

Xiao-Liang Qi

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

152
papers

43,762
citations

71
h-index

153
g-index

153
ext. papers

49,734
ext. citations

7.4
avg, IF

7.97
L-index

#	Paper	IF	Citations
152	Entanglement island, miracle operators and the firewall. <i>Journal of High Energy Physics</i> , 2022 , 2022, 1	5.4	0
151	Holevo information and ensemble theory of gravity. <i>Journal of High Energy Physics</i> , 2022 , 2022, 1	5.4	0
150	Quantum algorithmic measurement.. <i>Nature Communications</i> , 2022 , 13, 887	17.4	2
149	Rescuing a black hole in the large-q coupled SYK model. <i>Journal of High Energy Physics</i> , 2021 , 2021, 1	5.4	4
148	Holographic entanglement negativity and replica symmetry breaking. <i>Journal of High Energy Physics</i> , 2021 , 2021, 1	5.4	10
147	Building bulk geometry from the tensor Radon transform. <i>Journal of High Energy Physics</i> , 2020 , 2020, 1	5.4	5
146	Effective entropy of quantum fields coupled with gravity. <i>Journal of High Energy Physics</i> , 2020 , 2020, 1	5.4	35
145	A random unitary circuit model for black hole evaporation. <i>Journal of High Energy Physics</i> , 2020 , 2020, 1	5.4	30
144	The coupled SYK model at finite temperature. <i>Journal of High Energy Physics</i> , 2020 , 2020, 1	5.4	11
143	Replica wormhole and information retrieval in the SYK model coupled to Majorana chains. <i>Journal of High Energy Physics</i> , 2020 , 2020, 1	5.4	32
142	Size of bulk fermions in the SYK model. <i>Journal of High Energy Physics</i> , 2020 , 2020, 1	5.4	3
141	Quantum Error Correction in Scrambling Dynamics and Measurement-Induced Phase Transition. <i>Physical Review Letters</i> , 2020 , 125, 030505	7.4	77
140	40 years of the quantum Hall effect. <i>Nature Reviews Physics</i> , 2020 , 2, 397-401	23.6	18
139	Integrable and Chaotic Dynamics of Spins Coupled to an Optical Cavity. <i>Physical Review X</i> , 2019 , 9,	9.1	16
138	Quantum epidemiology: operator growth, thermal effects, and SYK. <i>Journal of High Energy Physics</i> , 2019 , 2019, 1	5.4	39
137	Quantum causal influence. <i>Journal of High Energy Physics</i> , 2019 , 2019, 1	5.4	6
136	Chaos and high temperature pure state thermalization. <i>Journal of High Energy Physics</i> , 2019 , 2019, 1	5.4	9

135	Quantum chaos in the Brownian SYK model with large finite N : OTOCs and tripartite information. <i>Journal of High Energy Physics</i> , 2019 , 2019, 1	5.4	26
134	Machine learning spatial geometry from entanglement features. <i>Physical Review B</i> , 2018 , 97,	3.3	36
133	Modular flow as a disentangler. <i>Journal of High Energy Physics</i> , 2018 , 2018, 1	5.4	17
132	Superdensity operators for spacetime quantum mechanics. <i>Journal of High Energy Physics</i> , 2018 , 2018, 1	5.4	22
131	Topological quantum computation based on chiral Majorana fermions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 10938-10942	11.5	98
130	Does gravity come from quantum information?. <i>Nature Physics</i> , 2018 , 14, 984-987	16.2	14
129	Strongly interacting phases of metallic wires in strong magnetic field. <i>Physical Review B</i> , 2017 , 96,	3.3	2
128	Reply to Comment on Chiral gauge field and axial anomaly in a Weyl semimetal <i>Physical Review B</i> , 2017 , 96,	3.3	1
127	Holographic coherent states from random tensor networks. <i>Journal of High Energy Physics</i> , 2017 , 2017, 1	5.4	17
126	Local criticality, diffusion and chaos in generalized Sachdev-Ye-Kitaev models. <i>Journal of High Energy Physics</i> , 2017 , 2017, 1	5.4	236
125	Spread of entanglement in a Sachdev-Ye-Kitaev chain. <i>Journal of High Energy Physics</i> , 2017 , 2017, 1	5.4	58
124	Energy diffusion and the butterfly effect in inhomogeneous Sachdev-Ye-Kitaev chains. <i>SciPost Physics</i> , 2017 , 2,	6.1	57
123	Exact holographic mapping in free fermion systems. <i>Physical Review B</i> , 2016 , 93,	3.3	25
122	Entanglement holographic mapping of many-body localized system by spectrum bifurcation renormalization group. <i>Physical Review B</i> , 2016 , 93,	3.3	44
121	Characterizing eigenstate thermalization via measures in the Fock space of operators. <i>Physical Review E</i> , 2016 , 93, 042138	2.4	9
120	Topological Superconductivity on the Surface of Fe-Based Superconductors. <i>Physical Review Letters</i> , 2016 , 117, 047001	7.4	111
119	Holographic duality from random tensor networks. <i>Journal of High Energy Physics</i> , 2016 , 2016, 1	5.4	235
118	Fractional statistics and the butterfly effect. <i>Journal of High Energy Physics</i> , 2016 , 2016, 1	5.4	36

