

# Zhongming Zeng

## List of Publications by Year in descending order

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106  
papers

3,606  
citations

147566  
31  
h-index

138251  
58  
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106  
all docs

106  
docs citations

106  
times ranked

5015  
citing authors

#	ARTICLE	IF	CITATIONS
1	Computing with Injection-Locked Spintronic Diodes. <i>Physical Review Applied</i> , 2022, 17, .	1.5	9
2	2.0 kV/2.1 m <sup>2</sup> Lateral p-GaN/AlGaN/GaN Hybrid Anode Diodes With Hydrogen Plasma Treatment. <i>IEEE Electron Device Letters</i> , 2022, 43, 693-696.	2.2	7
3	$\text{Cu-Fe-Co}$	1.5	2
4	Biaxial film bulk acoustic resonator magnetic sensor based on the Fe <sub>80</sub> Ga <sub>20</sub> anisotropic $\hat{\Gamma}^{\text{E}}$ effect. <i>Journal Physics D: Applied Physics</i> , 2022, 55, 135002.	1.3	7
5	Ultrasensitive and Broad Spectrum Photodetectors Based on InSe/ReS <sub>2</sub> Heterostructure. <i>Advanced Optical Materials</i> , 2022, 10, .	3.6	28
6	A Floating Gate Like Transistor Based on InSe vdW Heterostructure with High Performance Synaptic Characteristics. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2022, 219, .	0.8	5
7	Emerging Optical In Memory Computing Sensor Synapses Based on Low Dimensional Nanomaterials for Neuromorphic Networks. <i>Advanced Intelligent Systems</i> , 2022, 4, .	3.3	13
8	Spin orbit torque driven skyrmion motion under unconventional spin Hall effect. <i>New Journal of Physics</i> , 2022, 24, 053053.	1.2	2
9	The effect of annealing on the Sn-doped ( $\sim 201$ ) $\hat{\Gamma}^2$ -Ga <sub>2</sub> O <sub>3</sub> bulk. <i>Materials Science in Semiconductor Processing</i> , 2022, 147, 106752.	1.9	8
10	Large spin hall conductivity in low-symmetry semiconductor ZrSe <sub>3</sub> . <i>Journal of Alloys and Compounds</i> , 2022, 918, 165579.	2.8	3
11	Comprehensive Study of the Current-Induced Spin Orbit Torque Perpendicular Effective Field in Asymmetric Multilayers. <i>Nanomaterials</i> , 2022, 12, 1887.	1.9	4
12	Effective tuning of spin mixing conductance at the Py/CuNd interface. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	4
13	The promise of spintronics for unconventional computing. <i>Journal of Magnetism and Magnetic Materials</i> , 2021, 521, 167506.	1.0	66
14	Proximity effect of a two-dimensional van der Waals magnet Fe <sub>3</sub> GeTe <sub>2</sub> on nickel films. <i>Nanoscale</i> , 2021, 13, 14688-14693.	2.8	7
15	Non-volatile logic device based on domain-wall motion in a biaxial magnetic tunnel junction. <i>Japanese Journal of Applied Physics</i> , 2021, 60, 020904.	0.8	1
16	Reliability of Neural Networks Based on Spintronic Neurons. <i>IEEE Magnetics Letters</i> , 2021, 12, 1-5.	0.6	8
17	Bias-field-free high frequency microwave emission of spin-transfer nano-oscillator with magnetizations all in-plane. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	2
18	Enhancement of spin orbit torque in WTe <sub>2</sub> /perpendicular magnetic anisotropy heterostructures. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	12

