

# Xin-Cheng Xie

## List of Publications by Year in descending order

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128  
papers

3,608  
citations

159358

30  
h-index

155451

55  
g-index

129  
all docs

129  
docs citations

129  
times ranked

3813  
citing authors

#	ARTICLE	IF	CITATIONS
1	Signatures of a strange metal in a bosonic system. <i>Nature</i> , 2022, 601, 205-210.	13.7	27
2	Unveiling non-Abelian statistics of vortex Majorana bound states in iron-based superconductors using fermionic modes. <i>Physical Review B</i> , 2022, 105, .	1.1	2
3	Non-Abelian statistics of Majorana zero modes in the presence of an Andreev bound state. <i>Physical Review B</i> , 2022, 105, .	1.1	7
4	New piece of the jigsaw for orbital/bond order in a kagome superconductor. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	2.0	0
5	Non-Abelian Braiding in Spin Superconductors Utilizing the Aharonov-Casher Effect. <i>Physical Review Letters</i> , 2022, 128, 106804.	2.9	6
6	Emergent Weyl fermions in an orbital multipolar ordered phase. <i>Physical Review B</i> , 2022, 105, .	1.1	0
7	Spin waves in magnetic Weyl semimetals. <i>Science China: Physics, Mechanics and Astronomy</i> , 2021, 64, 1.	2.0	3
8	Disorder effects on quantum transport and quantum phase transition in low-dimensional superconducting and topological systems. <i>Advances in Physics: X</i> , 2021, 6, .	1.5	7
9	Chiral interface states and related quantized transport in disordered Chern insulators. <i>Physical Review B</i> , 2021, 103, .	1.1	12
10	Critical Behavior and Universal Signature of an Axion Insulator State. <i>Physical Review Letters</i> , 2021, 126, 156601.	2.9	23
11	A new type of Andreev reflection. <i>Science China: Physics, Mechanics and Astronomy</i> , 2021, 64, 1.	2.0	0
12	Valley-selective Floquet Chern flat bands in twisted multilayer graphene. <i>Physical Review B</i> , 2021, 103, .	1.1	11
13	Orbital order in a bosonic $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"> \langle \text{mml:mi} \rangle \text{p} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -band triangular lattice. <i>Physical Review B</i> , 2021, 103, .	1.1	4
14	Using nonlocal surface transport to identify the axion insulator. <i>Physical Review B</i> , 2021, 103, .	1.1	33
15	Cycling Fermi arc electrons with Weyl orbits. <i>Nature Reviews Physics</i> , 2021, 3, 660-670.	11.9	17
16	Theory for Magnetic-Field-Driven 3D Metal-Insulator Transitions in the Quantum Limit. <i>Physical Review Letters</i> , 2021, 127, 046602.	2.9	11
17	Field-Tunable One-Sided Higher-Order Topological Hinge States in Dirac Semimetals. <i>Physical Review Letters</i> , 2021, 127, 066801.	2.9	28
18	Quantum theory of the nonlinear Hall effect. <i>Nature Communications</i> , 2021, 12, 5038.	5.8	55

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19	Nonlinear Hall effects. Nature Reviews Physics, 2021, 3, 744-752.	11.9	104
20	Quantum Hall effect originated from helical edge states in $\text{Cd}_{1-x}\text{Mn}_x\text{Te}$ . Physical Review Research, 2021, 3, .	1.3	10
21	Half-integer Shapiro steps in strong ferromagnetic Josephson junctions. Physical Review B, 2021, 104, .	1.1	3
22	Observation of In-Plane Quantum Griffiths Singularity in Two-Dimensional Crystalline Superconductors. Physical Review Letters, 2021, 127, 137001.	2.9	17
23	Minimal setup for non-Abelian braiding of Majorana zero modes. Science China: Physics, Mechanics and Astronomy, 2021, 64, .	2.0	11
24	Coulomb Instabilities of a Three-Dimensional Higher-Order Topological Insulator. Physical Review Letters, 2021, 127, 176601.	2.9	22
25	Multiorbital model reveals a second-order topological insulator in $\text{H}_{1-x}\text{Te}_x$ transition metal dichalcogenides. Physical Review B, 2021, 104, .	2.0	6
26	Electrically switchable van der Waals magnon valves. Nature Communications, 2021, 12, 6279.	5.8	26
27	Evolution of Berry curvature and reentrant quantum anomalous Hall effect in an intrinsic magnetic topological insulator. Science China: Physics, Mechanics and Astronomy, 2021, 64, 1.	2.0	10
28	Gate tunability of the superconducting state at the $\text{EuO}/\text{KTaO}_3$ interface. Physical Review B, 2021, 104, .	1.1	6
29	Evidence for anisotropic spin-triplet Andreev reflection at the 2D van der Waals ferromagnet/superconductor interface. Nature Communications, 2021, 12, 6725.	5.8	15
30	A Majorana perspective on understanding and identifying axion insulators. Communications Physics, 2021, 4, .	2.0	6
31	Giant oscillatory Gilbert damping in superconductor/ferromagnet/superconductor junctions. Science Advances, 2021, 7, eabh3686.	4.7	9
32	Coexistence of Quantum Hall and Quantum Anomalous Hall Phases in Disordered $\text{MnBi}_2\text{Te}_4$ . Physical Review Letters, 2021, 127, 236402.	2.9	24
33	Spin current as a probe of quantum materials. Nature Materials, 2020, 19, 139-152.	13.3	94
34	Quantum to classical crossover under dephasing effects in a two-dimensional percolation model. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	2.0	6
35	Non-Abelian Braiding of Dirac Fermionic Modes Using Topological Corner States in Higher-Order Topological Insulator. Physical Review Letters, 2020, 125, 036801.	2.9	24
36	3D Quantum Hall Effect and a Global Picture of Edge States in Weyl Semimetals. Physical Review Letters, 2020, 125, 036602.	2.9	38