117	Bidirectional holographic codes and sub-AdS locality. <i>Journal of High Energy Physics</i> , 2016 , 2016, 1	5.4	48
116	Chaos in quantum channels. <i>Journal of High Energy Physics</i> , 2016 , 2016, 1	5.4	312
115	The Quantum Anomalous Hall Effect: Theory and Experiment. <i>Annual Review of Condensed Matter Physics</i> , 2016 , 7, 301-321	19.7	253
114	Tensor network quotient takes the vacuum to the thermal state. <i>Physical Review B</i> , 2016 , 94,	3.3	32
113	Holographic duality between (2+1)-dimensional quantum anomalous Hall state and (3+1)-dimensional topological insulators. <i>Physical Review B</i> , 2016 , 94,	3.3	17
112	Holographic entanglement renormalization of topological insulators. <i>Physical Review B</i> , 2016 , 94,	3.3	17
111	Position-Momentum Duality and Fractional Quantum Hall Effect in Chern Insulators. <i>Physical Review Letters</i> , 2015 , 114, 236802	7.4	40
110	Quantized topological magnetoelectric effect of the zero-plateau quantum anomalous Hall state. <i>Physical Review B</i> , 2015 , 92,	3.3	100
109	Unified Topological Response Theory For Gapped and Gapless Free Fermions. <i>Physical Review X</i> , 2015 , 5,	9.1	7
108	Quantum anomalous Hall effect in magnetic insulator heterostructure. <i>Nano Letters</i> , 2015 , 15, 2019-23	11.5	40
107	Generalized Kitaev models and extrinsic non-Abelian twist defects. <i>Physical Review Letters</i> , 2015 , 114, 026401	7.4	22
106	Identifying non-Abelian topological ordered state and transition by momentum polarization. <i>Physical Review B</i> , 2014 , 89,	3.3	10
105	Time-reversal-invariant topological superconductivity in doped Weyl semimetals. <i>Physical Review B</i> , 2014 , 90,	3.3	91
104	Lattice construction of pseudopotential Hamiltonians for fractional Chern insulators. <i>Physical Review B</i> , 2014 , 90,	3.3	23
103	Topological superconductivity at the edge of transition-metal dichalcogenides. <i>Physical Review B</i> , 2014 , 90,	3.3	26
102	One-dimensional helical transport in topological insulator nanowire interferometers. <i>Nano Letters</i> , 2014 , 14, 2815-21	11.5	103
101	Prediction of a Weyl semimetal in $\text{Hg}_{1-x}\text{Cd}_x\text{Mn}_y\text{Te}$. <i>Physical Review B</i> , 2014 , 89,	3.3	111
100	Synthetic Topological Qubits in Conventional Bilayer Quantum Hall Systems. <i>Physical Review X</i> , 2014 , 4,	9.1	45