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19	Negative photoconductivity in low-dimensional materials*. Chinese Physics B, 2021, 30, 028507.	0.7	25
20	Reduced Reverse Gate Leakage Current for p-GaN Gate High-Electron-Mobility Transistors by a Surface Etching Method. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000666.	0.8	0
21	Temperature Dependence of Spin-Orbit Torques in Nearly Compensated Tb <sub>21</sub> Co <sub>79</sub> Films by a Topological Insulator Sb <sub>2</sub> Te <sub>3</sub> . Journal of Physical Chemistry Letters, 2021, 12, 2394-2399.	2.1	14
22	Emulation of synaptic behavior by organic ferroelectric tunnel junctions. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 392, 127138.	0.9	5
23	A 3 pJ/bit free space optical interlink platform for self-powered tetherless sensing and opto-spintronic RF-to-optical transduction. Scientific Reports, 2021, 11, 8504.	1.6	1
24	Perspectives on spintronic diodes. Applied Physics Letters, 2021, 118, .	1.5	24
25	Reduction of MOS interfacial states between In <sup>2</sup> -Ga <sub>2</sub> O <sub>3</sub> and Al <sub>2</sub> O <sub>3</sub> insulator by self-reaction etching with Ga flux. Applied Physics Letters, 2021, 118, .	1.5	23
26	High detectivity and responsivity in black phosphorus/SnS <sub>2</sub> heterostructure with broken-gap energy band alignment. Japanese Journal of Applied Physics, 2021, 60, 065003.	0.8	7
27	Current-induced spin-orbit torque magnetization switching with considering unconventional staggered spin polarization. Journal of Magnetism and Magnetic Materials, 2021, 530, 167906.	1.0	5
28	Two-Dimensional Van Der Waals Materials for Spin-Orbit Torque Applications. Frontiers in Nanotechnology, 2021, 3, .	2.4	5
29	Super-high sensitivity FBAR temperature sensor based on size effect of Ti insertion layer. Materials Research Express, 2021, 8, 095701.	0.8	2
30	Ultrahigh Photoresponsive Photodetector Based on Graphene/SnS <sub>2</sub> van der Waals Heterostructure. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100228.	0.8	6
31	Large spin-orbit torque efficiency in PtBi <sub>2</sub> film. Applied Physics Letters, 2021, 119, 132402.	1.5	0
32	Anisotropic artificial synapse based on 2D ReS <sub>2</sub> field-effect transistor. Applied Physics Letters, 2021, 119, 163102.	1.5	10
33	Ambipolar Photoresponsivity in an Ultrasensitive Photodetector Based on a WSe <sub>2</sub> /InSe Heterostructure by a Photogating Effect. ACS Applied Materials & Interfaces, 2021, 13, 50213-50219.	4.0	26
34	Spin hall nano-oscillators based on two-dimensional Fe <sub>3</sub> GeTe <sub>2</sub> magnetic materials. Nanoscale, 2020, 12, 22808-22816.	2.8	7
35	Spin-orbit torque based physical unclonable function. Journal of Applied Physics, 2020, 128, .	1.1	35
36	Current-induced torques in black phosphorus/permalloy bilayers due to crystal symmetry. Applied Physics Letters, 2020, 117, 062403.	1.5	2