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37	Unconventional Hall effect induced by Berry curvature. National Science Review, 2020, 7, 1879-1885.	4.6	19
38	Theory for the Charge-Density-Wave Mechanism of 3D Quantum Hall Effect. Physical Review Letters, 2020, 125, 206601.	2.9	50
39	Quantum oscillation beyond the quantum limit in pseudospin Dirac materials. Physical Review B, 2020, 102, .	1.1	5
40	Quantum Hall effect in wedge-shaped samples. Physical Review B, 2020, 102, .	1.1	8
41	Transport study of the wormhole effect in three-dimensional topological insulators. Physical Review B, 2020, 102, .	1.1	5
42	Double-frequency Aharonov-Bohm effect and non-Abelian braiding properties of Jackiw-Rebbi zero-mode. National Science Review, 2020, 7, 572-578.	4.6	21
43	Emergent Z <sub>2</sub> topological invariant and robust helical edge states in two-dimensional topological metals. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	2.0	6
44	Quantum secure direct communication with an untrusted Charlie using imperfect measurement devices. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	2.0	14
45	Hinged quantum spin Hall effect in antiferromagnetic topological insulators. Physical Review B, 2020, 101, .	1.1	16
46	Topological insulators induced by disorder and non-Hermiticity. Science China: Physics, Mechanics and Astronomy, 2020, 63, 1.	2.0	0
47	Majorana zero modes from topological kink states in the two-dimensional electron gas. Physical Review B, 2020, 101, .	1.1	4
48	Analytical solution for the surface states of the antiferromagnetic topological insulator $\text{MnBi}$ . Physical Review B, 2020, 102, .	1.1	4
49	Precision measurement physics: physics that precision matters. National Science Review, 2020, 7, 1795-1795.	4.6	4
50	Log-periodic quantum magneto-oscillations and discrete-scale invariance in topological material HfTe <sub>5</sub> . National Science Review, 2019, 6, 914-920.	4.6	15
51	Anomalous quantum Griffiths singularity in ultrathin crystalline lead films. Nature Communications, 2019, 10, 3633.	5.8	21
52	Disorder-induced nonlinear Hall effect with time-reversal symmetry. Nature Communications, 2019, 10, 3047.	5.8	140
53	Interaction-driven topological switch in a P-band honeycomb lattice. Physical Review A, 2019, 100, .	1.0	5
54	Dephasing effects in topological insulators. Frontiers of Physics, 2019, 14, 1.	2.4	10

