

# Kang L Wang

## List of Publications by Year in descending order

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147  
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citations

28190

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21474

114  
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152  
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152  
docs citations

152  
times ranked

11148  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thickness-Driven Quantum Anomalous Hall Phase Transition in Magnetic Topological Insulator Thin Films. ACS Nano, 2022, 16, 1134-1141.	7.3	4
2	Manipulating Exchange Bias in a Van der Waals Ferromagnet. Advanced Materials, 2022, 34, e2105266.	11.1	16
3	Topological spintronics and magnetoelectronics. Nature Materials, 2022, 21, 15-23.	13.3	101
4	Current-induced Néel order switching facilitated by magnetic phase transition. Nature Communications, 2022, 13, 1629.	5.8	13
5	A Van der Waals Interface Hosting Two Groups of Magnetic Skyrmions. Advanced Materials, 2022, 34, e2110583.	11.1	37
6	Field-free approaches for deterministic spin-orbit torque switching of the perpendicular magnet. Materials Futures, 2022, 1, 022201.	3.1	20
7	Quantum anomalous Hall and valley quantum anomalous Hall effects in two-dimensional $d$ -orbital monolayers. Physical Review Materials, 2022, 6, .	0.9	15
8	Efficient Spin-Orbit Torque Switching of Perpendicular Magnetization using Topological Insulators with High Thermal Tolerance. Advanced Electronic Materials, 2022, 8, .	2.6	6
9	Mesoscopic Transport of Quantum Anomalous Hall Effect in the Submicron Size Regime. Physical Review Letters, 2022, 128, .	2.9	12
10	RF Characterization on Nb-based Superconducting Silicon Interconnect Fabric for Future Large Scale Quantum Applications. , 2022, , .		0
11	Ultrafast optical control of surface and bulk magnetism in magnetic topological insulator/antiferromagnet heterostructure. Scientific Reports, 2022, 12, .	1.6	2
12	Faraday Rotation Due to Quantum Anomalous Hall Effect in Cr-Doped (Bi,Sb)2Te3. Crystals, 2021, 11, 154.	1.0	2
13	Electrical and optical characterizations of spin-orbit torque. Applied Physics Letters, 2021, 118, 072405.	1.5	3
14	A thermodynamic core using voltage-controlled spin-orbit-torque magnetic tunnel junctions. Nanotechnology, 2021, 32, 505405.	1.3	4
15	Experimental demonstration of voltage-gated spin-orbit torque switching in an antiferromagnet/ferromagnet structure. Physical Review B, 2021, 103, .	1.1	14
16	Temperature dependence of spin-orbit torque-driven magnetization switching in <i>in situ</i> grown Bi2Te3/MnTe heterostructures. Applied Physics Letters, 2021, 118, .	1.5	12
17	Self-stabilizing exchange-mediated spin transport. Physical Review B, 2021, 103, .	1.1	9
18	Enhancement of spin-to-charge conversion efficiency in topological insulators by interface engineering. APL Materials, 2021, 9, .	2.2	15