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37	Dual-band microwave detector based on magnetic tunnel junctions. Applied Physics Letters, 2020, 117, .	1.5	11
38	Interfacial spin transmission and spin-orbit torques in as-grown and annealed W/Co <sub>2</sub> FeAl/MgO multilayers. Applied Physics Letters, 2020, 117, .	1.5	8
39	Enhancement of ferroelectric performance in PVDF:Fe <sub>3</sub> O <sub>4</sub> nanocomposite based organic multiferroic tunnel junctions. Applied Physics Letters, 2020, 116, .	1.5	19
40	Strong Skyrmion Oscillations Driven by Spatially Dependent Spin Current. Physical Review Applied, 2020, 13, .	1.5	4
41	Interdigital Structure Enhanced the Current Spreading and Light Output Power of GaN-Based Light Emitting Diodes. IEEE Access, 2020, 8, 105972-105979.	2.6	2
42	Ultra-high Gain of a Vacuum-Ultraviolet Photodetector Based on a Heterojunction Structure of AlN Nanowires and NiO Epitaxial nucleation and lateral growth of high-crystalline black phosphorus films on silicon. Nature Communications, 2020, 11, 1330.	1.5	3
43	Epitaxial nucleation and lateral growth of high-crystalline black phosphorus films on silicon. Nature Communications, 2020, 11, 1330.	5.8	102
44	The current modulation of anomalous Hall effect in van der Waals Fe <sub>3</sub> GeTe <sub>2</sub> /WTe <sub>2</sub> heterostructures. Applied Physics Letters, 2020, 116, .	1.5	28
45	Voltage-controlled skyrmion-based nanodevices for neuromorphic computing using a synthetic antiferromagnet. Nanoscale Advances, 2020, 2, 1309-1317.	2.2	25
46	Electric Field-Tunable Giant Magnetoresistance (GMR) Sensor with Enhanced Linear Range. ACS Applied Materials & Interfaces, 2020, 12, 8855-8861.	4.0	25
47	Giant Piezospinronic Effect in a Noncollinear Antiferromagnetic Metal. Advanced Materials, 2020, 32, e2002300.	11.1	33
48	Threshold voltage increased for p-GaN HEMTs by oxygen plasma treatment. , 2020, , .		0
49	Magnetoresistance and spin-torque effect in flexible nanoscale magnetic tunnel junction. Applied Physics Letters, 2019, 115, 052401.	1.5	2
50	Enhanced Broad-band Radio Frequency Detection in Nanoscale Magnetic Tunnel Junction by Interface Engineering. ACS Applied Materials & Interfaces, 2019, 11, 29382-29387.	4.0	17
51	Nonvolatile Photoelectric Memory Induced by Interfacial Charge at a Ferroelectric PZT-Gated Black Phosphorus Transistor. Advanced Electronic Materials, 2019, 5, 1900458.	2.6	31
52	Experimental Demonstration of Spintronic Broadband Microwave Detectors and Their Capability for Powering Nanodevices. Physical Review Applied, 2019, 11, .	1.5	49
53	Fiber-Shaped Electrochemical Capacitors Based on Plasma-Engraved Graphene Fibers with Oxygen Vacancies for Alternating Current Line Filtering Performance. ACS Applied Energy Materials, 2019, 2, 993-999.	2.5	16
54	Multifunctional Photodetectors Based on Nanolayered Black Phosphorus/SnS <sub>0.5</sub> Se <sub>1.5</sub> Heterostructures. ACS Applied Nano Materials, 2019, 2, 3548-3555.	2.4	10

