed layer on an Fe bottom electrode. <i>Journal of Applied Physics</i> , 2002, 91, 7200.	2.5	4
112	Localized precessional mode of domain wall controlled by magnetic field and dc current. <i>Applied Physics Express</i> , 2015, 8, 023003.	2.4	4
113	Energy-efficient writing scheme for magnetic domain-wall motion memory. <i>Applied Physics Express</i> , 2017, 10, 043002.	2.4	4
114	Determination of perpendicular magnetic anisotropy based on the magnetic droplet nucleation. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 050308.	1.5	4
115	Effect of depinning field on determination of angular-momentum-compensation temperature of ferrimagnets. <i>Applied Physics Express</i> , 2018, 11, 063001.	2.4	4
116	Spin wave propagation in ferrimagnetic Gd _x Co _{1-x} films. <i>Japanese Journal of Applied Physics</i> , 2019, 58, 080909.	1.5	4
117	Magnetic properties of ferrimagnetic Tb/CoFeB/MgO films. <i>Applied Physics Express</i> , 2019, 12, 083002.	2.4	4
118	Crystal orientation dependence of spin Hall angle in epitaxial Pt/FeNi systems. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	4
119	Spin-Polarized Transport and Dynamics in Magnetic Tunneling Structures. <i>IEEE Transactions on Magnetics</i> , 2009, 45, 3434-3440.	2.1	3
120	Exchange bias controlled by electric current: Interplay of Joule heating and the induced field. <i>Japanese Journal of Applied Physics</i> , 2016, 55, 070304.	1.5	3
121	Electric field effect on exchange interaction in ultrathin Co films with ionic liquids. <i>Applied Physics Express</i> , 2018, 11, 063002.	2.4	3
122	Investigation of the upper critical field in artificially engineered Nb/V/Ta superlattices. <i>Japanese Journal of Applied Physics</i> , 2021, 60, 060902.	1.5	3
123	Control of antiferromagnetic resonance and the Morin temperature in cation doped Fe _{2-x} M _x O ₃ (M = Al, Ru, Rh, and In). <i>Applied Physics Letters</i> , 2021, 119, .	3.3	3
124	Observation of the dispersion relations for quantized coherent spin waves excited by a microwave antenna. <i>Physical Review B</i> , 2020, 102, .	3.2	3
125	Long-distance spin current transmission in single-crystalline NiO thin films. <i>Applied Physics Express</i> , 2021, 14, 123001.	2.4	3
126	Extrinsic contribution to anomalous Hall effect in chiral antiferromagnetic (111)-oriented L1 ₂ -Mn ₃ Ir films. <i>Japanese Journal of Applied Physics</i> , 0, , .	1.5	3

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127	Ferromagnetic Resonance Spectroscopy With Very Large Precession Cone Angle in Magnetic Tunnel Junctions. IEEE Transactions on Magnetics, 2009, 45, 2047-2049.	2.1	2
128	On-Chip Detection of Magnetic Dynamics for Single Microscopic Magnetic Dot. IEEE Transactions on Magnetics, 2011, 47, 359-361.	2.1	2
129	Magnetic damping enhancement in L1 ₂ -ordered Mn ₃ Ir/Fe ₂₀ Ni ₈₀ bilayers. Applied Physics Express, 2020, 13, 073001.	2.4	2
130	Enhancement of spin wave group velocity in ferrimagnets with angular momentum compensation. Applied Physics Express, 2020, 13, 063003.	2.4	1
131	Field-driven domain wall creep motion in ferrimagnetic Tb/CoFeB/MgO microwires. Japanese Journal of Applied Physics, 2021, 60, 020902.	1.5	1
132	Positive correlation between interlayer exchange coupling and the driving current of domain wall motion in a synthetic antiferromagnet. Applied Physics Letters, 2021, 119, .	3.3	1
133	Inhomogeneous magnetic properties characterized by simultaneous electrical and optical detection of spin-torque ferromagnetic resonance. Applied Physics Letters, 2021, 119, 192409.	3.3	1
134	Triaxial magnetic anisotropy and Morin transition in $\hat{\pm}$ -Fe ₂ O ₃ epitaxial films characterized by spin Hall magnetoresistance. Applied Physics Letters, 2022, 120, 112403.	3.3	1
135	Dimensional crossover characterized by distribution of magnetic domain wall creep velocity. Applied Physics Express, 2015, 8, 073004.	2.4	0