

Xiao-Liang Qi

List of Publications by Year in descending order

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Version: 2024-02-01

152
papers

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citations

10650

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153
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153
times ranked

22541
citing authors

#	ARTICLE	IF	CITATIONS
1	Entanglement island, miracle operators and the firewall. Journal of High Energy Physics, 2022, 2022, 1.	1.6	7
2	Holevo information and ensemble theory of gravity. Journal of High Energy Physics, 2022, 2022, 1.	1.6	11
3	Quantum algorithmic measurement. Nature Communications, 2022, 13, 887.	5.8	29
4	Rescuing a black hole in the large-q coupled SYK model. Journal of High Energy Physics, 2021, 2021, 1.	1.6	10
5	Holographic entanglement negativity and replica symmetry breaking. Journal of High Energy Physics, 2021, 2021, 1.	1.6	40
6	Quantum Error Correction in Scrambling Dynamics and Measurement-Induced Phase Transition. Physical Review Letters, 2020, 125, 030505.	2.9	226
7	40 years of the quantum Hall effect. Nature Reviews Physics, 2020, 2, 397-401.	11.9	84
8	Building bulk geometry from the tensor Radon transform. Journal of High Energy Physics, 2020, 2020, 1.	1.6	7
9	Effective entropy of quantum fields coupled with gravity. Journal of High Energy Physics, 2020, 2020, 1.	1.6	59
10	A random unitary circuit model for black hole evaporation. Journal of High Energy Physics, 2020, 2020, 1.	1.6	46
11	The coupled SYK model at finite temperature. Journal of High Energy Physics, 2020, 2020, 1.	1.6	21
12	Replica wormhole and information retrieval in the SYK model coupled to Majorana chains. Journal of High Energy Physics, 2020, 2020, 1.	1.6	53
13	Size of bulk fermions in the SYK model. Journal of High Energy Physics, 2020, 2020, 1.	1.6	9
14	Quantum causal influence. Journal of High Energy Physics, 2019, 2019, 1.	1.6	9
15	Chaos and high temperature pure state thermalization. Journal of High Energy Physics, 2019, 2019, 1.	1.6	13
16	Integrable and Chaotic Dynamics of Spins Coupled to an Optical Cavity. Physical Review X, 2019, 9, .	2.8	32
17	Quantum epidemiology: operator growth, thermal effects, and SYK. Journal of High Energy Physics, 2019, 2019, 1.	1.6	82
18	Quantum chaos in the Brownian SYK model with large finite N : OTOCs and tripartite information. Journal of High Energy Physics, 2019, 2019, 1.	1.6	51

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19	Machine learning spatial geometry from entanglement features. Physical Review B, 2018, 97, .	1.1	51
20	Modular flow as a disentangler. Journal of High Energy Physics, 2018, 2018, 1.	1.6	25
21	Superdensity operators for spacetime quantum mechanics. Journal of High Energy Physics, 2018, 2018, 1.	1.6	38
22	Topological quantum computation based on chiral Majorana fermions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10938-10942.	3.3	194
23	Does gravity come from quantum information?. Nature Physics, 2018, 14, 984-987.	6.5	26
24	Strongly interacting phases of metallic wires in strong magnetic field. Physical Review B, 2017, 96, .	1.1	3
25	Reply to "Comment on "Chiral gauge field and axial anomaly in a Weyl semimetal" ". Physical Review B, 2017, 96, .	1.1	1
26	Holographic coherent states from random tensor networks. Journal of High Energy Physics, 2017, 2017, 1.	1.6	26
27	Local criticality, diffusion and chaos in generalized Sachdev-Ye-Kitaev models. Journal of High Energy Physics, 2017, 2017, 1.	1.6	300
28	Spread of entanglement in a Sachdev-Ye-Kitaev chain. Journal of High Energy Physics, 2017, 2017, 1.	1.6	75
29	Energy diffusion and the butterfly effect in inhomogeneous Sachdev-Ye-Kitaev chains. SciPost Physics, 2017, 2, .	1.5	74
30	Tensor network quotient takes the vacuum to the thermal state. Physical Review B, 2016, 94, .	1.1	35
31	Holographic duality between quantum anomalous Hall state and topological insulators. Physical Review B, 2016, 94, .	1.1	31
32	Holographic entanglement renormalization of topological insulators. Physical Review B, 2016, 94, .	1.1	22
33	Exact holographic mapping in free fermion systems. Physical Review B, 2016, 93, .	1.1	33
34	Entanglement holographic mapping of many-body localized system by spectrum bifurcation renormalization group. Physical Review B, 2016, 93, .	1.1	51
35	Characterizing eigenstate thermalization via measures in the Fock space of operators. Physical Review E, 2016, 93, 042138.	0.8	12
36	Topological Superconductivity on the Surface of Fe-Based Superconductors. Physical Review Letters, 2016, 117, 047001.	2.9	198