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55	Influence of solid-state electrolyte on 2D SnS <sub>2</sub> field effect transistors. <i>Materials Research Express</i> , 2019, 6, 086320.	0.8	3
56	Sparse neuromorphic computing based on spin-torque diodes. <i>Applied Physics Letters</i> , 2019, 114, .	1.5	28
57	Voltage-Controlled Spintronic Stochastic Neuron Based on a Magnetic Tunnel Junction. <i>Physical Review Applied</i> , 2019, 11, .	1.5	55
58	Accelerated Degradation of CrCl <sub>3</sub> Nanoflakes Induced by Metal Electrodes: Implications for Remediation in Nanodevice Fabrication. <i>ACS Applied Nano Materials</i> , 2019, 2, 1597-1603.	2.4	9
59	Evidence of a strong perpendicular magnetic anisotropy in Au/Co/MgO/GaN heterostructures. <i>Nanoscale Advances</i> , 2019, 1, 4466-4475.	2.2	5
60	Giant nonvolatile manipulation of magnetoresistance in magnetic tunnel junctions by electric fields via magnetoelectric coupling. <i>Nature Communications</i> , 2019, 10, 243.	5.8	94
61	Spin-orbit torques in GaN/NiFe bilayers. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 015001.	1.3	2
62	Multistate Logic Inverter Based on Black Phosphorus/SnSeS Heterostructure. <i>Advanced Electronic Materials</i> , 2019, 5, 1800416.	2.6	24
63	Unidirectional threshold switching in Ag/Si-based electrochemical metallization cells for high-density bipolar RRAM applications. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	1.1	5
64	Sulfur-Doped Black Phosphorus Field-Effect Transistors with Enhanced Stability. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 9663-9668.	4.0	93
65	Realization of forming-free Ag/ZrO <sub>2</sub> -based threshold selector with high selectivity by optimizing film thickness and scaling down electrode size. <i>AIP Advances</i> , 2018, 8, .	0.6	2
66	Electric-Field Control of Spin-Orbit Torques in WS <sub>2</sub> /Permalloy Bilayers. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 2843-2849.	4.0	54
67	Enhanced Stability of Black Phosphorus Field-Effect Transistors via Hydrogen Treatment. <i>Advanced Electronic Materials</i> , 2018, 4, 1700455.	2.6	19
68	Bias-switchable negative and positive photoconductivity in 2D FePS <sub>3</sub> ultraviolet photodetectors. <i>Nanotechnology</i> , 2018, 29, 244001.	1.3	67
69	Ferromagnetic resonance manipulation by electric fields in Ni <sub>81</sub> Fe <sub>19</sub> /Bi <sub>3.15</sub> Nd <sub>0.85</sub> Ti <sub>2.99</sub> Mn <sub>0.01</sub> O <sub>12</sub> multiferroic heterostructures. <i>Applied Physics Letters</i> , 2018, 113, 172407.	1.5	4
70	Micromagnetic understanding of the skyrmion Hall angle current dependence in perpendicularly magnetized ferromagnets. <i>Physical Review B</i> , 2018, 98, .	1.1	16
71	Laser induced nano-patterning with atomic-scale thickness on an InAs/GaAs surface. <i>Semiconductor Science and Technology</i> , 2018, 33, 115021.	1.0	5
72	Ultrahigh detection sensitivity exceeding 105 V/W in spin-torque diode. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	43

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73	Ultrahigh-photoresponsive UV photodetector based on a BP/ReS <sub>2</sub> heterostructure p-n diode. <i>Nanoscale</i> , 2018, 10, 16805-16811.	2.8	61
74	Switching current reduction using MgO cap layer in magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	7
75	Fast Batch Production of High-Quality Graphene Films in a Sealed Thermal Molecular Movement System. <i>Small</i> , 2017, 13, 1700651.	5.2	33
76	Low resistivity of graphene nanoribbons with zigzag-dominated edge fabricated by hydrogen plasma etching combined with Zn/HCl pretreatment. <i>Applied Physics Letters</i> , 2017, 111, 203102.	1.5	3
77	Multilevel storage device based on domain-wall motion in a magnetic tunnel junction. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	44
78	Excellent selector performance in engineered Ag/ZrO <sub>2</sub> :Ag/Pt structure for high-density bipolar RRAM applications. <i>AIP Advances</i> , 2017, 7, .	0.6	15
79	Magnetoresistance Effect in NiFe/BP/NiFe Vertical Spin Valve Devices. <i>Advances in Condensed Matter Physics</i> , 2017, 2017, 1-6.	0.4	11
80	Flexible All-Solid-State Supercapacitors based on Liquid-Exfoliated Black Phosphorus Nanoflakes. <i>Advanced Materials</i> , 2016, 28, 3194-3201.	11.1	290
81	Giant spin-torque diode sensitivity in the absence of bias magnetic field. <i>Nature Communications</i> , 2016, 7, 11259.	5.8	123
82	Large anisotropic thermal transport properties observed in bulk single crystal black phosphorus. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	27
83	Te-Doped Black Phosphorus Field-Effect Transistors. <i>Advanced Materials</i> , 2016, 28, 9408-9415.	11.1	241
84	Large and Anisotropic Linear Magnetoresistance in Single Crystals of Black Phosphorus Arising From Mobility Fluctuations. <i>Scientific Reports</i> , 2016, 6, 23807.	1.6	26
85	Degradation of black phosphorus: a real-time <sup>31</sup> P NMR study. <i>2D Materials</i> , 2016, 3, 035025.	2.0	53
86	Liquid-Exfoliated Black Phosphorous Nanosheet Thin Films for Flexible Resistive Random Access Memory Applications. <i>Advanced Functional Materials</i> , 2016, 26, 2016-2024.	7.8	161
87	Zero-field spin transfer oscillators based on magnetic tunnel junction having perpendicular polarizer and planar free layer. <i>AIP Advances</i> , 2016, 6, 125305.	0.6	8
88	Enhanced stability of black phosphorus field-effect transistors with SiO <sub>2</sub> passivation. <i>Nanotechnology</i> , 2015, 26, 435702.	1.3	102
89	Tunnel magnetoresistance in thermally robust Mo/CoFeB/MgO tunnel junction with perpendicular magnetic anisotropy. <i>AIP Advances</i> , 2015, 5, .	0.6	21
90	Temperature dependence of microwave oscillations in magnetic tunnel junctions with a perpendicularly magnetized free layer. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	8

