

Liang Fu

List of Publications by Year in descending order

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153
papers

31,954
citations

12322

69
h-index

6990

154
g-index

156
all docs

156
docs citations

156
times ranked

16994
citing authors

#	ARTICLE	IF	CITATIONS
1	Interfacial ferroelectricity in rhombohedral-stacked bilayer transition metal dichalcogenides. Nature Nanotechnology, 2022, 17, 367-371.	15.6	167
2	Ferromagnetic helical nodal line and Kane-Mele spin-orbit coupling in kagome metal $\text{Fe}_3\text{Sb}_2\text{Te}_5$. Physical Review B, 2022, 105, .	10.1	3
3	Graphene moiré superlattices with giant quantum nonlinearity of chiral Bloch electrons. Nature Nanotechnology, 2022, 17, 378-383.	15.6	35
4	Unconventional superconductivity due to interband polarization. Physical Review B, 2022, 105, .	1.1	16
5	Spin-triplet superconductivity from excitonic effect in doped insulators. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117735119.	3.3	15
6	Supercurrent diode effect and finite-momentum superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2119548119.	3.3	101
7	Supercurrent parity meter in a nanowire Cooper pair transistor. Science Advances, 2022, 8, eabm9896.	4.7	5
8	Quantum Anomalous Hall Effect from Inverted Charge Transfer Gap. Physical Review X, 2022, 12, .	2.8	20
9	Tunable Magnonic Chern Bands and Chiral Spin Currents in Magnetic Multilayers. Physical Review Letters, 2022, 128, .	2.9	9
10	Universal Josephson diode effect. Science Advances, 2022, 8, .	4.7	58
11	Excitonic density wave and spin-valley superfluid in bilayer transition metal dichalcogenide. Nature Communications, 2021, 12, 642.	5.8	27
12	Topological metals and finite-momentum superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	19
13	Enhanced anomalous Nernst effect in disordered Dirac and Weyl materials. Physical Review B, 2021, 103, .	1.1	19
14	Stripe phases in WSe_2/WS_2 moiré superlattices. Nature Materials, 2021, 20, 940-944.	13.3	137
15	Enhanced Superconductivity in Monolayer Td-MoTe_2 . Nano Letters, 2021, 21, 2505-2511.	4.5	49
16	Electronic structures, charge transfer, and charge order in twisted transition metal dichalcogenide bilayers. Physical Review B, 2021, 103, .	1.1	56
17	Moiré Surface States and Enhanced Superconductivity in Topological Insulators. Physical Review X, 2021, 11, .	2.8	33
18	Nematicity and competing orders in superconducting magic-angle graphene. Science, 2021, 372, 264-271.	6.0	223

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19	Terahertz detection based on nonlinear Hall effect without magnetic field. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	40
20	Observation of topological superconductivity in a stoichiometric transition metal dichalcogenide 2M-WS ₂ . Nature Communications, 2021, 12, 2874.	5.8	43
21	Josephson detection of time-reversal symmetry broken superconductivity in SnTe nanowires. Npj Quantum Materials, 2021, 6, .	1.8	16
22	New mechanism and exact theory of superconductivity from strong repulsive interaction. Science Advances, 2021, 7, .	4.7	15
23	Majorana zero modes in impurity-assisted vortex of LiFeAs superconductor. Nature Communications, 2021, 12, 4146.	5.8	44
24	Charge- $4e$ Superconductivity from Multicomponent Nematic Pairing: Application to Twisted Bilayer Graphene. Physical Review Letters, 2021, 127, 047001.	2.9	30
25	Layer Hall effect in a 2D topological axion antiferromagnet. Nature, 2021, 595, 521-525.	13.7	136
26	Topological magnetic textures in magnetic topological insulators. Physical Review Research, 2021, 3, .	1.3	7
27	Spin-textured Chern bands in AB-stacked transition metal dichalcogenide bilayers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	54
28	Continuous Mott transition in semiconductor moiré superlattices. Nature, 2021, 597, 350-354.	13.7	174
29	Creating Majorana modes from segmented Fermi surface. Nature Communications, 2021, 12, 577.	5.8	13
30	Quantum frequency doubling in the topological insulator Bi ₂ Se ₃ . Nature Communications, 2021, 12, 698.	5.8	48
31	Discovery of segmented Fermi surface induced by Cooper pair momentum. Science, 2021, 374, 1381-1385.	6.0	45
32	Signatures of bosonic Landau levels in a finite-momentum superconductor. Nature, 2021, 599, 51-56.	13.7	5
33	Magic in twisted transition metal dichalcogenide bilayers. Nature Communications, 2021, 12, 6730.	5.8	109
34	Quantum anomalous Hall effect from intertwined moiré bands. Nature, 2021, 600, 641-646.	13.7	181
35	Nearly quantized conductance plateau of vortex zero mode in an iron-based superconductor. Science, 2020, 367, 189-192.	6.0	172
36	Clean 2D superconductivity in a bulk van der Waals superlattice. Science, 2020, 370, 231-236.	6.0	64

