

Joo-Von Kim

List of Publications by Year in descending order

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130
papers

6,674
citations

53660

45
h-index

64668

79
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all docs

130
docs citations

130
times ranked

4767
citing authors

#	ARTICLE	IF	CITATIONS
1	Compact Modeling of Perpendicular-Anisotropy CoFeB/MgO Magnetic Tunnel Junctions. IEEE Transactions on Electron Devices, 2012, 59, 819-826.	1.6	330
2	The 2021 Magnonics Roadmap. Journal of Physics Condensed Matter, 2021, 33, 413001.	0.7	287
3	Interfacial Dzyaloshinskii-Moriya interaction in perpendicularly magnetized Pt/Co/AlO _x films measured by Brillouin light spectroscopy. Physical Review B, 2015, 91, .		
4	Strain-controlled magnetic domain wall propagation in hybrid piezoelectric/ferromagnetic structures. Nature Communications, 2013, 4, 1378.	5.8	237
5	Single-Shot Time-Resolved Measurements of Nanosecond-Scale Spin-Transfer Induced Switching: Stochastic Versus Deterministic Aspects. Physical Review Letters, 2008, 100, 057206.	2.9	219
6	Current-Driven Vortex Oscillations in Metallic Nanocontacts. Physical Review Letters, 2008, 100, 257201.	2.9	209
7	Real-space imaging of non-collinear antiferromagnetic order with a single-spin magnetometer. Nature, 2017, 549, 252-256.	13.7	203
8	Non-adiabatic spin-torques in narrow magnetic domain walls. Nature Physics, 2010, 6, 17-21.	6.5	194
9	The nature of domain walls in ultrathin ferromagnets revealed by scanning nanomagnetometry. Nature Communications, 2015, 6, 6733.	5.8	183
10	Study of the dynamic magnetic properties of soft CoFeB films. Journal of Applied Physics, 2006, 100, 053903.	1.1	173
11	A skyrmion-based spin-torque nano-oscillator. New Journal of Physics, 2016, 18, 075011.	1.2	170
12	Nanoscale imaging and control of domain-wall hopping with a nitrogen-vacancy center microscope. Science, 2014, 344, 1366-1369.	6.0	158
13	Spin wave contributions to the high-frequency magnetic response of thin films obtained with inductive methods. Journal of Applied Physics, 2004, 95, 5646-5652.	1.1	156
14	Generation Linewidth of an Auto-Oscillator with a Nonlinear Frequency Shift: Spin-Torque Nano-Oscillator. Physical Review Letters, 2008, 100, 017207.	2.9	155
15	Narrow Magnonic Waveguides Based on Domain Walls. Physical Review Letters, 2015, 114, 247206.	2.9	150
16	Skyrmion Gas Manipulation for Probabilistic Computing. Physical Review Applied, 2018, 9, .	1.5	148
17	Breathing modes of confined skyrmions in ultrathin magnetic dots. Physical Review B, 2014, 90, .	1.1	140
18	Damping of CoFe ₈₀ B ₂₀ ultrathin films with perpendicular magnetic anisotropy. Applied Physics Letters, 2013, 102, .	1.5	126

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19	Current-driven microwave oscillations in current perpendicular-to-plane spin-valve nanopillars. Applied Physics Letters, 2006, 88, 192507.	1.5	114
20	Perpendicular-magnetic-anisotropy CoFeB racetrack memory. Journal of Applied Physics, 2012, 111, .	1.1	111
21	Current-driven skyrmion dynamics in disordered films. Applied Physics Letters, 2017, 110, .	1.5	107
22	Nonreciprocal spin-wave channeling along textures driven by the Dzyaloshinskii-Moriya interaction. Physical Review B, 2014, 89, .	1.1	94
23	Commensurability and chaos in magnetic vortex oscillations. Nature Physics, 2012, 8, 682-687.	6.5	91
24	Low depinning fields in Ta-CoFeB-MgO ultrathin films with perpendicular magnetic anisotropy. Applied Physics Letters, 2013, 103, 182401.	1.5	90
25	Line Shape Distortion in a Nonlinear Auto-Oscillator Near Generation Threshold: Application to Spin-Torque Nano-Oscillators. Physical Review Letters, 2008, 100, 167201.	2.9	87
26	Exchange bias of polycrystalline antiferromagnets with perfectly compensated interfaces. Physical Review B, 2003, 67, .	1.1	85
27	Probing the Dzyaloshinskii-Moriya interaction in CoFeB ultrathin films using domain wall creep and Brillouin light spectroscopy. Physical Review B, 2016, 94, .	1.1	84
28	Current-driven asymmetric magnetization switching in perpendicularly magnetized CoFeB/MgO heterostructures. Physical Review B, 2015, 91, .	1.1	78
29	Oxide spin-orbitronics: spin-charge interconversion and topological spin textures. Nature Reviews Materials, 2022, 7, 258-274.	23.3	73
30	Microwave power generated by a spin-torque oscillator in the presence of noise. Applied Physics Letters, 2007, 91, .	1.5	67
31	Thermal stability of metastable magnetic skyrmions: Entropic narrowing and significance of internal eigenmodes. Physical Review B, 2018, 98, .	1.1	66
32	Trochoidal motion and pair generation in skyrmion and antiskyrmion dynamics under spin-orbit torques. Nature Electronics, 2018, 1, 451-457.	13.1	66
33	Quantized spin-wave modes in magnetic tunnel junction nanopillars. Physical Review B, 2010, 81, .	1.1	63
34	Direct measurement of interfacial Dzyaloshinskii-Moriya interaction in X with a scanning NV magnetometer		

