

Shinji Miwa

List of Publications by Year in descending order

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111
papers

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citations

172457

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115
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115
docs citations

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times ranked

3023
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron Correlation Enhances Orbital Polarization at a Ferromagnetic Metal/Insulator Interface: Depth-Resolved X-ray Magnetic Circular Dichroism and First-Principles Study. ACS Applied Electronic Materials, 2022, 4, 1794-1799.	4.3	5
2	Chirality-Induced Magnetoresistance Due to Thermally Driven Spin Polarization. Journal of the American Chemical Society, 2022, 144, 7302-7307.	13.7	16
3	Control of perpendicular magnetic anisotropy at the Fe/MgO interface by phthalocyanine insertion. Physical Review B, 2022, 105, .	3.2	6
4	Reservoir Computing Based on Spintronics Technology. Natural Computing Series, 2021, , 331-360.	2.2	7
5	Physically Unclonable Functions With Voltage-Controlled Magnetic Tunnel Junctions. IEEE Transactions on Magnetics, 2021, 57, 1-6.	2.1	3
6	Low Gilbert damping in epitaxial thin films of the nodal-line semimetal $D_0\text{Fe}_3\text{Ga}$. Physical Review B, 2021, 103, .	3.2	5
7	Large Hall Signal due to Electrical Switching of an Antiferromagnetic Weyl Semimetal State. Small Science, 2021, 1, 2000025.	9.9	16
8	Giant Effective Damping of Octupole Oscillation in an Antiferromagnetic Weyl Semimetal. Small Science, 2021, 1, 2000062.	9.9	20
9	Spin-orbit torque switching of the antiferromagnetic state in polycrystalline Mn ₃ Sn/Cu/heavy metal heterostructures. AIP Advances, 2021, 11, .	1.3	10
10	Quasi-maser operation using magnetic tunnel junctions. Applied Physics Letters, 2021, 118, 192402.	3.3	2
11	Fabrication of polycrystalline Weyl antiferromagnetic $Mn_3\text{Ga}$ thin films on various seed layers. Physical Review Materials, 2021, 5, .	3.3	3
12	Investigation of the thermal tolerance of silicon-based lateral spin valves. Scientific Reports, 2021, 11, 10583.	3.3	1
13	Synthetic Rashba spin-orbit system using a silicon metal-oxide semiconductor. Nature Materials, 2021, 20, 1228-1232.	27.5	11
14	Influence of epitaxial strain on the perpendicular magnetic anisotropy of Fe/MgO systems. Physical Review B, 2021, 104, .	3.2	5
15	Observation of spontaneous x-ray magnetic circular dichroism in a chiral antiferromagnet. Physical Review B, 2021, 104, .	3.2	8
16	Detection of Spin Transfer from Metal to Molecule by Magnetoresistance Measurement. Nano Letters, 2020, 20, 75-80.	9.1	3
17	Electrical Control for Extending the Ramsey Spin Coherence Time of Ion-Implanted Nitrogen-Vacancy Centers in Diamond. Physical Review Applied, 2020, 14, .	3.8	6
18	Voltage-controlled magnetic anisotropy in an ultrathin nickel film studied by <i>operando</i> x-ray magnetic circular dichroism spectroscopy. Physical Review B, 2020, 102, .	3.2	5