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91	Scaling behavior of hysteresis in multilayer MoS <sub>2</sub> field effect transistors. Applied Physics Letters, 2014, 105, .	1.5	78
92	Spin transfer nano-oscillators. Nanoscale, 2013, 5, 2219.	2.8	167
93	Ultralow-current-density and bias-field-free spin-transfer nano-oscillator. Scientific Reports, 2013, 3, 1426.	1.6	162
94	Ultrafast spin torque memory based on magnetic tunnel junctions with combined in-plane and perpendicular polarizers. , 2012, , .		1
95	Nanoscale magnetic tunnel junction sensors with perpendicular anisotropy sensing layer. Applied Physics Letters, 2012, 101, 062412.	1.5	48
96	High-Power Coherent Microwave Emission from Magnetic Tunnel Junction Nano-oscillators with Perpendicular Anisotropy. ACS Nano, 2012, 6, 6115-6121.	7.3	125
97	Low writing energy and sub nanosecond spin torque transfer switching of in-plane magnetic tunnel junction for spin torque transfer random access memory. Journal of Applied Physics, 2011, 109, .	1.1	99
98	Switching current reduction using perpendicular anisotropy in CoFeB/MgO magnetic tunnel junctions. Applied Physics Letters, 2011, 98, .	1.5	169
99	Effect of resistance-area product on spin-transfer switching in MgO-based magnetic tunnel junction memory cells. Applied Physics Letters, 2011, 98, .	1.5	49
100	Deep subnanosecond spin torque switching in magnetic tunnel junctions with combined in-plane and perpendicular polarizers. Applied Physics Letters, 2011, 98, .	1.5	82
101	Thermal stability characterization of magnetic tunnel junctions using hard-axis magnetoresistance measurements. Journal of Applied Physics, 2011, 109, 07C708.	1.1	7
102	Enhancement of microwave emission in magnetic tunnel junction oscillators through in-plane field orientation. Applied Physics Letters, 2011, 99, .	1.5	39
103	Strongly anisotropic elastic moduli of nematic elastomers: Analytical expressions and nonlinear temperature dependence. European Physical Journal E, 2010, 32, 71-79.	0.7	9
104	Evolution of spin-wave modes in magnetic tunnel junction nanopillars. Physical Review B, 2010, 82, .	1.1	34
105	Ultralow-current-density and bias-field-free spin-transfer nano-oscillator. , 0, .		1
106	High Spin Hall Conductivity Induced by Ferromagnet and Interface. Advanced Functional Materials, 0, , 2112754.	7.8	4