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37	Angular dependence and interfacial roughness in exchange-biased ferromagnetic/antiferromagnetic bilayers. <i>Physical Review B</i> , 2000, 61, 8888-8894.	1.1	59
38	Domain-wall motion and interfacial Dzyaloshinskii-Moriya interactions in $\text{Pt}/\text{Co}/\text{Pt}$ multilayers. <i>Physical Review B</i> , 2019, 99, .	1.1	69
39	Spin Wave Power Flow and Caustics in Ultrathin Ferromagnets with the Dzyaloshinskii-Moriya Interaction. <i>Physical Review Letters</i> , 2016, 117, 197204.	2.9	55
40	Stochastic theory of spin-transfer oscillator linewidths. <i>Physical Review B</i> , 2006, 73, .	1.1	52
41	Time-resolved zero field vortex oscillations in point contacts. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	50
42	Spin-Torque Oscillators. <i>Solid State Physics</i> , 2012, , 217-294.	1.3	50
43	Time-resolved spin-torque switching in MgO-based perpendicularly magnetized tunnel junctions. <i>Physical Review B</i> , 2016, 93, .	1.1	50
44	Imaging non-collinear antiferromagnetic textures via single spin relaxometry. <i>Nature Communications</i> , 2021, 12, 767.	5.8	49
45	Noise-Enhanced Synchronization of Stochastic Magnetic Oscillators. <i>Physical Review Applied</i> , 2014, 2, .	1.5	48
46	Spin-wave contributions to current-induced domain wall dynamics. <i>Physical Review B</i> , 2009, 79, .	1.1	44
47	Magnetization switching by spin torque using subnanosecond current pulses assisted by hard axis magnetic fields. <i>Applied Physics Letters</i> , 2006, 88, 152502.	1.5	43
48	Hysteresis from antiferromagnet domain-wall processes in exchange-biased systems: Magnetic defects and thermal effects. <i>Physical Review B</i> , 2005, 71, .	1.1	42
49	Direct experimental measurement of phase-amplitude coupling in spin torque oscillators. <i>Applied Physics Letters</i> , 2010, 97, .	1.5	41
50	Defect-modified exchange bias. <i>Applied Physics Letters</i> , 2001, 79, 2785-2787.	1.5	40
51	Frequency shift keying in vortex-based spin torque oscillators. <i>Journal of Applied Physics</i> , 2011, 109, 083940.	1.1	36
52	Exchange stiffness in ultrathin perpendicularly magnetized CoFeB layers determined using the spectroscopy of electrically excited spin waves. <i>Journal of Applied Physics</i> , 2016, 120, .	1.1	36
53	Paths to annihilation of first- and second-order (anti)skyrmions via (anti)meron nucleation on the frustrated square lattice. <i>Physical Review B</i> , 2019, 99, .	1.1	36
54	Spin wave amplification using the spin Hall effect in permalloy/platinum bilayers. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	34