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19	Roadmap of Spin-Orbit Torques. IEEE Transactions on Magnetics, 2021, 57, 1-39.	1.2	225
20	Bulk dissipation in the quantum anomalous Hall effect. APL Materials, 2021, 9, 081116.	2.2	12
21	A Calibration-Free In-Memory True Random Number Generator Using Voltage-Controlled MRAM. , 2021, , .		0
22	Magnetic memory driven by topological insulators. Nature Communications, 2021, 12, 6251.	5.8	67
23	A Calibration-Free In-Memory True Random Number Generator Using Voltage-Controlled MRAM. , 2021, , .		1
24	Conversion between spin and charge currents in topological-insulator/nonmagnetic-metal systems. Physical Review B, 2021, 104, .	1.1	3
25	Fine-Pitch ( $\approx 10 \text{ \AA}$ ) Nb-based Superconducting Silicon Interconnect Fabric for Large-Scale Quantum System Application. , 2021, , .		1
26	Spectroscopic fingerprint of chiral Majorana modes at the edge of a quantum anomalous Hall insulator/superconductor heterostructure. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 238-242.	3.3	22
27	Observation of Quantum Anomalous Hall Effect and Exchange Interaction in Topological Insulator/Antiferromagnet Heterostructure. Advanced Materials, 2020, 32, e2001460.	11.1	27
28	Above Room-Temperature Ferromagnetism in Wafer-Scale Two-Dimensional van der Waals $\text{Fe}_3\text{GeTe}_2$ Tailored by a Topological Insulator. ACS Nano, 2020, 14, 10045-10053.	7.3	124
29	Ferrimagnetic Skyrmions in Topological Insulator/Ferrimagnet Heterostructures. Advanced Materials, 2020, 32, e2003380.	11.1	41
30	Large exchange splitting in monolayer graphene magnetized by an antiferromagnet. Nature Electronics, 2020, 3, 604-611.	13.1	36
31	$\text{N}^{\text{el}}$ -type skyrmion in $\text{WTe}_2/\text{Fe}_3\text{GeTe}_2$ van der Waals heterostructure. Nature Communications, 2020, 11, 3860.	5.8	208
32	Termination switching of antiferromagnetic proximity effect in topological insulator. Science Advances, 2020, 6, eaaz8463.	4.7	20
33	Enhancement of the spin-orbit torque efficiency in $\text{W}/\text{Cu}/\text{CoFeB}$ heterostructures via interface engineering. Applied Physics Letters, 2020, 117, 082409.	1.5	6
34	Exchange bias switching in an antiferromagnet/ferromagnet bilayer driven by spin-orbit torque. Nature Electronics, 2020, 3, 757-764.	13.1	99
35	Interfacial spin transmission and spin-orbit torques in as-grown and annealed $\text{W}/\text{Co}_2\text{FeAl}/\text{MgO}$ multilayers. Applied Physics Letters, 2020, 117, .	1.5	8
36	Topological quantum materials. MRS Bulletin, 2020, 45, 373-379.	1.7	3

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37	Probing the low-temperature limit of the quantum anomalous Hall effect. <i>Science Advances</i> , 2020, 6, eaaz3595.	4.7	35
38	Study of the perpendicular magnetic anisotropy, spin-orbit torque, and Dzyaloshinskii-Moriya interaction in the heavy metal/CoFeB bilayers with Ir <sub>22</sub> Mn <sub>78</sub> insertion. <i>Applied Physics Letters</i> , 2020, 116, 242407.	1.5	8
39	Creation and annihilation of non-volatile fixed magnetic skyrmions using voltage control of magnetic anisotropy. <i>Nature Electronics</i> , 2020, 3, 539-545.	13.1	76
40	Strongly Surface State Carrier-Dependent Spin-Orbit Torque in Magnetic Topological Insulators. <i>Advanced Materials</i> , 2020, 32, e1907661.	11.1	29
41	Resistive switching materials for information processing. <i>Nature Reviews Materials</i> , 2020, 5, 173-195.	23.3	668
42	Record thermopower found in an IrMn-based spintronic stack. <i>Nature Communications</i> , 2020, 11, 2023.	5.8	16
43	Two-dimensional spintronics for low-power electronics. <i>Nature Electronics</i> , 2019, 2, 274-283.	13.1	334
44	Spin-Orbit Torque Switching of a Nearly Compensated Ferrimagnet by Topological Surface States. <i>Advanced Materials</i> , 2019, 31, e1901681.	11.1	81
45	Epitaxial Growth of Bi <sub>2</sub> X <sub>3</sub> Topological Insulators. <i>Springer Series in Materials Science</i> , 2019, , 319-349.	0.4	1
46	Field-Free Spin-Orbit Torque Switching of Perpendicular Magnetization by the Rashba Interface. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 39369-39375.	4.0	45
47	Interfacial States and Fano-Feshbach Resonance in Graphene-Silicon Vertical Junction. <i>Nano Letters</i> , 2019, 19, 6765-6771.	4.5	2
48	Unidirectional Magneto-Resistance in Modulation-Doped Magnetic Topological Insulators. <i>Nano Letters</i> , 2019, 19, 692-698.	4.5	20
49	Exploring interfacial exchange coupling and sublattice effect in heavy metal/ferrimagnetic insulator heterostructures using Hall measurements, x-ray magnetic circular dichroism, and neutron reflectometry. <i>Physical Review B</i> , 2019, 99, .	1.1	39
50	Planar Hall Effect in Antiferromagnetic MnTe Thin Films. <i>Physical Review Letters</i> , 2019, 122, 106602.	2.9	29
51	Large Tunneling Magnetoresistance in VSe <sub>2</sub> /MoS <sub>2</sub> Magnetic Tunnel Junction. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 17647-17653.	4.0	65
52	Room-Temperature Spin-Orbit Torque from Topological Surface States. <i>Physical Review Letters</i> , 2019, 123, 207205.	2.9	129
53	Heat-assisted microwave amplifier. <i>Nature Nanotechnology</i> , 2019, 14, 9-11.	15.6	2
54	Review of Quantum Hall Trio. <i>Journal of Physics and Chemistry of Solids</i> , 2019, 128, 2-23.	1.9	10