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55	Suppressing noises with topology and dynamical decoupling. Science China: Physics, Mechanics and Astronomy, 2019, 62, 1.	2.0	2
56	Numerical study of negative nonlocal resistance and backflow current in a ballistic graphene system. Physical Review B, 2019, 100, . Anomalous Hall effect mechanisms in the quasi-two-dimensional van der Waals ferromagnet	1.1	4
57	$F < \mathbb{E} > > 0.29 < \mathbb{E} > > T^{\frac{1}{2}} < \mathbb{E} > > S < \mathbb{E} > > 2 < \mathbb{E} > >$ Physical Review B, 2019, 100, .	1.1	11
58	Klein bottle entropy of compactified boson conformal field theory. Physical Review B, 2019, 99, .	1.1	6
59	Berry phase induced valley level crossing in bilayer graphene quantum dots. Physical Review B, 2019, 99, .	1.1	16
60	Planar Hall effect in tilted Weyl semimetals. Physical Review B, 2019, 99, .	1.1	53
61	Perovskite solar cells fly in the sky. Science China: Physics, Mechanics and Astronomy, 2019, 62, 1.	2.0	0
62	Effect of Coulomb screening on the discrete scale invariance of quasibound states in three-dimensional topological semimetals. Physical Review B, 2019, 100, .	1.1	2
63	Quantized thermal Hall conductance from edge current calculations in lattice models. Physical Review B, 2019, 100, .	1.1	2
64	Flux-induced topological superconductor in planar Josephson junction. Physical Review B, 2019, 100, .	1.1	7
65	Effects of Random Domains on the Zero Hall Plateau in the Quantum Anomalous Hall Effect. Physical Review Letters, 2019, 122, 026601.	2.9	21
66	Interface ferromagnetism and anomalous Hall effect of CdO/ferromagnetic-insulator heterostructures. Physical Review Materials, 2019, 3, .	0.9	1
67	Rules for Phase Shifts of Quantum Oscillations in Topological Nodal-Line Semimetals. Physical Review Letters, 2018, 120, 146602.	2.9	82
68	Editorial: Building an excellent future. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	2.0	0
69	Experimental signatures of spin superfluid ground state in canted antiferromagnet Cr <sub>2</sub> O <sub>3</sub> via nonlocal spin transport. Science Advances, 2018, 4, eaat1098.	4.7	127
70	Kondo effect with Weyl semimetal Fermi arcs. Physical Review B, 2018, 97, .	1.1	18
71	Doubled Shapiro steps in a topological Josephson junction. Physical Review B, 2018, 97, .	1.1	12
72	Role of Oxygen in Ionic Liquid Gating on Two-Dimensional Cr <sub>2</sub> Ge <sub>2</sub> Te <sub>6</sub> : A Non-oxide Material. ACS Applied Materials & Interfaces, 2018, 10, 1383-1388.	4.0	20

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73	Crystalline splitting of d orbitals in two-dimensional regular optical lattices. Physical Review A, 2018, 98, .	1.0	4
74	Band Signatures for Strong Nonlinear Hall Effect in Bilayer $WTe_2$ Physical Review Letters, 2018, 121, 266601.	2.9	128
75	Manipulation and Characterization of the Valley-Polarized Topological Kink States in Graphene-Based Interferometers. Physical Review Letters, 2018, 121, 156801.	2.9	36
76	Magnetic flux control of chiral Majorana edge modes in topological superconductor. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	2.0	12
77	Discovery of log-periodic oscillations in ultraquantum topological materials. Science Advances, 2018, 4, eaau5096.	4.7	54
78	Noise signatures for determining chiral Majorana fermion modes. Physical Review B, 2018, 98, .	1.1	13
79	Current noises in a topological Josephson junction. Science China: Physics, Mechanics and Astronomy, 2018, 61, 1.	2.0	5
80	Forbidden Backscattering and Resistance Dip in the Quantum Limit as a Signature for Topological Insulators. Physical Review Letters, 2018, 121, 036602.	2.9	8
81	Probe of spin dynamics in superconducting NbN thin films via spin pumping. Physical Review B, 2018, 97, .	1.1	49
82	Ginzburg-Landau-type theory of nonpolarized spin superconductivity. Physical Review B, 2017, 95, .	1.1	5
83	Spin-flip reflection at the normal metal-spin superconductor interface. Physical Review B, 2017, 95, .	1.1	10
84	Numerical study of universal conductance fluctuations in three-dimensional topological semimetals. Physical Review B, 2017, 96, .	1.1	13
85	3D Quantum Hall Effect of Fermi Arcs in Topological Semimetals. Physical Review Letters, 2017, 119, 136806.	2.9	131
86	Universal boundary entropies in conformal field theory: A quantum Monte Carlo study. Physical Review B, 2017, 96, .	1.1	14
87	Electron scattering in tantalum monoarsenide. Physical Review B, 2017, 95, .	1.1	99
88	Even-odd interference effect in a topological superconducting wire. Physical Review B, 2017, 96, .	1.1	13
89	Ultraquantum magnetoresistance in the Kramers-Weyl semimetal candidate $\hat{\Gamma}_2^{\hat{A}}Ag_2Se$ . Physical Review B, 2017, 96, .	1.1	27
90	Magnetic-tunnelling-induced Weyl node annihilation in TaP. Nature Physics, 2017, 13, 979-986.	6.5	80