99	Position-momentum duality in the entanglement spectrum of free fermions. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2014 , 2014, P10023	1.9	15
98	Majorana zero modes in dislocations of Sr ₂ RuO ₄ . <i>Physical Review B</i> , 2014 , 90,	3.3	39
97	Tensor network implementation of bulk entanglement spectrum. <i>Physical Review B</i> , 2014 , 90,	3.3	16
96	Layer Construction of 3D Topological States and String Braiding Statistics. <i>Physical Review X</i> , 2014 , 4,	9.1	47
95	Topological insulators. <i>MRS Bulletin</i> , 2014 , 39, 843-846	3.2	9
94	Axion topological field theory of topological superconductors. <i>Physical Review B</i> , 2013 , 87,	3.3	50
93	Momentum polarization: An entanglement measure of topological spin and chiral central charge. <i>Physical Review B</i> , 2013 , 88,	3.3	61
92	Field-Theory Foundations of Topological Insulators. <i>Contemporary Concepts of Condensed Matter Science</i> , 2013 , 6, 91-122		2
91	Pseudopotential formalism for fractional Chern insulators. <i>Physical Review B</i> , 2013 , 88,	3.3	45
90	A new class of (2 + 1)-dimensional topological superconductors with \mathbb{Z}_8 topological classification. <i>New Journal of Physics</i> , 2013 , 15, 065002	2.9	91
89	A time-reversal invariant topological phase at the surface of a 3D topological insulator. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013 , 2013, P09016	1.9	121
88	Twist defects and projective non-Abelian braiding statistics. <i>Physical Review B</i> , 2013 , 87,	3.3	160
87	Massive Dirac surface states in topological insulator/magnetic insulator heterostructures. <i>Physical Review B</i> , 2013 , 87,	3.3	115
86	Thin films of magnetically doped topological insulator with carrier-independent long-range ferromagnetic order. <i>Advanced Materials</i> , 2013 , 25, 1065-70	2.4	201
85	Chiral gauge field and axial anomaly in a Weyl semimetal. <i>Physical Review B</i> , 2013 , 87,	3.3	239
84	Crystal-symmetry preserving Wannier states for fractional Chern insulators. <i>Physical Review B</i> , 2013 , 88,	3.3	8
83	Classification of topological defects in Abelian topological states. <i>Physical Review B</i> , 2013 , 88,	3.3	67
82	Theory of defects in Abelian topological states. <i>Physical Review B</i> , 2013 , 88,	3.3	95

81	Calculation of divergent photon absorption in ultrathin films of a topological insulator. <i>Physical Review B</i> , 2013 , 88,	3-3	22
80	Time-reversal anomaly and Josephson effect in time-reversal-invariant topological superconductors. <i>Physical Review B</i> , 2013 , 88,	3-3	40
79	Momentum-space instantons and maximally localized flat-band topological Hamiltonians. <i>Physica Status Solidi - Rapid Research Letters</i> , 2013 , 7, 154-156	2-5	9
78	Half quantum spin Hall effect on the surface of weak topological insulators. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2012 , 44, 906-911	3	43
77	Physics. Symmetry meets topology. <i>Science</i> , 2012 , 338, 1550-1	33-3	8
76	Topological invariants for interacting topological insulators with inversion symmetry. <i>Physical Review B</i> , 2012 , 85,	3-3	56
75	Electron fractionalization and unconventional order parameters of the $\nu=1$ model. <i>Nuclear Physics B</i> , 2012 , 854, 815-840	2-8	17
74	Effects of magnetic doping on weak antilocalization in narrow Bi ₂ Se ₃ nanoribbons. <i>Nano Letters</i> , 2012 , 12, 4355-9	11-5	59
73	Topological insulators in filled skutterudites. <i>Physical Review B</i> , 2012 , 85,	3-3	53
72	Spin polarization of the quantum spin Hall edge states. <i>Nature Physics</i> , 2012 , 8, 485-490	16-2	213
71	Landau level spectroscopy of surface states in the topological insulator Bi _{0.91} Sb _{0.09} via magneto-optics. <i>Physical Review B</i> , 2012 , 85,	3-3	49
70	Dissipationless phonon Hall viscosity. <i>Physical Review B</i> , 2012 , 85,	3-3	29
69	Topological Nematic States and Non-Abelian Lattice Dislocations. <i>Physical Review X</i> , 2012 , 2,	9-1	169
68	General relationship between the entanglement spectrum and the edge state spectrum of topological quantum states. <i>Physical Review Letters</i> , 2012 , 108, 196402	7-4	201
67	Stationary phase approximation approach to the quasiparticle interference on the surface of a strong topological insulator. <i>Physical Review B</i> , 2012 , 85,	3-3	30
66	Models of three-dimensional fractional topological insulators. <i>Physical Review B</i> , 2012 , 86,	3-3	26
65	Generic wave-function description of fractional quantum anomalous Hall states and fractional topological insulators. <i>Physical Review Letters</i> , 2011 , 107, 126803	7-4	147
64	Topological magnetic insulators with corundum structure. <i>Physical Review Letters</i> , 2011 , 106, 126403	7-4	39

