

Caihua Wan

List of Publications by Year in descending order

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82
papers

2,497
citations

218677

26
h-index

214800

47
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84
all docs

84
docs citations

84
times ranked

2854
citing authors

#	ARTICLE	IF	CITATIONS
1	Current-driven magnetization switching in a van der Waals ferromagnet Fe ₃ GeTe ₂ . Science Advances, 2019, 5, eaaw8904.	10.3	239
2	Néel-type skyrmion in WTe ₂ /Fe ₃ GeTe ₂ van der Waals heterostructure. Nature Communications, 2020, 11, 3860.	12.8	208
3	Spin-orbit torques: Materials, physics, and devices. Applied Physics Letters, 2021, 118, .	3.3	100
4	Magnon Valve Effect between Two Magnetic Insulators. Physical Review Letters, 2018, 120, 097205.	7.8	97
5	Field-Free Programmable Spin Logics via Chirality-Reverseable Spin-Orbit Torque Switching. Advanced Materials, 2018, 30, e1801318.	21.0	91
6	Spin-orbit torque switching in a T-type magnetic configuration with current orthogonal to easy axes. Nature Communications, 2019, 10, 233.	12.8	91
7	Geometrical enhancement of low-field magnetoresistance in silicon. Nature, 2011, 477, 304-307.	27.8	82
8	Spin-orbit torque in MgO/CoFeB/Ta/CoFeB/MgO symmetric structure with interlayer antiferromagnetic coupling. Physical Review B, 2017, 95, .	3.2	82
9	Observation of magnon-mediated electric current drag at room temperature. Physical Review B, 2016, 93, .	3.2	76
10	Anatomy of Skyrmionic Textures in Magnetic Multilayers. Advanced Materials, 2019, 31, e1807683.	21.0	75
11	Spin gapless semiconductor like Ti ₂ MnAl film as a new candidate for spintronics application. Physica Status Solidi - Rapid Research Letters, 2015, 9, 641-645.	2.4	70
12	Creating zero-field skyrmions in exchange-biased multilayers through X-ray illumination. Nature Communications, 2020, 11, 949.	12.8	67
13	Programmable Spin Logic Based on Spin Hall Effect in a Single Device. Advanced Electronic Materials, 2017, 3, 1600282.	5.1	59
14	Current-induced magnetization switching in a CoTb amorphous single layer. Physical Review B, 2020, 101, .	3.2	59
15	Scaling relation between anomalous Nernst and Hall effect in $Pt/irMn$. Physical Review B, 2016, 93, .		
16	Field-free spin Hall effect driven magnetization switching in Pd/Co/IrMn exchange coupling system. Applied Physics Letters, 2016, 109, .	3.3	48
17	Magnon valves based on YIG/NiO/YIG all-insulating magnon junctions. Physical Review B, 2018, 98, .	3.2	48
18	Spin-orbit torque switching in perpendicular Y ₃ Fe ₅ O ₁₂ /Pt bilayer. Applied Physics Letters, 2019, 114, .	3.3	47