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19	Sizable spin-transfer torque in the Bi/Ni80Fe20 bilayer film. Applied Physics Letters, 2020, 117, .	3.3	4
20	Enhancement of spin signals by thermal annealing in silicon-based lateral spin valves. AIP Advances, 2020, 10, 095021.	1.3	4
21	Over 1% magnetoresistance ratio at room temperature in non-degenerate silicon-based lateral spin valves. Applied Physics Express, 2020, 13, 083002.	2.4	10
22	Control of Spin-Orbit Torques by Interface Engineering in Topological Insulator Heterostructures. Nano Letters, 2020, 20, 5893-5899.	9.1	46
23	Investigation of gating effect in Si spin MOSFET. Applied Physics Letters, 2020, 116, .	3.3	8
24	Gate-Tunable Spin xor Operation in a Silicon-Based Device at Room Temperature. Physical Review Applied, 2020, 13, .	3.8	7
25	Iron-based binary ferromagnets for transverse thermoelectric conversion. Nature, 2020, 581, 53-57.	27.8	162
26	Electrical manipulation of a topological antiferromagnetic state. Nature, 2020, 580, 608-613.	27.8	212
27	Chirality-induced effective magnetic field in a phthalocyanine molecule. Applied Physics Express, 2020, 13, 113001.	2.4	7
28	Magnetic anisotropy of ferromagnetic metals in low-symmetry systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 2019, 383, 1203-1206.	2.1	16
29	Realization of Spin-dependent Functionality by Covering a Metal Surface with a Single Layer of Molecules. Nano Letters, 2019, 19, 7119-7123.	9.1	14
30	Reservoir computing with dipole-coupled nanomagnets. Japanese Journal of Applied Physics, 2019, 58, 070901.	1.5	42
31	Microscopic origin of large perpendicular magnetic anisotropy in an FeIr/MgO system. Physical Review B, 2019, 99, .	3.2	4
32	Recent Progress in the Voltage-Controlled Magnetic Anisotropy Effect and the Challenges Faced in Developing Voltage-Torque MRAM. Micromachines, 2019, 10, 327.	2.9	96
33	Voltage-controlled magnetic anisotropy and Dzyaloshinskii-Moriya interactions in CoNi/MgO and CoNi/Pd/MgO. Japanese Journal of Applied Physics, 2019, 58, 060917.	1.5	10
34	Physical reservoir computing based on spin torque oscillator with forced synchronization. Applied Physics Letters, 2019, 114, .	3.3	106
35	Interface resonance in Fe/Pt/MgO multilayer structure with large voltage controlled magnetic anisotropy change. Applied Physics Letters, 2019, 114, .	3.3	8
36	Quantitative and systematic analysis of bias dependence of spin accumulation voltage in a nondegenerate Si-based spin valve. Physical Review B, 2019, 99, .	3.2	14

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37	Stability of spin XOR gate operation in silicon based lateral spin device with large variations in spin transport parameters. AIP Advances, 2019, 9, 125326.	1.3	3
38	Microwave amplification in a magnetic tunnel junction induced by heat-to-spin conversion at the nanoscale. Nature Nanotechnology, 2019, 14, 40-43.	31.5	26
39	Perpendicular magnetic anisotropy and its electric-field-induced change at metal-dielectric interfaces. Journal Physics D: Applied Physics, 2019, 52, 063001.	2.8	47
40	Novel Materials for Quantum Spintronics Phenomena. Journal of the Institute of Electrical Engineers of Japan, 2019, 139, 601-606.	0.0	0
41	Effect of external magnetic field on locking range of spintronic feedback nano oscillator. AIP Advances, 2018, 8, .	1.3	3
42	Magnetic tunnel junction with Fe(001)/Co phthalocyanine/MgO(001) single-crystal multilayer. Applied Physics Express, 2018, 11, 013201.	2.4	5
43	Macromagnetic Simulation for Reservoir Computing Utilizing Spin Dynamics in Magnetic Tunnel Junctions. Physical Review Applied, 2018, 10, .	3.8	97
44	Evaluation of memory capacity of spin torque oscillator for recurrent neural networks. Japanese Journal of Applied Physics, 2018, 57, 120307.	1.5	35
45	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, 2018, 98, .	3.2	18
46	Spin Relaxation Enhanced by Decorating Cu Surfaces With Lead (II) Phthalocyanine Molecules. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	2
47	Voltage-Controlled Magnetic Anisotropy in Fe _{1-x} Co _x /Pd/MgO system. Scientific Reports, 2018, 8, 10362.	3.3	7
48	Effect of Electric Field on the Exchange-Stiffness Constant in a $\text{Co}_{12}\text{Fe}_{16}\text{B}$ Disk-Shaped Nanomagnet 65 nm in Diameter. Physical Review Applied, 2018, 10, .	3.8	6
49	Thermally Generated Spin Signals in a Nondegenerate Silicon Spin Valve. Physical Review Applied, 2018, 9, .	3.8	6
50	Periodic Fluctuations of Switching Probability in Spin-Transfer Magnetization Switching in Magnetic Tunnel Junctions. IEEE Transactions on Magnetics, 2018, 54, 1-5.	2.1	1
51	Observation of Anomalous Spin Torque Generated by a Ferromagnet. Physical Review Applied, 2018, 9, .	3.8	42
52	Investigation of spin scattering mechanism in silicon channels of Fe/MgO/Si lateral spin valves. Applied Physics Letters, 2017, 110, 192401.	3.3	10
53	1Å ⁻ to 2Å ⁻ nm MTJ switching at sub-3 ns pulses with compatible current in sub-20 nm CMOS for high performance embedded STT-MRAM. , 2017, , .		0
54	Extended X-ray absorption fine structure analysis of voltage-induced effects in the interfacial atomic structure of Fe/Pt/MgO. Applied Physics Express, 2017, 10, 063006.	2.4	2