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55	Scalable fermionic error correction in Majorana surface codes. Physical Review B, 2019, 99, .	1.1	10
56	Nematic superconductivity stabilized by density wave fluctuations: Possible application to twisted bilayer graphene. Physical Review B, 2019, 99, .	1.1	70
57	In-Plane Ferroelectric Tunnel Junction. Physical Review Applied, 2019, 11, .	1.5	34
58	Magic of high-order van Hove singularity. Nature Communications, 2019, 10, 5769.	5.8	106
59	Magnus Hall Effect. Physical Review Letters, 2019, 123, 216802.	2.9	30
60	New classes of topological crystalline insulators having surface rotation anomaly. Science Advances, 2019, 5, eaat2374.	4.7	109
61	Observation of the nonlinear Hall effect under time-reversal-symmetric conditions. Nature, 2019, 565, 337-342.	13.7	372
62	Formation mechanism of twin domain boundary in 2D materials: The case for WTe ₂ . Nano Research, 2019, 12, 569-573.	5.8	7
63	Pairing States of Spin- $\frac{3}{2}$ Fermions: Symmetry-Enforced Topological Gap Functions. Physical Review X, 2018, 8, .	2.8	67
64	Topological Band Theory for Non-Hermitian Hamiltonians. Physical Review Letters, 2018, 120, 146402.	2.9	768
65	Electron mean-free-path filtering in Dirac material for improved thermoelectric performance. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 879-884.	3.3	61
66	Observation of bulk Fermi arc and polarization half charge from paired exceptional points. Science, 2018, 359, 1009-1012.	6.0	438
67	Chiral Topological Superconductors Enhanced by Long-Range Interactions. Physical Review Letters, 2018, 120, 017001.	2.9	49
68	Massive Dirac fermions in a ferromagnetic kagome metal. Nature, 2018, 555, 638-642.	13.7	544
69	Zeeman-induced gapless superconductivity with a partial Fermi surface. Physical Review B, 2018, 97, .	1.1	34
70	Majorana Superconducting Qubit. Physical Review Letters, 2018, 121, 267002.	2.9	34
71	Topological crystalline insulator states in the Ca _{1-2x} family. Physical Review B, 2018, 98, .	2.8	28
72	Unconventional Superconductivity and Density Waves in Twisted Bilayer Graphene. Physical Review X, 2018, 8, .	2.8	240