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55	Unidirectional spin-wave channeling along magnetic domain walls of Bloch type. <i>Physical Review B</i> , 2019, 100, .	1.1	34
56	Temperature Dependences of the Resistivity and the Ferromagnetic Resonance Linewidth in Permalloy Thin Films. <i>IEEE Transactions on Magnetics</i> , 2006, 42, 3323-3325.	1.2	30
57	Current-driven skyrmion expulsion from magnetic nanostrips. <i>Physical Review B</i> , 2017, 95, .	1.1	29
58	Micromagnetic simulation of antiferromagnetic/ferromagnetic structures. <i>IEEE Transactions on Magnetics</i> , 2002, 38, 2397-2399.	1.2	28
59	Entropy-reduced Retention Times in Magnetic Memory Elements: A Case of the Meyer-Neldel Compensation Rule. <i>Physical Review Letters</i> , 2020, 125, 107201.	2.9	28
60	Auto-oscillation and narrow spectral lines in spin-torque oscillators based on MgO magnetic tunnel junctions. <i>Journal of Applied Physics</i> , 2009, 106, 103921.	1.1	25
61	Path sampling for lifetimes of metastable magnetic skyrmions and direct comparison with Kramers' method. <i>Physical Review B</i> , 2020, 101, .	1.1	25
62	Chaos in Magnetic Nanocontact Vortex Oscillators. <i>Physical Review Letters</i> , 2019, 123, 147701.	2.9	24
63	Chaotic dynamics in a macrospin spin-torque nano-oscillator with delayed feedback. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	24
64	Role of nonlinear anisotropic damping in the magnetization dynamics of topological solitons. <i>Physical Review B</i> , 2015, 92, .	1.1	23
65	Magnetization dynamics: A study of the ferromagnet/antiferromagnet interface and exchange biasing. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1999, 17, 1335-1339.	0.9	22
66	Material Developments and Domain Wall-Based Nanosecond-Scale Switching Process in Perpendicularly Magnetized STT-MRAM Cells. <i>IEEE Transactions on Magnetics</i> , 2018, 54, 1-9.	1.2	22
67	Vortex nucleation in spin-torque nanocontact oscillators. <i>Applied Physics Letters</i> , 2010, 97, 072512.	1.5	21
68	Understanding Nanoscale Temperature Gradients in Magnetic Nanocontacts. <i>Physical Review Letters</i> , 2012, 109, 267205.	2.9	21
69	Spin-Wave Eigenmodes of Dzyaloshinskii Domain Walls. <i>Advanced Electronic Materials</i> , 2016, 2, 1500202.	2.6	21
70	Inductive measurement of the high frequency permeability of a Permalloy thin film. <i>Journal of Magnetism and Magnetic Materials</i> , 2004, 272-276, 290-292.	1.0	20
71	Electronics free of charge. <i>Nature Physics</i> , 2008, 4, 837-838.	6.5	20
72	Configuration and temperature dependence of magnetic damping in spin valves. <i>Journal of Applied Physics</i> , 2011, 110, .	1.1	20

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73	Influence of magnetic viscosity on domain wall dynamics under spin-polarized currents. Physical Review B, 2009, 80, .	1.1	19
74	Propagation of magnetic vortices using nanocontacts as tunable attractors. Nature Nanotechnology, 2014, 9, 121-125.	15.6	19
75	Spin-torque switching window, thermal stability, and material parameters of MgO tunnel junctions. Applied Physics Letters, 2011, 98, 162502.	1.5	18
76	Spintronic Devices as Key Elements for Energy-Efficient Neuroinspired Architectures. , 2015, , .		18
77	Magnetic Stochastic Oscillators: Noise-Induced Synchronization to Underthreshold Excitation and Comprehensive Compact Model. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	18
78	Phase diagrams and energy barriers of exchange-biased bilayers with additional anisotropies in the ferromagnet. Physical Review B, 2003, 67, .	1.1	17
79	Magnetic anisotropy of epitaxial MgO $\hat{\cdot}$ Fe $\hat{\cdot}$ MgO films studied by network analyzer ferromagnetic resonance. Journal of Applied Physics, 2005, 98, 023901.	1.1	17
80	Auto-oscillation threshold and line narrowing in MgO-based spin-torque oscillators. Europhysics Letters, 2009, 87, 57001.	0.7	17
81	Free layer versus synthetic ferrimagnet layer auto-oscillations in nanopillars processed from MgO-based magnetic tunnel junctions. Physical Review B, 2010, 81, .	1.1	17
82	Temperature dependence of exchange biased thin films. Journal of Applied Physics, 2000, 87, 6430-6432.	1.1	15
83	Synchronization of chiral vortex nano-oscillators. Applied Physics Letters, 2021, 118, .	1.5	15
84	Roughness-induced instability in stripe domain patterns. Physical Review B, 2000, 62, 6467-6474.	1.1	14
85	Effect of patterning on the saturation magnetization in MgO based nanopillars. Journal of Applied Physics, 2009, 105, .	1.1	14
86	On quantifying the topological charge in micromagnetics using a lattice-based approach. IOP SciNotes, 2020, 1, 025211.	0.4	14
87	Dynamics of the exchange field supplied by MnIr layers studied by network analyzer ferromagnetic resonance. Journal of Applied Physics, 2009, 106, 063918.	1.1	13
88	Exchange bias: interface imperfections and temperature dependence. IEEE Transactions on Magnetics, 1999, 35, 2994-2997.	1.2	11
89	Magnetization dynamics in spin-valve structures with spin pumping. Journal of Magnetism and Magnetic Materials, 2005, 286, 56-60.	1.0	11
90	Direct measurement of current-induced fieldlike torque in magnetic tunnel junctions. Journal of Applied Physics, 2009, 105, .	1.1	11