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55	Interfacial Dzyaloshinskii-Moriya Interaction: Effect of $\frac{d}{d}$ Band Filling and Correlation with Spin Mixing Conductance. Physical Review Letters, 2018, 120, 157204.	2.9	116
56	Room-Temperature Skyrmions in an Antiferromagnet-Based Heterostructure. Nano Letters, 2018, 18, 980-986.	4.5	98
57	A Study of Vertical Transport through Graphene toward Control of Quantum Tunneling. Nano Letters, 2018, 18, 682-688.	4.5	13
58	Investigation of single-mode vertical-cavity surface-emitting lasers with graphene-bubble dielectric DBR. Photonics and Nanostructures - Fundamentals and Applications, 2018, 28, 56-60.	1.0	7
59	Room Temperature Highly Efficient Topological Insulator/Mo/CoFeB Spin-Orbit Torque Memory with Perpendicular Magnetic Anisotropy. 2018.		21
60	Spin-Torque Ferromagnetic Resonance in $W$		23
61	Correlation between the Dzyaloshinskii-Moriya interaction and spin-mixing conductance at an antiferromagnet/ferromagnet interface. Physical Review B, 2018, 98, .	1.1	13
62	Part-per-million quantization and current-induced breakdown of the quantum anomalous Hall effect. Physical Review B, 2018, 98, .	1.1	65
63	Role of dimensional crossover on spin-orbit torque efficiency in magnetic insulator thin films. Nature Communications, 2018, 9, 3612.	5.8	84
64	Topological Transitions Induced by Antiferromagnetism in a Thin-Film Topological Insulator. Physical Review Letters, 2018, 121, 096802.	2.9	42
65	Nanoscale Engineering of Ge-based Diluted Magnetic Semiconductors for Room-Temperature Spintronics Application. , 2018, , 403-419.		1
66	Exchange-biasing topological charges by antiferromagnetism. Nature Communications, 2018, 9, 2767.	5.8	61
67	Proximity-Induced Magnetic Order in a Transferred Topological Insulator Thin Film on a Magnetic Insulator. ACS Nano, 2018, 12, 5042-5050.	7.3	41
68	Nanoengineering of an Si/MnGe quantum dot superlattice for high Curie-temperature ferromagnetism. Nanoscale, 2017, 9, 3086-3094.	2.8	13
69	Joule Heating Effect on Field-Free Magnetization Switching by Spin-Orbit Torque in Exchange-Biased Systems. Physical Review Applied, 2017, 7, .	1.5	48
70	Enhancement of voltage-controlled magnetic anisotropy through precise control of Mg insertion thickness at CoFeB MgO interface. Applied Physics Letters, 2017, 110, .	1.5	92
71	Room-Temperature Skyrmion Shift Device for Memory Application. Nano Letters, 2017, 17, 261-268.	4.5	227
72	Atomic-Monolayer Two-Dimensional Lateral Quasi-Heterojunction Bipolar Transistors with Resonant Tunneling Phenomenon. ACS Nano, 2017, 11, 11015-11023.	7.3	45