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73	Valley Stoner instability of the composite Fermi sea. <i>Physical Review B</i> , 2018, 98, .	1.1	9
74	Maximally Localized Wannier Orbitals and the Extended Hubbard Model for Twisted Bilayer Graphene. <i>Physical Review X</i> , 2018, 8, .	2.8	427
75	Self-learning Monte Carlo with deep neural networks. <i>Physical Review B</i> , 2018, 97, .	1.1	65
76	Large, nonsaturating thermopower in a quantizing magnetic field. <i>Science Advances</i> , 2018, 4, eaat2621.	4.7	86
77	Electrically switchable Berry curvature dipole in the monolayer topological insulator <i>WTe₂</i> . <i>Nature Physics</i> , 2018, 14, 900-906.	6.5	249
78	Parity-Controlled $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:mi} \rangle \text{I} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ Josephson Effect Mediated by Majorana Kramers Pairs. <i>Physical Review Letters</i> , 2018, 120, 267002.	2.9	41
79	Quantum Oscillation from In-Gap States and a Non-Hermitian Landau Level Problem. <i>Physical Review Letters</i> , 2018, 121, 026403.	2.9	175
80	Evidence for Majorana bound states in an iron-based superconductor. <i>Science</i> , 2018, 362, 333-335.	6.0	523
81	Robust non-Abelian spin liquid and a possible intermediate phase in the antiferromagnetic Kitaev model with magnetic field. <i>Physical Review B</i> , 2018, 97, .	1.1	82
82	Self-learning Monte Carlo method. <i>Physical Review B</i> , 2017, 95, .	1.1	179
83	Topological Phases Protected by Point Group Symmetry. <i>Physical Review X</i> , 2017, 7, .	2.8	135
84	Large, valley-exclusive Bloch-Siegert shift in monolayer <i>WS₂</i> . <i>Science</i> , 2017, 355, 1066-1069.	6.0	102
85	Rotational Symmetry Breaking in a Trigonal Superconductor Nb-doped $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mrow} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle \text{Bi} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:math} \rangle$ Physical Review X, 2017, 7, .	2.8	116
86	Orthogonal magnetization and symmetry breaking in pyrochlore iridate <i>Eu₂Ir₂O₇</i> . <i>Nature Physics</i> , 2017, 13, 599-603.	6.5	27
87	Topological crystalline magnets: Symmetry-protected topological phases of fermions. <i>Physical Review B</i> , 2017, 95, .	1.1	9
88	Topologically Entangled Rashba-Split Shockley States on the Surface of Grey Arsenic. <i>Physical Review Letters</i> , 2017, 118, 046802.	2.9	27
89	van der Waals Stacking-Induced Topological Phase Transition in Layered Ternary Transition Metal Chalcogenides. <i>Nano Letters</i> , 2017, 17, 467-475.	4.5	67
90	Self-learning Monte Carlo method: Continuous-time algorithm. <i>Physical Review B</i> , 2017, 96, .	1.1	55

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91	Electron teleportation and statistical transmutation in multiterminal Majorana islands. Physical Review B, 2017, 96, .	1.1	21
92	Noncollinear Magnetic Structure and Multipolar Order in Eu ₂ Ir ₂ O ₇ . Physical Review Letters, 2017, 119, 187203.	2.9	18
93	Anisotropy-driven transition from the Moore-Read state to quantum Hall stripes. Physical Review B, 2017, 95, .	1.1	18
94	Ferromagnetic transition in a one-dimensional spin-orbit-coupled metal and its mapping to a critical point in smectic liquid crystals. Physical Review B, 2017, 96, .	1.1	9
95	Observation of ultrahigh mobility surface states in a topological crystalline insulator by infrared spectroscopy. Nature Communications, 2017, 8, 366.	5.8	12
96	Odd-Parity Superconductivity near an Inversion Breaking Quantum Critical Point in One Dimension. Physical Review Letters, 2017, 118, 227001.	2.9	17
97	Self-learning quantum Monte Carlo method in interacting fermion systems. Physical Review B, 2017, 96, .	1.1	61
98	Interlayer Pairing Symmetry of Composite Fermions in Quantum Hall Bilayers. Physical Review Letters, 2017, 118, 166401.	2.9	15
99	Numerical Study of Quantum Hall Bilayers at Total Filling $\nu = \nu_1 + \nu_2$: A New Phase at Intermediate Layer Distances. Physical Review Letters, 2017, 119, 177601.	2.9	17
100	Topological Phase Transitions in Multicomponent Superconductors. Physical Review Letters, 2017, 119, 187003.	2.9	38
101	Self-learning Monte Carlo method and cumulative update in fermion systems. Physical Review B, 2017, 95, .	1.1	74
102	Superconductivity in three-dimensional spin-orbit coupled semimetals. Physical Review B, 2017, 96, .	1.1	79
103	Quantum Hall Ferroelectrics and Nematics in Multivalley Systems. Physical Review X, 2017, 7, .	2.8	15
104	Topological magnetoplasmon. Nature Communications, 2016, 7, 13486.	5.8	108
105	Three-dimensional Majorana fermions in chiral superconductors. Science Advances, 2016, 2, e1601835.	4.7	38
106	Interaction-Driven Spontaneous Quantum Hall Effect on a Kagome Lattice. Physical Review Letters, 2016, 117, 096402.	2.9	52
107	Discovery of robust in-plane ferroelectricity in atomic-thick SnTe. Science, 2016, 353, 274-278.	6.0	742
108	Majorana Zero Mode Detected with Spin Selective Andreev Reflection in the Vortex of a Topological Superconductor. Physical Review Letters, 2016, 116, 257003.	2.9	494