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55	\$1imes\$ - to \$2imes\$ -nm perpendicular MTJ Switching at Sub-3-ns Pulses Below \$100\text{-}\mu\text{A}\$ for High-Performance Embedded STT-MRAM for Sub-20-nm CMOS. IEEE Transactions on Electron Devices, 2017, 64, 427-431.	3.0	19
56	Strong Bias Effect on Voltage-Driven Torque at Epitaxial Fe-MgO Interface. Physical Review X, 2017, 7, .	8.9	18
57	Highly efficient voltage control of spin and enhanced interfacial perpendicular magnetic anisotropy in iridium-doped Fe/MgO magnetic tunnel junctions. NPC Asia Materials, 2017, 9, e451-e451.	7.9	84
58	Electron paramagnetic resonance study of MgO thin-film grown on silicon. Journal of Applied Physics, 2017, 121, .	2.5	3
59	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, 2017, 56, 060304.	1.5	8
60	Voltage controlled interfacial magnetism through platinum orbits. Nature Communications, 2017, 8, 15848.	12.8	128
61	Perpendicular magnetic anisotropy of CoFeBTa bilayers on ALD HfO ₂ . AIP Advances, 2017, 7, 055933.	1.3	8
62	Electric-field-induced changes of magnetic moments and magnetocrystalline anisotropy in ultrathin cobalt films. Physical Review B, 2017, 96, .	3.2	48
63	Integer, Fractional, and Sideband Injection Locking of a Spintronic Feedback Nano-Oscillator to a Microwave Signal. Physical Review Applied, 2017, 8, .	3.8	16
64	Ferromagnetic-resonance induced electromotive forces in Ni ₈₁ Fe ₁₉ multilayers. Physical Review Applied, 2016, 6, 044102.	1.9	3
65	Coherent microwave generation by spintronic feedback oscillator. Scientific Reports, 2016, 6, 30747.	3.3	31
66	Observation of thermally driven field-like spin torque in magnetic tunnel junctions. Applied Physics Letters, 2016, 109, 032406.	3.3	24
67	Spin-wave eigenmodes in single disk-shaped FeB nanomagnet. Physical Review B, 2016, 94, .	3.2	9
68	Sub-3 ns pulse with sub-100 $\hat{\mu}\text{A}$ switching of $1\hat{x}\hat{e}\hat{c}\hat{2}\text{x}$ nm perpendicular MTJ for high-performance embedded STT-MRAM towards sub-20 nm CMOS. , 2016, , .		9
69	Electric field modulation of tunneling anisotropic magnetoresistance in tunnel junctions with antiferromagnetic electrodes. Japanese Journal of Applied Physics, 2016, 55, 080304.	1.5	3
70	Observation of large spin accumulation voltages in nondegenerate Si spin devices due to spin drift effect: Experiments and theory. Physical Review B, 2016, 93, .	3.2	29
71	Pure negatively charged state of the NV center in $n\text{-type diamond}$. Physical Review B, 2016, 93, .	3.2	77
72	Study of spin dynamics and damping on the magnetic nanowire arrays with various nanowire widths. Journal of Magnetism and Magnetic Materials, 2016, 409, 99-103.	2.3	12

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73	Tunneling Anisotropic Magnetoresistance in Fe Nanoparticles Embedded in MgO Matrix. Journal of Electronic Materials, 2016, 45, 2597-2600.	2.2	3
74	Field angle dependence of voltage-induced ferromagnetic resonance under DC bias voltage. Journal of Magnetism and Magnetic Materials, 2016, 400, 159-162.	2.3	8
75	Voltage-controlled magnetic anisotropy in Fe MgO tunnel junctions studied by x-ray absorption spectroscopy. Applied Physics Letters, 2015, 107, .	3.3	46
76	Tunnel anisotropic magnetoresistance in CoFeB MgO Ta junctions. Applied Physics Letters, 2015, 107, 082407.	3.3	10
77	Voltage induction of interfacial Dzyaloshinskii-Moriya interaction in Au/Fe/MgO artificial multilayer. Applied Physics Express, 2015, 8, 063004.	2.4	66
78	Growth of perpendicularly magnetized thin films on a polymer buffer and voltage-induced change of magnetic anisotropy at the MgO CoFeB interface. AIP Advances, 2015, 5, 067132.	1.3	6
79	Room-temperature operation of Si spin MOSFET with high on/off spin signal ratio. Applied Physics Express, 2015, 8, 113004.	2.4	63
80	Magnetostatic spin wave in a very thin CoFeB film grown on an amorphous FeZr buffer layer. Journal of the Korean Physical Society, 2015, 67, 906-910.	0.7	1
81	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, 2015, 106, 153103.	3.3	9
82	Voltage modulation of propagating spin waves in Fe. Journal of Applied Physics, 2015, 117, 17A905.	2.5	12
83	Large voltage-induced magnetic anisotropy field change in ferrimagnetic FeGd. Applied Physics Express, 2015, 8, 073007.	2.4	15
84	Three-Terminal Device for Realizing a Voltage-Driven Spin Transistor. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	0
85	High-output microwave detector using voltage-induced ferromagnetic resonance. Applied Physics Letters, 2014, 105, 192408.	3.3	23
86	Spin-dependent tunneling in magnetic tunnel junctions with Fe nanoparticles embedded in an MgO matrix. Solid State Communications, 2014, 183, 18-21.	1.9	10
87	Highly sensitive nanoscale spin-torque diode. Nature Materials, 2014, 13, 50-56.	27.5	228
88	Deterministic Electrical Charge-State Initialization of Single Nitrogen-Vacancy Center in Diamond. Physical Review X, 2014, 4, .	8.9	41
89	Perfect selective alignment of nitrogen-vacancy centers in diamond. Applied Physics Express, 2014, 7, 055201.	2.4	84
90	Spin-orbit torque in a bulk perpendicular magnetic anisotropy Pd/FePd/MgO system. Scientific Reports, 2014, 4, 6548.	3.3	59