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91	Global phase diagram of disordered type-II Weyl semimetals. Physical Review B, 2017, 96, .	1.1	17
92	Superconductor-graphene-superconductor Josephson junction in the quantum Hall regime. Physical Review B, 2017, 96, .	1.1	11
93	Two-dimensional lattice model for the surface states of topological insulators. Physical Review B, 2017, 95, .	1.1	30
94	Quantum perfect crossed Andreev reflection in top-gated quantum anomalous Hall insulator-superconductor junctions. Physical Review B, 2017, 95, .	1.1	37
95	Observation of long phase-coherence length in epitaxial La-doped CdO thin films. Physical Review B, 2017, 96, .	1.1	8
96	Spin injection and inverse Edelstein effect in the surface states of topological Kondo insulator SmB <sub>6</sub> . Nature Communications, 2016, 7, 13485.	5.8	37
97	Effective spin dephasing mechanism in confined two-dimensional topological insulators. Science China: Physics, Mechanics and Astronomy, 2016, 59, 1.	2.0	7
98	Spin selectivity effect in achiral molecular systems. Physical Review B, 2016, 94, .	1.1	13
99	Higgs amplitude mode in massless Dirac fermion systems. Physical Review B, 2016, 93, .	1.1	9
100	Chiral anomaly and ultrahigh mobility in crystalline $\text{HfTe}_5$ . Physical Review B, 2016, 93, .	1.1	53
101	Positive magnetoconductivity of Weyl semimetals in the ultraquantum limit. Physical Review B, 2016, 93, .	1.1	21
102	Chiral wave-packet scattering in Weyl semimetals. Physical Review B, 2016, 93, .	1.1	28
103	Quantum interference in topological insulator Josephson junctions. Physical Review B, 2016, 93, .	1.1	15
104	Chern Kondo Insulator in an Optical Lattice. Physical Review Letters, 2016, 116, 046401.	2.9	11
105	Observation of quantum Griffiths singularity and ferromagnetism at the superconducting $\text{LaAlO}_3/\text{SrTiO}_3$ interface. Physical Review B, 2016, 94, .	1.1	39
106	Numerical study of the giant nonlocal resistance in spin-orbit coupled graphene. Physical Review B, 2016, 94, .	1.1	8
107	Observation of superconductivity induced by a point contact on 3D Dirac semimetal $\text{Cd}_3\text{As}_2$ crystals. Nature Materials, 2016, 15, 38-42.	13.3	209
108	Tunable Anderson metal-insulator transition in quantum spin-Hall insulators. Physical Review B, 2015, 91, .	1.1	21

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109	Identifying the topological superconducting phase in a multiband quantum wire. Physical Review B, 2015, 91, .	1.1	11
110	Topological Imbert-Fedorov Shift in Weyl Semimetals. Physical Review Letters, 2015, 115, 156602.	2.9	104
111	Disorder and Metal-Insulator Transitions in Weyl Semimetals. Physical Review Letters, 2015, 115, 246603.	2.9	124
112	Anisotropic magnetotransport and exotic longitudinal linear magnetoresistance in WTe <sub>2</sub> crystals. Physical Review B, 2015, 92, .	1.1	156
113	Theory for electric dipole superconductivity with an application for bilayer excitons. Scientific Reports, 2015, 5, 11925.	1.6	9
114	Detection of a Superconducting Phase in a Two-Atom Layer of Hexagonal Ga Film Grown on Semiconducting GaN(0001). Physical Review Letters, 2015, 114, 107003.	2.9	81
115	Spin-current diode with a ferromagnetic semiconductor. Applied Physics Letters, 2015, 106, .	1.5	10
116	Quantum Griffiths singularity of superconductor-metal transition in Ga thin films. Science, 2015, 350, 542-545.	6.0	151
117	Effect of magnetic field on a magnetic topological insulator film with structural inversion asymmetry. Physical Review B, 2014, 89, .	1.1	13
118	The thinnest high-temperature superconductor. National Science Review, 2014, 1, 324-325.	4.6	4
119	Transport properties of Floquet topological superconductors at the transition from the topological phase to the Anderson localized phase. Physical Review B, 2014, 90, .	1.1	18
120	Coexistence and decoupling of bulk and edge states in disordered two-dimensional topological insulators. Physical Review B, 2014, 90, .	1.1	17
121	Dephasing Effect on Backscattering of Helical Surface States in 3D Topological Insulators. Physical Review Letters, 2014, 113, 046805.	2.9	18
122	Crossover between Weak Antilocalization and Weak Localization of Bulk States in Ultrathin Bi <sub>2</sub> Se <sub>3</sub> Films. Scientific Reports, 2014, 4, 5817.	1.6	52
123	Spin-polarized $\frac{1}{2}$ state of graphene: A spin superconductor. Physical Review B, 2013, 87, .		
124	Ginzburg-Landau-type theory of spin superconductivity. Nature Communications, 2013, 4, 2951.	5.8	15
125	Preface: Centennial Physics at Peking University. Frontiers of Physics, 2013, 8, 473-474.	2.4	0
126	Detection of spinons via spin transport. Physical Review B, 2013, 88, .	1.1	27



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127	Spin superconductor in ferromagnetic graphene. Physical Review B, 2011, 84, .	1.1	34
128	The effect of disorder on the valley-dependent transport in zigzag graphene nanoribbons. Journal of Applied Physics, 2011, 109, 123718.	1.1	8