Xi-Chao Zhang

List of Publications by Year
in descending order

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112	7,435	94433 37	54911 84
papers	citations	h-index	g-index

114	114	114	3234
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Skyrmion Dynamics in the Presence of Deformation. Physical Review Applied, 2022, 17, .	3.8	7
2	Nonreciprocal dynamics of ferrimagnetic bimerons. Physical Review B, 2022, 105, .	3.2	7
3	Controlled Switching of the Number of Skyrmions in a Magnetic Nanodot by Electric Fields. Advanced Materials, 2022, 34, e2107908.	21.0	19
4	Dynamic properties of a ferromagnetic skyrmion in an in-plane magnetic field. Journal of Applied Physics, 2022, 131, .	2.5	1
5	Controlled Switching of the Number of Skyrmions in a Magnetic Nanodot by Electric Fields (Adv.) Tj ETQq1 1 0.784314 rgBT /Overloc	21.0	8
6	Exchange-Torque-Triggered Fast Switching of Antiferromagnetic Domains. Physical Review Letters, 2022, 128, 137201.	7.8	6
7	Single-bit full adder and logic gate based on synthetic antiferromagnetic bilayer skyrmions. Rare Metals, 2022, 41, 2249-2258.	7.1	6
8	Structural transition of skyrmion quasiparticles under compression. Physical Review B, 2022, 105, .	3.2	5
9	Mutual conversion between a magnetic NÃ©el hopfion and a NÃ©el toron. Physical Review B, 2022, 105, .	3.2	7
10	Bifurcation of a topological skyrmion string. Physical Review B, 2022, 105, .	3.2	14
11	Controlling domain wall and field-free spinâ€“orbit torque switching in synthetic antiferromagnets. Applied Physics Letters, 2022, 120, .	3.3	2
12	Dynamics of magnetic skyrmions driven by a temperature gradient in a chiral magnet FeGe. Physical Review B, 2022, 106, .	3.2	5
13	Magnetic skyrmions for unconventional computing. Materials Horizons, 2021, 8, 854-868.	12.2	74
14	Antiferromagnetic Skyrmions and Bimerons. Topics in Applied Physics, 2021, , 441-457.	0.8	0
15	Skyrmions in ferrimagnets. , 2021, , 315-332.		0
16	A frustrated bimeronium: Static structure and dynamics. Applied Physics Letters, 2021, 118, .	3.3	13
17	Interlayer coupling effect on skyrmion dynamics in synthetic antiferromagnets. Applied Physics Letters, 2021, 118, .	3.3	7
18	A ferromagnetic skyrmion-based nano-oscillator with modified perpendicular magnetic anisotropy. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 392, 127157.	2.1	12

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19	NÃ©el-type skyrmions and their current-induced motion in van der Waals ferromagnet-based heterostructures. Physical Review B, 2021, 103, .	3.2	110
20	Current-induced dynamics of skyrmion tubes in synthetic antiferromagnetic multilayers. Physical Review B, 2021, 103, .	3.2	16
21	Confinement and Protection of Skyrmions by Patterns of Modified Magnetic Properties. Nano Letters, 2021, 21, 4320-4326.	9.1	32
22	Tunable NÃ©elâ€“Bloch Magnetic Twists in Fe₃GeTe₂ with van der Waals Structure. Advanced Functional Materials, 2021, 31, 2103583.	14.9	35
23	Logic Gates Based on Synthetic Antiferromagnetic Bilayer Skyrmions. Physical Review Applied, 2021, 16, .	3.8	19
24	Transcription and logic operations of magnetic skyrmions in bilayer cross structures. Journal of Physics Condensed Matter, 2021, 33, 404001.	1.8	3
25	Domain wall dynamics in ferromagnet/Ru/ferromagnet stacks with a wedged spacer. Applied Physics Letters, 2021, 119, .	3.3	5
26	Antiferromagnetic skyrmion-based logic gates controlled by electric currents and fields. Applied Physics Letters, 2021, 119, .	3.3	40
27	Conventional applications of skyrmions. , 2021, , 367-391.		0
28	Dynamics of ferrimagnetic skyrmionium driven by spin-orbit torque. Physical Review B, 2021, 104, .	3.2	12
29	Configurable pixelated skyrmions on nanoscale magnetic grids. Communications Physics, 2021, 4, .	5.3	14
30	Topological Spin Textures and Their Applications. Magnetism, 2021, 1, 58-59.	1.5	2
31	Tailoring interfacial effect in multilayers with Dzyaloshinskiiâ€“Moriya interaction by helium ion irradiation. Scientific Reports, 2021, 11, 23626.	3.3	11
32	Dynamic transformation between a skyrmion string and a bimeron string in a layered frustrated system. Physical Review B, 2021, 104, .	3.2	7
33	Dynamics of antiskyrmions induced by the voltage-controlled magnetic anisotropy gradient. Journal of Magnetism and Magnetic Materials, 2020, 496, 165922.	2.3	14
34	A Comparative Cross-layer Study on Racetrack Memories. ACM Journal on Emerging Technologies in Computing Systems, 2020, 16, 1-17.	2.3	14
35	Skyrmion-electronics: writing, deleting, reading and processing magnetic skyrmions toward spintronic applications. Journal of Physics Condensed Matter, 2020, 32, 143001.	1.8	268
36	A ferromagnetic skyrmion-based nano-oscillator with modified profile of Dzyaloshinskii-Moriya interaction. Journal of Magnetism and Magnetic Materials, 2020, 496, 165912.	2.3	27