63	Possible proximity of the Mott insulating iridate Na_2IrO_3 to a topological phase: Phase diagram of the Heisenberg-Kitaev model in a magnetic field. <i>Physical Review B</i> , 2011 , 83,	3.3	159
62	Quantum Hall effect from the topological surface states of strained bulk HgTe. <i>Physical Review Letters</i> , 2011 , 106, 126803	7.4	376
61	Topological insulators and superconductors. <i>Reviews of Modern Physics</i> , 2011 , 83, 1057-1110	40.5	8720
60	Topological response theory of doped topological insulators. <i>Physical Review Letters</i> , 2011 , 107, 206602	7.4	17
59	Topological insulators in ternary compounds with a honeycomb lattice. <i>Physical Review Letters</i> , 2011 , 106, 156402	7.4	77
58	Weakly coupled non-Abelian anyons in three dimensions. <i>Physical Review B</i> , 2011 , 84,	3.3	22
57	Projective ribbon permutation statistics: A remnant of non-Abelian braiding in higher dimensions. <i>Physical Review B</i> , 2011 , 83,	3.3	46
56	Confinement-deconfinement interplay in quantum phases of doped Mott insulators. <i>Physical Review Letters</i> , 2011 , 106, 147002	7.4	15
55	Topological field theory and thermal responses of interacting topological superconductors. <i>Physical Review B</i> , 2011 , 84,	3.3	89
54	Topological superconducting phase and Majorana fermions in half-metal/superconductor heterostructures. <i>Physical Review B</i> , 2011 , 84,	3.3	85
53	Conductance and noise signatures of Majorana backscattering. <i>Physical Review B</i> , 2011 , 83,	3.3	82
52	Aharonov-Bohm interference in topological insulator nanoribbons. <i>Nature Materials</i> , 2010 , 9, 225-9	27	660
51	Tunable multifunctional topological insulators in ternary Heusler compounds. <i>Nature Materials</i> , 2010 , 9, 541-5	27	674
50	Dynamical axion field in topological magnetic insulators. <i>Nature Physics</i> , 2010 , 6, 284-288	16.2	299
49	Crossover of the three-dimensional topological insulator Bi_2Se_3 to the two-dimensional limit. <i>Nature Physics</i> , 2010 , 6, 584-588	16.2	1048
48	Chiral topological superconductor from the quantum Hall state. <i>Physical Review B</i> , 2010 , 82,	3.3	289
47	Entanglement entropy and entanglement spectrum of the Kitaev model. <i>Physical Review Letters</i> , 2010 , 105, 080501	7.4	133
46	Spin Aharonov-Bohm effect and topological spin transistor. <i>Physical Review B</i> , 2010 , 82,	3.3	48

45	Topological insulator Bi ₂ Se ₃ thin films grown on double-layer graphene by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2010 , 97, 143118	3.4	140
44	Topological invariants for the Fermi surface of a time-reversal-invariant superconductor. <i>Physical Review B</i> , 2010 , 81,	3.3	208
43	Theoretical prediction of topological insulators in thallium-based III-V-VI 2 ternary chalcogenides. <i>Europhysics Letters</i> , 2010 , 90, 37002	1.6	126
42	Equivalent topological invariants of topological insulators. <i>New Journal of Physics</i> , 2010 , 12, 065007	2.9	71
41	Fractional topological insulators in three dimensions. <i>Physical Review Letters</i> , 2010 , 105, 246809	7.4	139
40	The quantum spin Hall effect and topological insulators. <i>Physics Today</i> , 2010 , 63, 33-38	0.9	939
39	Massive Dirac fermion on the surface of a magnetically doped topological insulator. <i>Science</i> , 2010 , 329, 659-62	33.3	913
38	Model Hamiltonian for topological insulators. <i>Physical Review B</i> , 2010 , 82,	3.3	563
37	Collective modes of a helical liquid. <i>Physical Review Letters</i> , 2010 , 104, 116401	7.4	163
36	Oscillatory crossover from two-dimensional to three-dimensional topological insulators. <i>Physical Review B</i> , 2010 , 81,	3.3	389
35	Topological order parameters for interacting topological insulators. <i>Physical Review Letters</i> , 2010 , 105, 256803	7.4	143
34	Topological quantization in units of the fine structure constant. <i>Physical Review Letters</i> , 2010 , 105, 166803	7.4	175
33	Magnetoconductance of the quantum spin Hall state. <i>Physical Review B</i> , 2010 , 82,	3.3	61
32	Theoretical prediction of topological insulator in ternary rare earth chalcogenides. <i>Physical Review B</i> , 2010 , 82,	3.3	47
31	A fine point on topological insulators. <i>Physics Today</i> , 2010 , 63, 12-12	0.9	5
30	Landau quantization of topological surface states in Bi ₂ Se ₃ . <i>Physical Review Letters</i> , 2010 , 105, 076801	7.4	327
29	Intrinsic topological insulator Bi ₂ Te ₃ thin films on Si and their thickness limit. <i>Advanced Materials</i> , 2010 , 22, 4002-7	24	335
28	Field-induced gap and quantized charge pumping in a nanoscale helical wire. <i>Physical Review B</i> , 2009 , 79,	3.3	30

