

# Min-Hsiu Hsieh

## List of Publications by Year in descending order

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129  
papers

3,706  
citations

147566

31  
h-index

149479

56  
g-index

133  
all docs

133  
docs citations

133  
times ranked

1480  
citing authors

#	ARTICLE	IF	CITATIONS
1	Correcting Quantum Errors with Entanglement. <i>Science</i> , 2006, 314, 436-439.	6.0	367
2	Min- and Max-Relative Entropies and a New Entanglement Monotone. <i>IEEE Transactions on Information Theory</i> , 2009, 55, 2816-2826.	1.5	310
3	Relating the Resource Theories of Entanglement and Quantum Coherence. <i>Physical Review Letters</i> , 2016, 117, 020402.	2.9	206
4	Local $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi mathvariant="script"} \rangle \text{P} \langle \text{mml:mi} \rangle \langle \text{mml:mi mathvariant="script"} \rangle \text{T} \langle \text{mml:mi} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:math} \rangle$ Symmetry Violates the No-Signaling Principle. <i>Physical Review Letters</i> , 2014, 112, 130404.	2.9	125
5	The Quantum Capacity of Channels With Arbitrarily Correlated Noise. <i>IEEE Transactions on Information Theory</i> , 2010, 56, 1447-1460.	1.5	124
6	Entanglement-Assisted Communication of Classical and Quantum Information. <i>IEEE Transactions on Information Theory</i> , 2010, 56, 4682-4704.	1.5	123
7	Expressive power of parametrized quantum circuits. <i>Physical Review Research</i> , 2020, 2, .	1.3	117
8	General entanglement-assisted quantum error-correcting codes. <i>Physical Review A</i> , 2007, 76, .	1.0	104
9	Entanglement-Assisted Quantum Turbo Codes. <i>IEEE Transactions on Information Theory</i> , 2014, 60, 1203-1222.	1.5	91
10	Experimental Quantum Generative Adversarial Networks for Image Generation. <i>Physical Review Applied</i> , 2021, 16, .	1.5	87
11	One-Shot Rates for Entanglement Manipulation Under Non-entangling Maps. <i>IEEE Transactions on Information Theory</i> , 2011, 57, 1754-1760.	1.5	84
12	High Performance Entanglement-Assisted Quantum LDPC Codes Need Little Entanglement. <i>IEEE Transactions on Information Theory</i> , 2011, 57, 1761-1769.	1.5	83
13	Entanglement-Assisted Capacity of Quantum Multiple-Access Channels. <i>IEEE Transactions on Information Theory</i> , 2008, 54, 3078-3090.	1.5	74
14	Entanglement-assisted quantum quasicyclic low-density parity-check codes. <i>Physical Review A</i> , 2009, 79, .	1.0	66
15	Smooth Entropies and the Quantum Information Spectrum. <i>IEEE Transactions on Information Theory</i> , 2009, 55, 2807-2815.	1.5	62
16	Catalytic Quantum Error Correction. <i>IEEE Transactions on Information Theory</i> , 2014, 60, 3073-3089.	1.5	62
17	Approaches for approximate additivity of the Holevo information of quantum channels. <i>Physical Review A</i> , 2018, 97, .	1.0	60
18	Trading classical communication, quantum communication, and entanglement in quantum Shannon theory. <i>IEEE Transactions on Information Theory</i> , 2010, 56, 4705-4730.	1.5	59

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19	The coding theorem for a class of quantum channels with long-term memory. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2007, 40, 8147-8164.	0.7	48
20	Generalized relative entropies and the capacity of classical-quantum channels. <i>Journal of Mathematical Physics</i> , 2009, 50, .	0.5	47
21	The quantum dynamic capacity formula of a quantum channel. <i>Quantum Information Processing</i> , 2012, 11, 1431-1463.	1.0	47
22	The apex of the family tree of protocols: optimal rates and resource inequalities. <i>New Journal of Physics</i> , 2011, 13, 093042.	1.2	44
23	The information-theoretic costs of simulating quantum measurements. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012, 45, 453001.	0.7	44
24	Quantum Rate Distortion, Reverse Shannon Theorems, and Source-Channel Separation. <i>IEEE Transactions on Information Theory</i> , 2013, 59, 615-630.	1.5	43
25	Revisiting the optimal detection of quantum information. <i>Physical Review A</i> , 2013, 88, .	1.0	41
26	Quantifying Resources in General Resource Theory with Catalysts. <i>Physical Review Letters</i> , 2018, 121, 190504.	2.9	41
27	Distilling entanglement from arbitrary resources. <i>Journal of Mathematical Physics</i> , 2010, 51, .	0.5	40
28	One-Shot Entanglement-Assisted Quantum and Classical Communication. <i>IEEE Transactions on Information Theory</i> , 2013, 59, 1929-1939.	1.5	37
29	When Do Local Operations and Classical Communication Suffice for Two-Qubit State Discrimination?. <i>IEEE Transactions on Information Theory</i> , 2014, 60, 1549-1561.	1.5	35
30	A limit of the quantum Rényi divergence. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 045304.	0.7	33
31	On the second-order asymptotics for entanglement-assisted communication. <i>Quantum Information Processing</i> , 2016, 15, 2569-2591.	1.0	33
32	Learnability of Quantum Neural Networks. <i>PRX Quantum</i> , 2021, 2, .	3.5	31
33	Quantum circuit architecture search for variational quantum algorithms. <i>Npj Quantum Information</i> , 2022, 8, .	2.8	31
34	NP-hardness of decoding quantum error-correction codes. <i>Physical Review A</i> , 2011, 83, .	1.0	29
35	Second-Order Asymptotics for Source Coding, Dense Coding, and Pure-State Entanglement Conversions. <i>IEEE Transactions on Information Theory</i> , 2015, 61, 582-608.	1.5	29
36	Useful States and Entanglement Distillation. <i>IEEE Transactions on Information Theory</i> , 2018, 64, 4689-4708.	1.5	29