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37	Currentâ€Induced Helicity Reversal of a Single Skyrmionic Bubble Chain in a Nanostructured Frustrated Magnet. Advanced Materials, 2020, 32, e1904815.	21.0	47
38	Electric-field-driven non-volatile multi-state switching of individual skyrmions in a multiferroic heterostructure. Nature Communications, 2020, 11, 3577.	12.8	117
39	Bimeron clusters in chiral antiferromagnets. Npj Computational Materials, 2020, 6, .	8.7	34
40	Magnetic skyrmionium diode with a magnetic anisotropy voltage gating. Applied Physics Letters, 2020, 117, .	3.3	30
41	Skyrmion-based artificial synapses for neuromorphic computing. Nature Electronics, 2020, 3, 148-155.	26.0	346
42	A spiking neuron constructed by the skyrmion-based spin torque nano-oscillator. Applied Physics Letters, 2020, 116, .	3.3	36
43	Current-driven skyrmionium in a frustrated magnetic system. Applied Physics Letters, 2020, 117, .	3.3	22
44	Topology-Dependent Brownian Gyromotion of a Single Skyrmion. Physical Review Letters, 2020, 125, 027206.	7.8	50
45	Direct imaging of an inhomogeneous electric current distribution using the trajectory of magnetic half-skyrmions. Science Advances, 2020, 6, eaay1876.	10.3	20
46	Current-Induced Dynamics and Chaos of Antiferromagnetic Bimerons. Physical Review Letters, 2020, 124, 037202.	7.8	82
47	Dynamics of an elliptical ferromagnetic skyrmion driven by the spinâ€“orbit torque. Applied Physics Letters, 2020, 116, .	3.3	27
48	Realization of Isolated and High-Density Skyrmions at Room Temperature in Uncompensated Synthetic Antiferromagnets. Nano Letters, 2020, 20, 3299-3305.	9.1	42
49	Static and dynamic properties of bimerons in a frustrated ferromagnetic monolayer. Physical Review B, 2020, 101, .	3.2	40
50	Dynamics of ferromagnetic bimerons driven by spin currents and magnetic fields. Physical Review B, 2020, 102, .	3.2	19
51	10.1063/5.0012706.3. , 2020, , .		0
52	Magnetic Skyrmion Spectrum Under Voltage Excitation and its Linear Modulation. Physical Review Applied, 2019, 12, .	3.8	4
53	A skyrmion-based spin-torque nano-oscillator with enhanced edge. Journal of Magnetism and Magnetic Materials, 2019, 491, 165610.	2.3	36
54	Dynamics of an antiferromagnetic skyrmion in a racetrack with a defect. Physical Review B, 2019, 100, .	3.2	37