27	Kondo effect in the helical edge liquid of the quantum spin Hall state. <i>Physical Review Letters</i> , 2009 , 102, 256803	7.4	190
26	Topological insulators in Bi ₂ Se ₃ , Bi ₂ Te ₃ and Sb ₂ Te ₃ with a single Dirac cone on the surface. <i>Nature Physics</i> , 2009 , 5, 438-442	16.2	4411
25	Magnetic impurities on the surface of a topological insulator. <i>Physical Review Letters</i> , 2009 , 102, 156603	7.4	459
24	Nonlocal transport in the quantum spin Hall state. <i>Science</i> , 2009 , 325, 294-7	33.3	665
23	Electronic structures and surface states of the topological insulator Bi _{1-x} Sb _x . <i>Physical Review B</i> , 2009 , 80,	3.3	101
22	Inducing a magnetic monopole with topological surface States. <i>Science</i> , 2009 , 323, 1184-7	33.3	708
21	Quantum spin Hall effect in a transition metal oxide Na ₂ IrO ₃ . <i>Physical Review Letters</i> , 2009 , 102, 256403	7.4	399
20	Time-reversal-invariant topological superconductors and superfluids in two and three dimensions. <i>Physical Review Letters</i> , 2009 , 102, 187001	7.4	531
19	Experimental realization of a three-dimensional topological insulator, Bi ₂ Te ₃ . <i>Science</i> , 2009 , 325, 178-81	33.3	2650
18	Fractional charge and quantized current in the quantum spin Hall state. <i>Nature Physics</i> , 2008 , 4, 273-276	16.2	163
17	Topological Mott insulators. <i>Physical Review Letters</i> , 2008 , 100, 156401	7.4	473
16	Quantum anomalous hall effect in Hg _{1-y} MnyTe quantum wells. <i>Physical Review Letters</i> , 2008 , 101, 146802	7.4	487
15	Minimal two-band model of the superconducting iron oxypnictides. <i>Physical Review B</i> , 2008 , 77,	3.3	390
14	Spin-charge separation in the quantum spin Hall state. <i>Physical Review Letters</i> , 2008 , 101, 086802	7.4	74
13	Quantum spin Hall effect in inverted type-II semiconductors. <i>Physical Review Letters</i> , 2008 , 100, 236601	7.4	546
12	The Quantum Spin Hall Effect: Theory and Experiment. <i>Journal of the Physical Society of Japan</i> , 2008 , 77, 031007	1.5	592
11	Helical edge and surface states in HgTe quantum wells and bulk insulators. <i>Physical Review B</i> , 2008 , 77,	3.3	153
10	Topological field theory of time-reversal invariant insulators. <i>Physical Review B</i> , 2008 , 78,	3.3	2263

- 9 Mutual Chern-Simons gauge theory of spontaneous vortex phase. *Physical Review B*, **2007**, 76, 3-3 5
- 8 Spin-orbit gap of graphene: First-principles calculations. *Physical Review B*, **2007**, 75, 3-3 720
- 7 Quantum spin hall insulator state in HgTe quantum wells. *Science*, **2007**, 318, 766-70 33-3 4215
- 6 Lower pseudogap phase of Mott insulators: A spin/vortex liquid state. *Physical Review B*, **2006**, 74, 3-3 8
- 5 Topological quantization of the spin Hall effect in two-dimensional paramagnetic semiconductors. *Physical Review B*, **2006**, 74, 3-3 454
- 4 General theorem relating the bulk topological number to edge states in two-dimensional insulators. *Physical Review B*, **2006**, 74, 3-3 157
- 3 Mutual Chern-Simons effective theory of doped antiferromagnets. *Physical Review B*, **2005**, 71, 3-3 36
- 2 Spin Hall effect in a doped Mott insulator. *Physical Review B*, **2005**, 72, 3-3 13
- 1 Emergent classicality in general multipartite states and channels. *Quantum - the Open Journal for Quantum Science*, 5, 555 3