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19	Electrical control over perpendicular magnetization switching driven by spin-orbit torques. <i>Physical Review B</i> , 2016, 94, .	3.2	40
20	Observation of pure inverse spin Hall effect in ferromagnetic metals via ferromagnetic/antiferromagnetic exchange-bias structures. <i>Physical Review B</i> , 2015, 92, .	3.2	38
21	Strong Electrical Manipulation of Spin-Orbit Torque in Ferromagnetic Heterostructures. <i>Advanced Electronic Materials</i> , 2016, 2, 1600219.	5.1	37
22	A Van der Waals Interface Hosting Two Groups of Magnetic Skyrmions. <i>Advanced Materials</i> , 2022, 34, e2110583.	21.0	37
23	All-electrical manipulation of magnetization in magnetic tunnel junction via spin-orbit torque. <i>Applied Physics Letters</i> , 2020, 116, 162401.	3.3	34
24	A nonlocal spin Hall magnetoresistance in a platinum layer deposited on a magnon junction. <i>Nature Electronics</i> , 2020, 3, 304-308.	26.0	32
25	Noise suppression and sensitivity manipulation of magnetic tunnel junction sensors with soft magnetic Co _{70.5} Fe _{4.5} Si ₁₅ B ₁₀ layer. <i>Journal of Applied Physics</i> , 2017, 122, .	2.5	28
26	Electro- and magneto-transport properties of amorphous carbon films doped with iron. <i>Diamond and Related Materials</i> , 2011, 20, 26-30.	3.9	27
27	Large, Linear, and Tunable Positive Magnetoresistance of Mechanically Stable Graphene Foam—Toward High-Performance Magnetic Field Sensors. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 1891-1898.	8.0	27
28	Exchange bias and spin-orbit torque in the Fe ₃ GeTe ₂ -based heterostructures prepared by vacuum exfoliation approach. <i>Applied Physics Letters</i> , 2021, 118, .	3.3	27
29	Determining spin-torque efficiency in ferromagnetic metals via spin-torque ferromagnetic resonance. <i>Physical Review B</i> , 2020, 101, .	3.2	26
30	Magnetic response of hybrid ferromagnetic and antiferromagnetic core-shell nanostructures. <i>Nanoscale</i> , 2016, 8, 6064-6070.	5.6	25
31	Room-temperature nonsaturating magnetoresistance of intrinsic bulk silicon in high pulsed magnetic fields. <i>Applied Physics Letters</i> , 2011, 98, .	3.3	23
32	Magnetotransport properties of undoped amorphous carbon films. <i>Carbon</i> , 2013, 59, 278-282.	10.3	23
33	Coherent Resonant Tunneling through Double Metallic Quantum Well States. <i>Nano Letters</i> , 2019, 19, 3019-3026.	9.1	22
34	Characterization of Spin-Orbit Torque Efficiency in Magnetic Heterostructures with Perpendicular Magnetic Anisotropy via Spin-Torque Ferromagnetic Resonance. <i>Physical Review Applied</i> , 2020, 13, .	3.8	22
35	Field-Free Spin-Orbit Torque Switching in Perpendicularly Magnetized Synthetic Antiferromagnets. <i>Advanced Functional Materials</i> , 2022, 32, 2109455.	14.9	21
36	Experimental demonstration of programmable multi-functional spin logic cell based on spin Hall effect. <i>Journal of Magnetism and Magnetic Materials</i> , 2017, 428, 401-405.	2.3	20

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37	Observation of large anomalous Nernst effect in 2D layered materials Fe ₃ GeTe ₂ . Applied Physics Letters, 2019, 115, .	3.3	20
38	Polarization-Mediated Thermal Stability of Metal/Oxide Heterointerface. Advanced Materials, 2015, 27, 6934-6938.	21.0	19
39	Study of spin-orbit torque induced magnetization switching in synthetic antiferromagnet with ultrathin Ta spacer layer. Applied Physics Letters, 2018, 113, .	3.3	19
40	Evidence of magnetization switching by anomalous spin Hall torque in NiFe. Physical Review B, 2020, 101, .	3.2	19
41	Nonlocal magnetoresistance due to Lorentz force in linear transport region in bulk silicon. Applied Physics Letters, 2013, 103, .	3.3	17
42	Transition of laser-induced terahertz spin currents from torque- to conduction-electron-mediated transport. Physical Review B, 2022, 105, .	3.2	17
43	Controllable synthesis of ferromagnetic-antiferromagnetic core-shell NWs with tunable magnetic properties. Nanoscale, 2017, 9, 5694-5700.	5.6	16
44	Record thermopower found in an IrMn-based spintronic stack. Nature Communications, 2020, 11, 2023.	12.8	16
45	Origin of the large voltage-controlled magnetic anisotropy in a Cr/Fe/MgO junction with an ultrathin Fe layer: First-principles investigation. Physical Review B, 2020, 101, .	3.2	15
46	Magnetoresistance sign change in iron-doped amorphous carbon films at low temperatures. Journal Physics D: Applied Physics, 2014, 47, 215002.	2.8	14
47	Determination of spin relaxation times in heavy metals via second-harmonic spin injection magnetoresistance. Physical Review B, 2017, 96, .	3.2	14
48	Current-Induced In-Plane Magnetization Switching in a Biaxial Ferrimagnetic Insulator. Physical Review Applied, 2020, 13, .	3.8	14
49	Abnormal humidity-dependent electrical properties of amorphous carbon/silicon heterojunctions. Applied Physics Letters, 2010, 97, .	3.3	12
50	Temperature-dependent resistive switching of amorphous carbon/silicon heterojunctions. Diamond and Related Materials, 2012, 22, 37-41.	3.9	12
51	Magnetic Modulation of Terahertz Waves via Spin-Polarized Electron Tunneling Based on Magnetic Tunnel Junctions. Physical Review Applied, 2020, 14, .	3.8	12
52	Spin transmission in IrMn through measurements of spin Hall magnetoresistance and spin-orbit torque. Physical Review B, 2020, 101, .	3.2	11
53	Gradual magnetization switching via domain nucleation driven by spin-orbit torque. Applied Physics Letters, 2021, 118, 032407.	3.3	11
54	Electrical Spin Injection into the 2D Electron Gas in AlN/GaN Heterostructures with Ultrathin AlN Tunnel Barrier. Advanced Functional Materials, 2021, 31, 2009771.	14.9	11