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91	Spin-torque magnetic resonance of Fe nanoparticles in Fe/MgO/Fe magnetic tunnel junctions. Journal of the Korean Physical Society, 2013, 62, 2206-2209.	0.7	0
92	MgO overlayer thickness dependence of perpendicular magnetic anisotropy in CoFeB thin films. Journal of the Korean Physical Society, 2013, 62, 1461-1464.	0.7	21
93	Fabrication of Fe/MgO/Gd Magnetic Tunnel Junctions. IEEE Transactions on Magnetics, 2013, 49, 4417-4420.	2.1	2
94	Investigation of Au and Ag segregation on Fe(001) with soft X-ray absorption. Surface Science, 2013, 616, 125-130.	1.9	7
95	Opposite signs of voltage-induced perpendicular magnetic anisotropy change in CoFeB MgO junctions with different underlayers. Applied Physics Letters, 2013, 103, .	3.3	89
96	Single photon, spin, and charge in diamond semiconductor at room temperature. , 2013, , .		0
97	Unified understanding of both thermally assisted and precessional spin-transfer switching in perpendicularly magnetized giant magnetoresistive nanopillars. Applied Physics Letters, 2013, 102, .	3.3	31
98	Detailed analysis of spin-dependent quantum interference effects in magnetic tunnel junctions with Fe quantum wells. Applied Physics Letters, 2013, 102, 032406.	3.3	10
99	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, 2013, 102, .	3.3	72
100	Radio-frequency amplification property of the MgO-based magnetic tunnel junction using field-induced ferromagnetic resonance. Applied Physics Letters, 2013, 102, 162409.	3.3	6
101	Characterization of MgO Thin Films Grown on Carbon Materials by Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 2013, 52, 070208.	1.5	1
102	Nonlinear thermal effect on sub-gigahertz ferromagnetic resonance in magnetic tunnel junction. Applied Physics Letters, 2013, 103, .	3.3	3
103	Composition Dependence of Perpendicular Magnetic Anisotropy in Ta/Co _x Fe _{80-x} B ₂₀ /MgO/Ta (x=0, 10, 60) Multilayers. Journal of Magnetics, 2013, 18, 5-8.	0.4	8
104	Enhancement of Spin Diode Signals from Fe Nanoparticles in MgO-Based Magnetic Tunnel Junctions. Applied Physics Express, 2012, 5, 123001.	2.4	6
105	Pulse voltage-induced dynamic magnetization switching in magnetic tunneling junctions with high resistance-area product. Applied Physics Letters, 2012, 101, .	3.3	77
106	Electric-field-induced ferromagnetic resonance excitation in an ultrathin ferromagnetic metal layer. Nature Physics, 2012, 8, 491-496.	16.7	223
107	Spin-dependent quantum well effect in fully epitaxial Cr/ultrathin Fe/MgO/Fe magnetic tunnel junctions. Solid State Communications, 2012, 152, 273-277.	1.9	5
108	Tunnel magnetoresistance of C ₆₀ nanocomposites and spin-dependent transport in organic semiconductors. Physical Review B, 2007, 76, .	3.2	49

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109	Spin-dependent transport in nanocomposites of Alq3 molecules and cobalt nanoparticles. Applied Physics Letters, 2007, 91, 063123.	3.3	26
110	Large magnetoresistance in rubrene-Co nano-composites. Chemical Physics Letters, 2007, 448, 106-110.	2.6	24
111	Spin-Dependent Transport in C60-Co Nano-Composites. Japanese Journal of Applied Physics, 2006, 45, L717-L719.	1.5	33