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37	A Smooth Entropy Approach to Quantum Hypothesis Testing and the Classical Capacity of Quantum Channels. IEEE Transactions on Information Theory, 2013, 59, 8014-8026.	1.5	28
38	Classical enhancement of quantum-error-correcting codes. Physical Review A, 2008, 78, .	1.0	27
39	One-Shot Lossy Quantum Data Compression. IEEE Transactions on Information Theory, 2013, 59, 8057-8076.	1.5	27
40	Strong converse theorems using Rényi entropies. Journal of Mathematical Physics, 2016, 57, .	0.5	26
41	Quantum Rate-Distortion Coding With Auxiliary Resources. IEEE Transactions on Information Theory, 2013, 59, 6755-6773.	1.5	25
42	Moderate Deviation Analysis for Classical-Quantum Channels and Quantum Hypothesis Testing. IEEE Transactions on Information Theory, 2018, 64, 1385-1403.	1.5	25
43	Public and private resource trade-offs for a quantum channel. Quantum Information Processing, 2012, 11, 1465-1501.	1.0	24
44	Entropy power inequalities for qudits. Journal of Mathematical Physics, 2016, 57, 052202.	0.5	24
45	Decoding quantum information via the Petz recovery map. Journal of Mathematical Physics, 2016, 57, 082203.	0.5	21
46	Quantum Sphere-Packing Bounds With Polynomial Prefactors. IEEE Transactions on Information Theory, 2019, 65, 2872-2898.	1.5	21
47	Quantum Reverse Hypercontractivity: Its Tensorization and Application to Strong Converses. Communications in Mathematical Physics, 2020, 376, 753-794.	1.0	20
48	One-shot assisted concentration of coherence. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 414001.	0.7	19
49	A Grover-search based quantum learning scheme for classification. New Journal of Physics, 2021, 23, 023020.	1.2	18
50	Energy-Constrained Discrimination of Unitaries, Quantum Speed Limits, and a Gaussian Solovay-Kitaev Theorem. Physical Review Letters, 2021, 126, 190504.	2.9	17
51	Entanglement boosts quantum turbo codes. , 2011, , .		16
52	Quantum-to-classical rate distortion coding. Journal of Mathematical Physics, 2013, 54, .	0.5	16
53	General Theory of Environment-Assisted Entanglement Distillation. IEEE Transactions on Information Theory, 2013, 59, 1940-1954.	1.5	16
54	Second-order asymptotics for quantum hypothesis testing in settings beyond i.i.d. "quantum lattice systems and more. Journal of Mathematical Physics, 2016, 57, 062207.	0.5	15