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37	Holographic duality from random tensor networks. Journal of High Energy Physics, 2016, 2016, 1.	1.6	355
38	Fractional statistics and the butterfly effect. Journal of High Energy Physics, 2016, 2016, 1.	1.6	43
39	Bidirectional holographic codes and sub-AdS locality. Journal of High Energy Physics, 2016, 2016, 1.	1.6	62
40	Chaos in quantum channels. Journal of High Energy Physics, 2016, 2016, 1.	1.6	459
41	The Quantum Anomalous Hall Effect: Theory and Experiment. Annual Review of Condensed Matter Physics, 2016, 7, 301-321.	5.2	421
42	Quantized topological magnetoelectric effect of the zero-plateau quantum anomalous Hall state. Physical Review B, 2015, 92, .	1.1	152
43	Unified Topological Response Theory For Gapped and Gapless Free Fermions. Physical Review X, 2015, 5, .	2.8	11
44	Quantum Anomalous Hall Effect in Magnetic Insulator Heterostructure. Nano Letters, 2015, 15, 2019-2023.	4.5	50
45	Generalized Kitaev Models and Extrinsic Non-Abelian Twist Defects. Physical Review Letters, 2015, 114, 026401.	2.9	29
46	Position-Momentum Duality and Fractional Quantum Hall Effect in Chern Insulators. Physical Review Letters, 2015, 114, 236802.	2.9	73
47	Position-momentum duality in the entanglement spectrum of free fermions. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P10023.	0.9	25
48	Majorana zero modes in dislocations of Sr_2RuO_4 . Physical Review B, 2014, 90, .	1.1	49
49	Tensor network implementation of bulk entanglement spectrum. Physical Review B, 2014, 90, .	1.1	17
50	Layer Construction of 3D Topological States and String Braiding Statistics. Physical Review X, 2014, 4, .	2.8	57
51	Topological insulators. MRS Bulletin, 2014, 39, 843-846.	1.7	13
52	Identifying non-Abelian topological ordered state and transition by momentum polarization. Physical Review B, 2014, 89, .	1.1	13
53	Time-reversal-invariant topological superconductivity in doped Weyl semimetals. Physical Review B, 2014, 90, .	1.1	106
54	Lattice construction of pseudopotential Hamiltonians for fractional Chern insulators. Physical Review B, 2014, 90, .	1.1	36