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91	Spin transfer and spin-orbit torques in in-plane magnetized (Ga,Mn)As tracks. <i>Physical Review B</i> , 2017, 95, .	1.1	11
92	Pattern generation and symbolic dynamics in a nanocontact vortex oscillator. <i>Nature Communications</i> , 2020, 11, 601.	5.8	10
93	Precession-dominated switching of synthetic antiferromagnets. <i>Applied Physics Letters</i> , 2004, 85, 4094-4096.	1.5	9
94	Electrical time-domain observation of magnetization switching induced by spin transfer in magnetic nanostructures (invited). <i>Journal of Applied Physics</i> , 2008, 103, 07A723.	1.1	9
95	Domain wall motion in nanopillar spin-valves with perpendicular anisotropy driven by spin-transfer torques. <i>Physical Review B</i> , 2012, 86, .	1.1	9
96	Spin torque nanodevices for bio-inspired computing. , 2014, , .		8
97	Current-driven vortex oscillations in metallic nanocontacts: zero-field oscillations and training effects. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 245001.	1.3	7
98	Asymmetric skyrmion-antiskyrmion production in ultrathin ferromagnetic films. <i>Physical Review B</i> , 2020, 102, .	1.1	7
99	Stochastic Processes in Magnetization Reversal Involving Domain-Wall Motion in Magnetic Memory Elements. <i>Physical Review Applied</i> , 2021, 15, .	1.5	7
100	Fast magnetization switching in GaMnAs induced by electrical fields. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	6
101	Dynamical influence of vortex-antivortex pairs in magnetic vortex oscillators. <i>Journal of Magnetism and Magnetic Materials</i> , 2015, 394, 292-298.	1.0	6
102	A magnetic domain wall Mackey-Glass oscillator. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	6
103	Spin-torque induced wall motion in perpendicularly magnetized discs: Ballistic versus oscillatory behavior. <i>Physical Review B</i> , 2021, 103, .	1.1	6
104	Experimental study of current-driven vortex oscillations in magnetic nanocontacts. <i>Proceedings of SPIE</i> , 2009, , .	0.8	5
105	Vortex Nucleation Phase in Spin Torque Oscillators Based on Nanocontacts. <i>IEEE Transactions on Magnetics</i> , 2011, 47, 1595-1598.	1.2	5
106	Nanocontact size dependence of the properties of vortex-based spin torque oscillators. <i>Physica Status Solidi (B): Basic Research</i> , 2011, 248, 1615-1618.	0.7	5
107	Magnetic Vortex Core Oscillations in Multi Point Contact Spin Valve Stacks. <i>IEEE Transactions on Magnetics</i> , 2012, 48, 3811-3813.	1.2	5
108	Nanocontact based spin torque oscillators with two free layers. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 085002.	1.3	5

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127	Nonreciprocal flexural dynamics of Dzyaloshinskii domain walls. Physical Review B, 2018, 98, .	1.1	1
128	Exchange biasing at the ferromagnet - antiferromagnet interface : bias stability and roughness effects. , 0, , .		0
129	Precession-dominated reversal of synthetic antiferromagnets and synthetic ferrimagnets. , 2005, , .		0
130	Influence of oscillation modes on the line width of rf emissions in MgO based nanopillars. Journal of Applied Physics, 2010, 108, 023917.	1.1	0