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55	Switching the perpendicular magnetization of a magnetic insulator by magnon transfer torque. <i>Physical Review B</i> , 2021, 104, .	3.2	11
56	Magnon junction effect in Y3Fe5O12/CoO/Y3Fe5O12 insulating heterostructures. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	9
57	Spin Hall Magnetoresistance in CoFe₂/O₄/Pt Films. <i>IEEE Transactions on Magnetics</i> , 2015, 51, 1-4.	2.1	8
58	Magnetoresistance and Hall resistivity of semimetal WTe₂ ultrathin flakes. <i>Nanotechnology</i> , 2017, 28, 145704.	2.6	7
59	Microwave Spin-Torque-Induced Magnetic Resonance in a Nanoring-Shape-Confined Magnetic Tunnel Junction. <i>Physical Review Applied</i> , 2018, 10, .	3.8	7
60	Regulating the anomalous Hall and Nernst effects in Heusler-based trilayers. <i>Applied Physics Letters</i> , 2020, 117, .	3.3	7
61	Spin relaxation induced by interfacial effects in n-GaN/MgO/Co spin injectors. <i>RSC Advances</i> , 2020, 10, 12547-12553.	3.6	7
62	Current-Induced Manipulation of the Exchange Bias in a Pt/Co/NiO Structure. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 42258-42265.	8.0	7
63	Magneto-Seebeck effect in magnetic tunnel junctions with perpendicular anisotropy. <i>AIP Advances</i> , 2017, 7, 015035.	1.3	6
64	Thermally activated magnetization back-hopping based true random number generator in nano-ring magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2019, 114, .	3.3	6
65	Piezoelectric Strain-Controlled Magnon Spin Current Transport in an Antiferromagnet. <i>Nano Letters</i> , 2022, 22, 4646-4653.	9.1	6
66	Room temperature spin injection into SiC via Schottky barrier. <i>Applied Physics Letters</i> , 2018, 113, 222402.	3.3	5
67	Electron-Phonon Interaction Enables Strong Thermoelectric Seebeck Effect Variation in Hybrid Nanoscale Systems. <i>Journal of Physical Chemistry C</i> , 2021, 125, 13167-13175.	3.1	5
68	Efficient Spin-Orbit-Torque Switching Assisted by an Effective Perpendicular Field in a Magnetic Trilayer. <i>Physical Review Applied</i> , 2021, 16, .	3.8	5
69	Magneto-Seebeck effect in spin valves. <i>Journal of Applied Physics</i> , 2017, 122, .	2.5	5
70	Role of an in-plane ferromagnet in a T-type structure for field-free magnetization switching. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	5
71	The dependence of barrier heights of a-C: Fe/n-Si heterojunctions on film-depositing temperatures. <i>Journal of Applied Physics</i> , 2011, 109, 103706.	2.5	2
72	Channel Switching Effect and Magnetoresistance in Iron Doped Amorphous Carbon Films on Silicon Substrates. <i>IEEE Transactions on Magnetics</i> , 2011, 47, 2732-2734.	2.1	2

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73	Tunneling anisotropic magnetoresistance in fully epitaxial magnetic tunnel junctions with different barriers. Applied Physics Letters, 2018, 112, 242404.	3.3	2
74	Materials, physics, and devices of spin-orbit torque effect. Applied Physics Letters, 2021, 118, 180401.	3.3	2
75	Nonvolatile magnetic half adder combined with memory writing. Applied Physics Letters, 2021, 118, .	3.3	2
76	Type-Y magnetic tunnel junctions with CoFeB doped tungsten as spin current source. Applied Physics Letters, 2022, 120, .	3.3	2
77	Influence of epitaxial BiFeO3 on superparamagnetic behavior of CoFeB thin film. Journal of Applied Physics, 2015, 117, 143904.	2.5	1
78	Nonlocal ordinary magnetoresistance in indium arsenide. Journal of Magnetism and Magnetic Materials, 2015, 385, 292-294.	2.3	1
79	Spin seebeck and spin-dependent seebeck effect in ferromagnetic thin films. , 2016, , .		1
80	Ferromagnetic resonance linewidth broadening induced by a tunable inhomogeneity effect. Journal of Magnetism and Magnetic Materials, 2021, 517, 167215.	2.3	1
81	Field-free programmable spin logics based on spin Hall effect. Applied Physics Letters, 2021, 119, .	3.3	1
82	Magnetic modulation of terahertz waves via spin-polarized electron tunneling. , 2021, , .		0