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55	Topological superconductivity at the edge of transition-metal dichalcogenides. Physical Review B, 2014, 90, .	1.1	31
56	One-Dimensional Helical Transport in Topological Insulator Nanowire Interferometers. Nano Letters, 2014, 14, 2815-2821.	4.5	118
57	Prediction of a Weyl semimetal in $\text{HgCdMn}_2\text{S}_4$. Physical Review B, 2014, 89, .	1.1	11
58	Synthetic Topological Qubits in Conventional Bilayer Quantum Hall Systems. Physical Review X, 2014, 4, .	2.8	62
59	Axion topological field theory of topological superconductors. Physical Review B, 2013, 87, .	1.1	74
60	Momentum polarization: An entanglement measure of topological spin and chiral central charge. Physical Review B, 2013, 88, .	1.1	82
61	Field-Theory Foundations of Topological Insulators. Contemporary Concepts of Condensed Matter Science, 2013, 6, 91-122.	0.5	3
62	Pseudopotential formalism for fractional Chern insulators. Physical Review B, 2013, 88, .	1.1	52
63	A new class of $(2 + 1)$ -dimensional topological superconductors with \mathbb{Z}_8 topological classification. New Journal of Physics, 2013, 15, 065002.	1.2	114
64	A time-reversal invariant topological phase at the surface of a 3D topological insulator. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P09016.	0.9	142
65	Twist defects and projective non-Abelian braiding statistics. Physical Review B, 2013, 87, .	1.1	199
66	Massive Dirac surface states in topological insulator/magnetic insulator heterostructures. Physical Review B, 2013, 87, .	1.1	132
67	Thin Films of Magnetically Doped Topological Insulator with Carrier-Independent Long-Range Ferromagnetic Order. Advanced Materials, 2013, 25, 1065-1070.	11.1	246
68	Chiral gauge field and axial anomaly in a Weyl semimetal. Physical Review B, 2013, 87, .	1.1	274
69	Crystal-symmetry preserving Wannier states for fractional Chern insulators. Physical Review B, 2013, 88, .	1.1	12
70	Classification of topological defects in Abelian topological states. Physical Review B, 2013, 88, .	1.1	93
71	Theory of defects in Abelian topological states. Physical Review B, 2013, 88, .	1.1	126
72	Calculation of divergent photon absorption in ultrathin films of a topological insulator. Physical Review B, 2013, 88, .	1.1	24

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73	Time-reversal anomaly and Josephson effect in time-reversal-invariant topological superconductors. Physical Review B, 2013, 88, .	1.1	45
74	Momentum-space instantons and maximally localized flat-band topological Hamiltonians. Physica Status Solidi - Rapid Research Letters, 2013, 7, 154-156.	1.2	12
75	Topological Nematic States and Non-Abelian Lattice Dislocations. Physical Review X, 2012, 2, .	2.8	196
76	General Relationship between the Entanglement Spectrum and the Edge State Spectrum of Topological Quantum States. Physical Review Letters, 2012, 108, 196402.	2.9	252
77	Stationary phase approximation approach to the quasiparticle interference on the surface of a strong topological insulator. Physical Review B, 2012, 85, .	1.1	34
78	Models of three-dimensional fractional topological insulators. Physical Review B, 2012, 86, .	1.1	28
79	Symmetry Meets Topology. Science, 2012, 338, 1550-1551.	6.0	13
80	Topological invariants for interacting topological insulators with inversion symmetry. Physical Review B, 2012, 85, .	1.1	71
81	Electron fractionalization and unconventional order parameters of the $\nu=1$ model. Nuclear Physics B, 2012, 854, 815-840.	0.9	20
82	Effects of Magnetic Doping on Weak Antilocalization in Narrow Bi_2Se_3 Nanoribbons. Nano Letters, 2012, 12, 4355-4359.	4.5	59
83	Topological insulators in filled skutterudites. Physical Review B, 2012, 85, .	1.1	61
84	Spin polarization of the quantum spin Hall edge states. Nature Physics, 2012, 8, 485-490.	6.5	264
85	Landau level spectroscopy of surface states in the topological insulator Bi_2Sb . Physical Review B, 2012, 85, .	1.1	54
86	Dissipationless phonon Hall viscosity. Physical Review B, 2012, 85, .	1.1	41
87	Half quantum spin Hall effect on the surface of weak topological insulators. Physica E: Low-Dimensional Systems and Nanostructures, 2012, 44, 906-911.	1.3	47
88	Topological Response Theory of Doped Topological Insulators. Physical Review Letters, 2011, 107, 206602.	2.9	19
89	Topological Insulators in Ternary Compounds with a Honeycomb Lattice. Physical Review Letters, 2011, 106, 156402.	2.9	89
90	Generic Wave-Function Description of Fractional Quantum Anomalous Hall States and Fractional Topological Insulators. Physical Review Letters, 2011, 107, 126803.	2.9	174