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73	Anomalous Nernst effect in Ir <sub>22</sub> Mn <sub>78</sub> /Co <sub>20</sub> Fe <sub>60</sub> B <sub>20</sub> /MgO layers with perpendicular magnetic anisotropy. Applied Physics Letters, 2017, 111, .	1.5	24
74	Zero-field edge plasmons in a magnetic topological insulator. Nature Communications, 2017, 8, 1836.	5.8	32
75	Dzyaloshinskii-Moriya Interaction across an Antiferromagnet-Ferromagnet Interface. Physical Review Letters, 2017, 119, 027202.	2.9	75
76	Deficiency of the bulk spin Hall effect model for spin-orbit torques in magnetic-insulator/heavy-metal heterostructures. Physical Review B, 2017, 95, .	1.1	23
77	Tailoring exchange couplings in magnetic topological-insulator/antiferromagnet heterostructures. Nature Materials, 2017, 16, 94-100.	13.3	137
78	Effects of annealing on the magnetic properties and microstructures of Ta/Mo/CoFeB/MgO/Ta films. Journal of Alloys and Compounds, 2017, 692, 243-248.	2.8	20
79	Direct observation of the skyrmion Hall effect. Nature Physics, 2017, 13, 162-169.	6.5	858
80	Chiral transport along magnetic domain walls in the quantum anomalous Hall effect. Npj Quantum Materials, 2017, 2, .	1.8	37
81	Engineering Magnetoresistance in Mn <sub>x</sub> Ge <sub>1-x</sub> System for Magnetic Sensor Application. , 2017, , .		0
82	Heteroepitaxial Growth of III-V Semiconductors on 2D Materials. , 2016, , .		4
83	Competing effect of spin-orbit torque terms on perpendicular magnetization switching in structures with multiple inversion asymmetries. Scientific Reports, 2016, 6, 23956.	1.6	21
84	Spin-torque ferromagnetic resonance measurements utilizing spin Hall magnetoresistance in W/Co <sub>40</sub> Fe <sub>40</sub> B <sub>20</sub> /MgO structures. Applied Physics Letters, 2016, 109, .	1.5	36
85	Influence of inserted Mo layer on the thermal stability of perpendicularly magnetized Ta/Mo/Co <sub>20</sub> Fe <sub>60</sub> B <sub>20</sub> /MgO/Ta films. AIP Advances, 2016, 6, .	0.6	8
86	In-plane current-driven spin-orbit torque switching in perpendicularly magnetized films with enhanced thermal tolerance. Applied Physics Letters, 2016, 108, .	1.5	26
87	Spin-orbit torques in perpendicularly magnetized Ir <sub>22</sub> Mn <sub>78</sub> /Co <sub>20</sub> Fe <sub>60</sub> B <sub>20</sub> /MgO multilayer. Applied Physics Letters, 2016, 109, .	1.5	58
88	Versatile Fabrication of Self-Aligned Nanoscale Hall Devices Using Nanowire Masks. Nano Letters, 2016, 16, 3109-3115.	4.5	4
89	Atomic-Monolayer MoS <sub>2</sub> Band-to-Band Tunneling Field-Effect Transistor. Small, 2016, 12, 5676-5683.	5.2	41
90	Strong Electrical Manipulation of Spin-Orbit Torque in Ferromagnetic Heterostructures. Advanced Electronic Materials, 2016, 2, 1600219.	2.6	37

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91	Interfacial control of Dzyaloshinskii-Moriya interaction in heavy metal/ferromagnetic metal thin film heterostructures. <i>Physical Review B</i> , 2016, 94, .	1.1	72
92	Electric-Field Control of Spin-Orbit Interaction for Low-Power Spintronics. <i>Proceedings of the IEEE</i> , 2016, 104, 1974-2008.	16.4	53
93	Strong Rashba-Edelstein Effect-Induced Spin-Orbit Torques in Monolayer Transition Metal Dichalcogenide/Ferromagnet Bilayers. <i>Nano Letters</i> , 2016, 16, 7514-7520.	4.5	247
94	Enhancing electric-field control of ferromagnetism through nanoscale engineering of high-Tc $Mn_xGe_{1-x}$ nanomesh. <i>Nature Communications</i> , 2016, 7, 12866.	5.8	35
95	Spintronics Based on Topological Insulators. <i>Spin</i> , 2016, 06, 1640001.	0.6	77
96	Room-Temperature Creation and Spin-Orbit Torque Manipulation of Skyrmions in Thin Films with Engineered Asymmetry. <i>Nano Letters</i> , 2016, 16, 1981-1988.	4.5	275
97	Electric-field control of spin-orbit torque in a magnetically doped topological insulator. <i>Nature Nanotechnology</i> , 2016, 11, 352-359.	15.6	212
98	Magnetic Tunnel Junctions and Their Applications in Non-volatile Circuits. , 2016, , 1127-1171.		0
99	Resonant magneto-optic Kerr effect in the magnetic topological insulator $Cr_2Te_3$ . <i>Physical Review B</i> , 2015, 92, .	1.1	7
100	Thermally stable voltage-controlled perpendicular magnetic anisotropy in $Mo/CoFeB/MgO$ structures. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	47
101	Slip model of the 2015 $M_w 7.8$ Gorkha (Nepal) earthquake from inversions of ALOS-2 and GPS data. <i>Geophysical Research Letters</i> , 2015, 42, 7452-7458.	1.5	129
102	Theoretical and experimental study of highly textured GaAs on silicon using a graphene buffer layer. <i>Journal of Crystal Growth</i> , 2015, 425, 268-273.	0.7	25
103	Blowing magnetic skyrmion bubbles. <i>Science</i> , 2015, 349, 283-286.	6.0	1,177
104	Size reduction and dual mode degeneracy in microstrip patch antenna using periodically rippled silicon substrate. , 2015, , .		0
105	Electric-field-controlled MRAM based on voltage control of magnetic anisotropy (VCMA): Recent progress and perspectives. , 2015, , .		2
106	Magneto-optical investigation of spin-orbit torques in metallic and insulating magnetic heterostructures. <i>Nature Communications</i> , 2015, 6, 8958.	5.8	80
107	Quest for high-Curie temperature $Mn_{1-x}Ge_x$ diluted magnetic semiconductors for room-temperature spintronics applications. <i>Journal of Crystal Growth</i> , 2015, 425, 279-282.	0.7	28
108	Magnetic Tunnel Junctions and Their Applications in Nonvolatile Circuits. , 2015, , 1-36.		2