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109	Identification of nematic superconductivity from the upper critical field. <i>Physical Review B</i> , 2016, 94, .	1.1	56
110	Teleportation-based quantum information processing with Majorana zero modes. <i>Physical Review B</i> , 2016, 94, .	1.1	121
111	Topological semimetals with helicoid surface states. <i>Nature Physics</i> , 2016, 12, 936-941.	6.5	149
112	Finding a direction. <i>Nature Physics</i> , 2016, 12, 822-823.	6.5	9
113	Symmetry-protected topological photonic crystal in three dimensions. <i>Nature Physics</i> , 2016, 12, 337-340.	6.5	245
114	New classes of three-dimensional topological crystalline insulators: Nonsymmorphic and magnetic. <i>Physical Review B</i> , 2015, 91, .	1.1	184
115	Topological nodal line semimetals with and without spin-orbital coupling. <i>Physical Review B</i> , 2015, 92, .	1.1	685
116	Theory of interacting topological crystalline insulators. <i>Physical Review B</i> , 2015, 92, .	1.1	90
117	Parity-Breaking Phases of Spin-Orbit-Coupled Metals with Gyrotropic, Ferroelectric, and Multipolar Orders. <i>Physical Review Letters</i> , 2015, 115, 026401.	2.9	118
118	Odd-Parity Superconductivity in the Vicinity of Inversion Symmetry Breaking in Spin-Orbit-Coupled Systems. <i>Physical Review Letters</i> , 2015, 115, 207002.	2.9	93
119	Quantum Nonlinear Hall Effect Induced by Berry Curvature Dipole in Time-Reversal Invariant Materials. <i>Physical Review Letters</i> , 2015, 115, 216806.	2.9	560
120	Anomalous Crystal Symmetry Fractionalization on the Surface of Topological Crystalline Insulators. <i>Physical Review Letters</i> , 2015, 115, 236801.	2.9	33
121	Topological Crystalline Insulators and Topological Superconductors: From Concepts to Materials. <i>Annual Review of Condensed Matter Physics</i> , 2015, 6, 361-381.	5.2	578
122	Experimental observation of Weyl points. <i>Science</i> , 2015, 349, 622-624.	6.0	833
123	Crystal Field Effect Induced Topological Crystalline Insulators In Monolayer IV-VI Semiconductors. <i>Nano Letters</i> , 2015, 15, 2657-2661.	4.5	104
124	Valley-selective optical Stark effect in monolayer WS ₂ . <i>Nature Materials</i> , 2015, 14, 290-294.	13.3	479
125	Topological crystalline insulator nanomembrane with strain-tunable band gap. <i>Nano Research</i> , 2015, 8, 967-979.	5.8	56
126	Tensor network implementation of bulk entanglement spectrum. <i>Physical Review B</i> , 2014, 90, .	1.1	17