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91	Topological Magnetic Insulators with Corundum Structure. Physical Review Letters, 2011, 106, 126403. Possible proximity of the Mott insulating iridate Na $\times 2$ xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow	2.9	42
92	/><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math>IrO $\times 3$ xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow	1.1	185
93	/><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> Quantum Hall Effect from the Topological Surface States of Strained Bulk HgTe. Physical Review Letters, 2011, 106, 126803.	2.9	427
94	Topological insulators and superconductors. Reviews of Modern Physics, 2011, 83, 1057-1110.	16.4	11,190
95	Weakly coupled non-Abelian anyons in three dimensions. Physical Review B, 2011, 84, .	1.1	27
96	Projective ribbon permutation statistics: A remnant of non-Abelian braiding in higher dimensions. Physical Review B, 2011, 83, .	1.1	49
97	Confinement-Deconfinement Interplay in Quantum Phases of Doped Mott Insulators. Physical Review Letters, 2011, 106, 147002.	2.9	20
98	Topological field theory and thermal responses of interacting topological superconductors. Physical Review B, 2011, 84, .	1.1	98
99	Topological superconducting phase and Majorana fermions in half-metal/superconductor heterostructures. Physical Review B, 2011, 84, .	1.1	109
100	Conductance and noise signatures of Majorana backscattering. Physical Review B, 2011, 83, .	1.1	113
101	A fine point on topological insulators. Physics Today, 2010, 63, 12-12.	0.3	6
102	Landau Quantization of Topological Surface States in Bi_2Te_3 xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi></mml:msub><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Se</mml:mi></mml:msub></mml:math> Physical Review Letters, 2010, 105, 076801.	2.9	352
103	Intrinsic Topological Insulator Bi_2Te_3 Thin Films on Si and Their Thickness Limit. Advanced Materials, 2010, 22, 4002-4007.	11.1	376
104	Aharonov-Bohm interference in topological insulator nanoribbons. Nature Materials, 2010, 9, 225-229.	13.3	727
105	Tunable multifunctional topological insulators in ternary Heusler compounds. Nature Materials, 2010, 9, 541-545.	13.3	804
106	Dynamical axion field in topological magnetic insulators. Nature Physics, 2010, 6, 284-288.	6.5	403
107	Crossover of the three-dimensional topological insulator Bi_2Se_3 to the two-dimensional limit. Nature Physics, 2010, 6, 584-588.	6.5	1,227
108	Chiral topological superconductor from the quantum Hall state. Physical Review B, 2010, 82, .	1.1	414

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109	Entanglement Entropy and Entanglement Spectrum of the Kitaev Model. Physical Review Letters, 2010, 105, 080501.	2.9	175
110	Spin Aharonov-Bohm effect and topological spin transistor. Physical Review B, 2010, 82, .	1.1	51
111	Topological insulator Bi ₂ Se ₃ thin films grown on double-layer graphene by molecular beam epitaxy. Applied Physics Letters, 2010, 97, .	1.5	154
112	Topological invariants for the Fermi surface of a time-reversal-invariant superconductor. Physical Review B, 2010, 81, .	1.1	246
113	Theoretical prediction of topological insulators in thallium-based III-V-VI ₂ ternary chalcogenides. Europhysics Letters, 2010, 90, 37002.	0.7	140
114	Equivalent topological invariants of topological insulators. New Journal of Physics, 2010, 12, 065007.	1.2	81
115	Fractional Topological Insulators in Three Dimensions. Physical Review Letters, 2010, 105, 246809.	2.9	149
116	The quantum spin Hall effect and topological insulators. Physics Today, 2010, 63, 33-38.	0.3	1,074
117	Massive Dirac Fermion on the Surface of a Magnetically Doped Topological Insulator. Science, 2010, 329, 659-662.	6.0	1,051
118	Model Hamiltonian for topological insulators. Physical Review B, 2010, 82, .	1.1	719
119	Collective Modes of a Helical Liquid. Physical Review Letters, 2010, 104, 116401.	2.9	189
120	Oscillatory crossover from two-dimensional to three-dimensional topological insulators. Physical Review B, 2010, 81, .	1.1	459
121	Topological Order Parameters for Interacting Topological Insulators. Physical Review Letters, 2010, 105, 256803.	2.9	170
122	Topological Quantization in Units of the Fine Structure Constant. Physical Review Letters, 2010, 105, 166803.	2.9	212
123	Magnetoconductance of the quantum spin Hall state. Physical Review B, 2010, 82, .	1.1	69
124	Theoretical prediction of topological insulator in ternary rare earth chalcogenides. Physical Review B, 2010, 82, .	1.1	49
125	Field-induced gap and quantized charge pumping in a nanoscale helical wire. Physical Review B, 2009, 79, .	1.1	30
126	Kondo Effect in the Helical Edge Liquid of the Quantum Spin Hall State. Physical Review Letters, 2009, 102, 256803.	2.9	221