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55	Spin torque nano-oscillators based on antiferromagnetic skyrmions. Applied Physics Letters, 2019, 114, .	3.3	106
56	Current-Driven Dynamics of Frustrated Skyrmions in a Synthetic Antiferromagnetic Bilayer. Physical Review Applied, 2019, 11, .	3.8	31
57	Manipulation of magnetic skyrmions in a locally modified synthetic antiferromagnetic racetrack. Journal of Magnetism and Magnetic Materials, 2019, 482, 155-159.	2.3	11
58	An achiral ferromagnetic/chiral antiferromagnetic bilayer system leading to controllable size and density of skyrmions. Scientific Reports, 2019, 9, 2970.	3.3	8
59	Generation and Hall effect of skyrmions enabled using nonmagnetic point contacts. Physical Review B, 2019, 100, .	3.2	14
60	Voltage-Driven High-Speed Skyrmion Motion in a Skyrmion-Shift Device. Physical Review Applied, 2019, 11, .	3.8	41
61	The impact of withinâ€day work breaks on daily recovery processes: An eventâ€based preâ€/postâ€experience sampling study. Journal of Occupational and Organizational Psychology, 2019, 92, 191-211.	4.5	21
62	Nd-Fe-B films with perpendicular magnetic anisotropy and extremely large room temperature coercivity. Journal of Magnetism and Magnetic Materials, 2019, 474, 406-410.	2.3	5
63	Electric Field-Induced Creation and Directional Motion of Domain Walls and Skyrmion Bubbles. Nano Letters, 2019, 19, 353-361.	9.1	97
64	A compact skyrmionic leakyâ€“integrateâ€“fire spiking neuron device. Nanoscale, 2018, 10, 6139-6146.	5.6	96
65	Skyrmions in Magnetic Tunnel Junctions. ACS Applied Materials & Interfaces, 2018, 10, 16887-16892.	8.0	68
66	Dynamics of a magnetic skyrmionium driven by spin waves. Applied Physics Letters, 2018, 112, .	3.3	43
67	Skyrmion Racetrack Memory With Random Information Update/Deletion/Insertion. IEEE Transactions on Electron Devices, 2018, 65, 87-95.	3.0	41
68	Vortical structures for nanomagnetic memory induced by dipole-dipole interaction in monolayer disks. Superlattices and Microstructures, 2018, 117, 495-502.	3.1	6
69	Controllable transport of a skyrmion in a ferromagnetic narrow channel with voltage-controlled magnetic anisotropy. Journal Physics D: Applied Physics, 2018, 51, 205002.	2.8	17
70	Current-driven dynamics and inhibition of the skyrmion Hall effect of ferrimagnetic skyrmions in GdFeCo films. Nature Communications, 2018, 9, 959.	12.8	301
71	Creation, transport and detection of imprinted magnetic solitons stabilized by spin-polarized current. Journal of Magnetism and Magnetic Materials, 2018, 455, 25-31.	2.3	19
72	Strain-controlled skyrmion creation and propagation in ferroelectric/ferromagnetic hybrid wires. Journal of Magnetism and Magnetic Materials, 2018, 455, 19-24.	2.3	36

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73	A Comparative Study on Racetrack Memories: Domain Wall vs. Skyrmion. , 2018, , .		10
74	Dynamics of the antiferromagnetic skyrmion induced by a magnetic anisotropy gradient. Physical Review B, 2018, 98, .	3.2	84
75	Complementary Skyrmion Racetrack Memory Enables Voltage-Controlled Local Data Update Functionality. IEEE Transactions on Electron Devices, 2018, 65, 4667-4673.	3.0	7
76	Deterministic creation and deletion of a single magnetic skyrmion observed by direct time-resolved X-ray microscopy. Nature Electronics, 2018, 1, 288-296.	26.0	108
77	Dynamics of Magnetic Skyrmion Clusters Driven by Spin-Polarized Current With a Spatially Varied Polarization. IEEE Magnetics Letters, 2018, 9, 1-5.	1.1	6
78	Magnetic skyrmion-based synaptic devices. Nanotechnology, 2017, 28, 08LT02.	2.6	223
79	The influence of the edge effect on the skyrmion generation in a magnetic nanotrack. AIP Advances, 2017, 7, .	1.3	14
80	Compact Modeling and Evaluation of Magnetic Skyrmion-Based Racetrack Memory. IEEE Transactions on Electron Devices, 2017, 64, 1060-1068.	3.0	26
81	Motion of skyrmions in nanowires driven by magnonic momentum-transfer forces. New Journal of Physics, 2017, 19, 065001.	2.9	46
82	Magnetic skyrmion-based artificial neuron device. Nanotechnology, 2017, 28, 31LT01.	2.6	169
83	An Improved Racetrack Structure for Transporting a Skyrmion. Scientific Reports, 2017, 7, 45330.	3.3	92
84	A microwave field-driven transistor-like skyrmionic device with the microwave current-assisted skyrmion creation. Journal of Applied Physics, 2017, 122, .	2.5	24
85	Magnetic domain wall engineering in a nanoscale permalloy junction. Applied Physics Letters, 2017, 111, .	3.3	16
86	Skyrmion dynamicsÂin a frustrated ferromagnetic filmÂand current-induced helicity locking-unlocking transition. Nature Communications, 2017, 8, 1717.	12.8	147
87	Skyrmion dynamics in width-varying nanotracks and implications for skyrmionic applications. Applied Physics Letters, 2017, 111, .	3.3	29
88	Direct observation of the skyrmion Hall effect. Nature Physics, 2017, 13, 162-169.	16.7	858
89	Effect of exchange coupling on magnetic property in Smâ€“Co/ Î± -Fe layered system. Chinese Physics B, 2016, 25, 037501.	1.4	4
90	Magnetic Skyrmion Transport in a Nanotrack With Spatially Varying Damping and Non-adiabatic Torque. IEEE Transactions on Magnetics, 2016, , 1-1.	2.1	7