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127	Bulk Entanglement Spectrum Reveals Quantum Criticality within a Topological State. Physical Review Letters, 2014, 113, 106801.	2.9	37
128	Loops, sign structures, and emergent Fermi statistics in three-dimensional quantum dimer models. Physical Review B, 2014, 89, .	1.1	3
129	Experimental Observation of Dirac-like Surface States and Topological Phase Transition in $\text{Pb}_{1-x}\text{Sn}_x$. Physical Review Letters, 2014, 112, 186801.	2.9	100
130	Spin-filtered edge states with an electrically tunable gap in a two-dimensional topological crystalline insulator. Nature Materials, 2014, 13, 178-183.	13.3	287
131	Quantum spin Hall effect in two-dimensional transition metal dichalcogenides. Science, 2014, 346, 1344-1347.	6.0	1,558
132	Strain-induced partially flat band, helical snake states and interface superconductivity in topological crystalline insulators. Nature Physics, 2014, 10, 964-969.	6.5	179
133	Topological crystalline insulators and Dirac octets in antiperovskites. Physical Review B, 2014, 90, .	1.1	143
134	Mapping the unconventional orbital texture in topological crystalline insulators. Nature Physics, 2014, 10, 572-577.	6.5	79
135	Weak topological insulators in PbTe/SnTe superlattices. Physical Review B, 2014, 89, .	1.1	46
136	Observation of Dirac Node Formation and Mass Acquisition in a Topological Crystalline Insulator. Science, 2013, 341, 1496-1499.	6.0	252
137	Weyl points and line nodes in gyroid photonic crystals. Nature Photonics, 2013, 7, 294-299.	15.6	560
138	Anomalous supercurrent from Majorana states in topological insulator Josephson junctions. Physical Review B, 2013, 88, .	1.1	53
139	Two types of surface states in topological crystalline insulators. Physical Review B, 2013, 88, .	1.1	181
140	Topology, Delocalization via Average Symmetry and the Symplectic Anderson Transition. Physical Review Letters, 2012, 109, 246605.	2.9	132
141	Proximity-effect-induced superconducting phase in the topological insulator Bi_2Se_3 . Physical Review B, 2012, 86, .	1.1	51
142	Topological crystalline insulators in the SnTe material class. Nature Communications, 2012, 3, 982.	5.8	1,146
143	Topological Crystalline Insulators. Physical Review Letters, 2011, 106, 106802.	2.9	1,561
144	Transport properties of nonequilibrium systems under the application of light: Photoinduced quantum Hall insulators without Landau levels. Physical Review B, 2011, 84, .	1.1	820

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145	Spin texture on the warped Dirac-cone surface states in topological insulators. Physical Review B, 2011, 84, .	1.1	64
146	Spin-orbital ground states of superconducting doped topological insulators: A Majorana platform. Physical Review B, 2011, 83, .	1.1	33
147	Electron Teleportation via Majorana Bound States in a Mesoscopic Superconductor. Physical Review Letters, 2010, 104, 056402.	2.9	328
148	Odd-Parity Topological Superconductors: Theory and Application to $Cu_xBi_{2-x}Te_2$. Physical Review Letters, 2010, 105, 097001.	2.9	679
149	Hexagonal Warping Effects in the Surface States of the Topological Insulator Bi_2Te_3 . Physical Review Letters, 2009, 103, 266801.	2.9	642
150	Probing Neutral Majorana Fermion Edge Modes with Charge Transport. Physical Review Letters, 2009, 102, 216403.	2.9	478
151	Superconducting Proximity Effect and Majorana Fermions at the Surface of a Topological Insulator. Topologica, 2009, 2, 013.	0.3	1
152	Superconducting Proximity Effect and Majorana Fermions at the Surface of a Topological Insulator. Physical Review Letters, 2008, 100, 096407.	2.9	3,933
153	Topological Insulators in Three Dimensions. Physical Review Letters, 2007, 98, 106803.	2.9	3,769