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127	Topological insulators in Bi ₂ Se ₃ , Bi ₂ Te ₃ and Sb ₂ Te ₃ with a single Dirac cone on the surface. Nature Physics, 2009, 5, 438-442.	6.5	5,240
128	Magnetic Impurities on the Surface of a Topological Insulator. Physical Review Letters, 2009, 102, 156603.	2.9	525
129	Nonlocal Transport in the Quantum Spin Hall State. Science, 2009, 325, 294-297.	6.0	772
130	Electronic structures and surface states of the topological insulator Bi_2Te_3 . Physical Review B, 2009, 80, .	11.1	113
131	Inducing a Magnetic Monopole with Topological Surface States. Science, 2009, 323, 1184-1187.	6.0	824
132	Quantum Spin Hall Effect in a Transition Metal Oxide Na_2IrO_5 . Physical Review Letters, 2009, 102, 256403.	2.9	435
133	Time-Reversal-Invariant Topological Superconductors and Superfluids in Two and Three Dimensions. Physical Review Letters, 2009, 102, 187001.	2.9	630
134	Experimental Realization of a Three-Dimensional Topological Insulator, Bi ₂ Te ₃ . Science, 2009, 325, 178-181.	6.0	3,095
135	Topological field theory of time-reversal invariant insulators. Physical Review B, 2008, 78, .	1.1	2,702
136	Fractional charge and quantized current in the quantum spin Hall state. Nature Physics, 2008, 4, 273-276.	6.5	189
137	Topological Mott Insulators. Physical Review Letters, 2008, 100, 156401.	2.9	549
138	Quantum Anomalous Hall Effect in HgTe Quantum Wells. Physical Review Letters, 2008, 101, 146802.	2.9	598
139	Minimal two-band model of the superconducting iron oxypnictides. Physical Review B, 2008, 77, .	1.1	435
140	Spin-Charge Separation in the Quantum Spin Hall State. Physical Review Letters, 2008, 101, 086802.	2.9	89
141	Quantum Spin Hall Effect in Inverted Type-II Semiconductors. Physical Review Letters, 2008, 100, 236601.	2.9	647
142	The Quantum Spin Hall Effect: Theory and Experiment. Journal of the Physical Society of Japan, 2008, 77, 031007.	0.7	675
143	Helical edge and surface states in HgTe quantum wells and bulk insulators. Physical Review B, 2008, 77, .	1.1	174
144	Mutual Chern-Simons gauge theory of spontaneous vortex phase. Physical Review B, 2007, 76, .	1.1	9

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145	Spin-orbit gap of graphene: First-principles calculations. Physical Review B, 2007, 75, .	1.1	848
146	Quantum Spin Hall Insulator State in HgTe Quantum Wells. Science, 2007, 318, 766-770.	6.0	5,070
147	Topological quantization of the spin Hall effect in two-dimensional paramagnetic semiconductors. Physical Review B, 2006, 74, .	1.1	646
148	General theorem relating the bulk topological number to edge states in two-dimensional insulators. Physical Review B, 2006, 74, .	1.1	194
149	Lower pseudogap phase of Mott insulators: A spin/vortex liquid state. Physical Review B, 2006, 74, .	1.1	10
150	Mutual Chern-Simons effective theory of doped antiferromagnets. Physical Review B, 2005, 71, .	1.1	42
151	Spin Hall effect in a doped Mott insulator. Physical Review B, 2005, 72, .	1.1	16
152	Emergent classicality in general multipartite states and channels. Quantum - the Open Journal for Quantum Science, 0, 5, 555.	0.0	12