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91	Thermally stable magnetic skyrmions in multilayer synthetic antiferromagnetic racetracks. Physical Review B, 2016, 94, .	3.2	70
92	Voltage Controlled Magnetic Skyrmion Motion for Racetrack Memory. Scientific Reports, 2016, 6, 23164.	3.3	180
93	Skyrmion-Electronics: An Overview and Outlook. Proceedings of the IEEE, 2016, 104, 2040-2061.	21.3	289
94	Control and manipulation of a magnetic skyrmionium in nanostructures. Physical Review B, 2016, 94, .	3.2	137
95	High-topological-number magnetic skyrmions and topologically protected dissipative structure. Physical Review B, 2016, 93, .	3.2	37
96	Antiferromagnetic Skyrmion: Stability, Creation and Manipulation. Scientific Reports, 2016, 6, 24795.	3.3	306
97	Spin-Cherenkov effect in a magnetic nanostrip with interfacial Dzyaloshinskii-Moriya interaction. Scientific Reports, 2016, 6, 25189.	3.3	11
98	Complementary Skyrmion Racetrack Memory With Voltage Manipulation. IEEE Electron Device Letters, 2016, 37, 924-927.	3.9	70
99	Magnetic bilayer-skyrmions without skyrmion Hall effect. Nature Communications, 2016, 7, 10293.	12.8	384
100	Hysteresis of misaligned hardâ€“soft grains. Journal of Magnetism and Magnetic Materials, 2016, 397, 181-187.	2.3	4
101	All-magnetic control of skyrmions in nanowire by spin wave. , 2015, , .		1
102	Simulation of spin-torque diode microwave detectors. EPJ Applied Physics, 2015, 69, 10603.	0.7	1
103	Skyrmion Spin Structure of Exchange-Coupled Magnetic Coreâ€“Shell Nanodisk. IEEE Transactions on Magnetics, 2015, 51, 1-3.	2.1	1
104	All-magnetic control of skyrmions in nanowires by a spin wave. Nanotechnology, 2015, 26, 225701.	2.6	86
105	Skyrmion-skyrmion and skyrmion-edge repulsions in skyrmion-based racetrack memory. Scientific Reports, 2015, 5, 7643.	3.3	360
106	Magnetic skyrmion transistor: skyrmion motion in a voltage-gated nanotrack. Scientific Reports, 2015, 5, 11369.	3.3	205
107	Hysteresis Loops, Critical Fields and Energy Products for Exchange-spring Hard/soft/hard Trilayers. Journal of Magnetics, 2015, 20, 31-39.	0.4	1
108	Magnetic skyrmion logic gates: conversion, duplication and merging of skyrmions. Scientific Reports, 2015, 5, 9400.	3.3	610

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109	Micromagnetic simulation of Smâ€”Co/Î±-Fe/Smâ€”Co trilayers with various angles between easy axes and the film plane. Chinese Physics B, 2014, 23, 097504.	1.4	7
110	3D and 1D calculation of hysteresis loops and energy products for anisotropic nanocomposite films with perpendicular anisotropy. Journal of Magnetism and Magnetic Materials, 2013, 343, 245-250.	2.3	27
111	Micromagnetic analysis of the effect of the easy axis orientation on demagnetization process in Nd2Fe14B/Î±-Fe bilayers. Wuli Xuebao/Acta Physica Sinica, 2013, 62, 227502.	0.5	5
112	Micromagnetic analysis of the maghemite platelet chains in the iron-mineral-based magnetoreceptor of birds. Wuli Xuebao/Acta Physica Sinica, 2013, 62, 218702.	0.5	1