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109	Electric Control of Magnetic Devices for Spintronic Computing. , 2015, , 53-112.		0
110	Precise Quantization of the Anomalous Hall Effect near Zero Magnetic Field. Physical Review Letters, 2015, 114, 187201.	2.9	255
111	Current-induced spin-orbit torque switching of perpendicularly magnetized Hf CoFeB MgO and Hf CoFeB TaOx structures. Applied Physics Letters, 2015, 106, .	1.5	55
112	Metal-to-insulator switching in quantum anomalous Hall states. Nature Communications, 2015, 6, 8474.	5.8	136
113	Spintronics of Topological Insulators. , 2015, , 1-25.		0
114	Selectively grown GaAs nanodisks on Si(100) by molecular beam epitaxy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, 02C111.	0.6	3
115	Current-driven perpendicular magnetization switching in Ta/CoFeB/[TaOx or MgO/TaOx] films with lateral structural asymmetry. Applied Physics Letters, 2014, 105, .	1.5	71
116	Nanoscale Growth of GaAs on Patterned Si(111) Substrates by Molecular Beam Epitaxy. Crystal Growth and Design, 2014, 14, 593-598.	1.4	24
117	Switching of perpendicular magnetization by spin <sup>o</sup> orbit torques in the absence of external magnetic fields. Nature Nanotechnology, 2014, 9, 548-554.	15.6	753
118	Electrical Detection of Spin-Polarized Surface States Conduction in (Bi <sub>0.53</sub> Sb <sub>0.47</sub> ) <sub>2</sub> Te <sub>3</sub> Topological Insulator. Nano Letters, 2014, 14, 5423-5429.	4.5	150
119	Scale-Invariant Quantum Anomalous Hall Effect in Magnetic Topological Insulators beyond the Two-Dimensional Limit. Physical Review Letters, 2014, 113, 137201.	2.9	453
120	Magnetization switching through spin-Hall-effect-induced chiral domain wall propagation. Physical Review B, 2014, 89, .	1.1	121
121	Proximity Induced High-Temperature Magnetic Order in Topological Insulator - Ferrimagnetic Insulator Heterostructure. Nano Letters, 2014, 14, 3459-3465.	4.5	192
122	Towards van der Waals Epitaxial Growth of GaAs on Si using a Graphene Buffer Layer. Advanced Functional Materials, 2014, 24, 6629-6638.	7.8	113
123	Magnetization switching through giant spin <sup>o</sup> orbit torque in a magnetically doped topological insulator heterostructure. Nature Materials, 2014, 13, 699-704.	13.3	773
124	Electrical Spin Injection and Detection in Mn <sub>5</sub> Ge <sub>3</sub> /Ge/Mn <sub>5</sub> Ge <sub>3</sub> Nanowire Transistors. Nano Letters, 2013, 13, 4036-4043.	4.5	54
125	Manipulating Surface-Related Ferromagnetism in Modulation-Doped Topological Insulators. Nano Letters, 2013, 13, 4587-4593.	4.5	77
126	Interplay between Different Magnetisms in Cr-Doped Topological Insulators. ACS Nano, 2013, 7, 9205-9212.	7.3	114



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145	Energy-Efficient Routing Algorithms Using Directional Antennas for Mobile Ad Hoc Networks. International Journal of Wireless Information Networks, 2002, 9, 105-118.	1.8	3
146	Electron-spin-resonance transistors for quantum computing in silicon-germanium heterostructures. Physical Review A, 2000, 62, .	1.0	733
147	Characterization of cross-plane thermoelectric properties of Si/Ge superlattices. , 0, , .		2