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55	Non-Asymptotic Classical Data Compression With Quantum Side Information. IEEE Transactions on Information Theory, 2021, 67, 902-930.	1.5	15
56	Public and private communication with a quantum channel and a secret key. Physical Review A, 2009, 80, .	1.0	14
57	Channel Simulation and Coded Source Compression. IEEE Transactions on Information Theory, 2016, 62, 6609-6619.	1.5	14
58	The learnability of unknown quantum measurements. Quantum Information and Computation, 2016, 16, 615-656.	0.1	14
59	Asymptotic state discrimination and a strict hierarchy in distinguishability norms. Journal of Mathematical Physics, 2014, 55, 112204.	0.5	13
60	On the MacWilliams Identity for Classical and Quantum Convolutional Codes. IEEE Transactions on Communications, 2016, 64, 3148-3159.	4.9	13
61	An upper bound on the second order asymptotic expansion for the quantum communication cost of state redistribution. Journal of Mathematical Physics, 2016, 57, 052203.	0.5	13
62	Secret-key-assisted private classical communication capacity over quantum channels. Physical Review A, 2008, 78, .	1.0	12
63	Round complexity in the local transformations of quantum and classical states. Nature Communications, 2017, 8, 2086.	5.8	12
64	Superadditivity in Trade-Off Capacities of Quantum Channels. IEEE Transactions on Information Theory, 2019, 65, 3973-3989.	1.5	12
65	Convexity and Operational Interpretation of the Quantum Information Bottleneck Function. , 2019, , .		12
66	Properties of subentropy. Journal of Mathematical Physics, 2014, 55, .	0.5	11
67	Entanglement-assisted capacity regions and protocol designs for quantum multiple-access channels. Npj Quantum Information, 2021, 7, .	2.8	11
68	Concavity of the Auxiliary Function for Classical-Quantum Channels. IEEE Transactions on Information Theory, 2016, 62, 5960-5965.	1.5	10
69	Inequivalent multipartite coherence classes and two operational coherence monotones. Physical Review A, 2019, 99, .	1.0	10
70	Entanglement-Assisted Quantum Error-Correcting Codes. , 2009, , 161-172.		9
71	Randomized Benchmarking for Non-Markovian Noise. PRX Quantum, 2021, 2, .	3.5	9
72	General entanglement-assisted quantum error-correcting codes. , 2007, , .		8

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73	Contractivity properties of a quantum diffusion semigroup. <i>Journal of Mathematical Physics</i> , 2017, 58, .	0.5	8
74	Construction and Performance of Quantum Burst Error Correction Codes for Correlated Errors. , 2018, , .		8
75	One-Shot Capacity Bounds on the Simultaneous Transmission of Classical and Quantum Information. <i>IEEE Transactions on Information Theory</i> , 2020, 66, 2141-2164.	1.5	8
76	Quantum speedup in adaptive boosting of binary classification. <i>Science China: Physics, Mechanics and Astronomy</i> , 2021, 64, 1.	2.0	8
77	Exponential decay of matrix $\hat{\rho}$ -entropies on Markov semigroups with applications to dynamical evolutions of quantum ensembles. <i>Journal of Mathematical Physics</i> , 2017, 58, .	0.5	8
78	Universal coding for transmission of private information. <i>Journal of Mathematical Physics</i> , 2010, 51, 122202.	0.5	7
79	Classical Analog to Entanglement Reversibility. <i>Physical Review Letters</i> , 2015, 115, 090501.	2.9	7
80	Finite Blocklength and Moderate Deviation Analysis of Hypothesis Testing of Correlated Quantum States and Application to Classical-Quantum Channels With Memory. <i>IEEE Transactions on Information Theory</i> , 2018, 64, 593-612.	1.5	7
81	Asymmetric Quantum Concatenated and Tensor Product Codes With Large $\chi$ -Distances. <i>IEEE Transactions on Communications</i> , 2021, 69, 3971-3983.	4.9	7
82	Quantum-inspired algorithm for general minimum conical hull problems. <i>Physical Review Research</i> , 2020, 2, .	1.3	7
83	On quantum tensor product codes. <i>Quantum Information and Computation</i> , 2017, 17, 1105-1122.	0.1	7
84	Detecting positive quantum capacities of quantum channels. <i>Npj Quantum Information</i> , 2022, 8, .	2.8	7
85	Entanglement generation with a quantum channel and a shared state. , 2010, , .		6
86	Characterizations of matrix and operator-valued $\hat{\rho}$ -entropies, and operator Efronâ€“Stein inequalities. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20150563.	1.0	6
87	Efficient Bipartite Entanglement Detection Scheme with a Quantum Adversarial Solver. <i>Physical Review Letters</i> , 2022, 128, 110501.	2.9	6
88	Entanglement-assisted concatenated quantum codes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	6
89	NEW CLASS OF QUANTUM CODES CONSTRUCTED FROM CYCLIC DIFFERENCE SET. <i>International Journal of Quantum Information</i> , 2012, 10, 1250015.	0.6	5
90	Simple bounds for one-shot pure-state distillation in general resource theories. <i>Physical Review A</i> , 2020, 102, .	1.0	5

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91	Convergence Rates for the Quantum Central Limit Theorem. Communications in Mathematical Physics, 2021, 383, 223-279.	1.0	5
92	Strong Converse Bounds in Quantum Network Information Theory. IEEE Transactions on Information Theory, 2021, 67, 2269-2292.	1.5	5
93	Distributions Attaining Secret Key at a Rate of the Conditional Mutual Information. Lecture Notes in Computer Science, 2015, , 443-462.	1.0	5
94	Quantum Differentially Private Sparse Regression Learning. IEEE Transactions on Information Theory, 2022, 68, 5217-5233.	1.5	5
95	Duality Between Source Coding With Quantum Side Information and Classical-Quantum Channel Coding. IEEE Transactions on Information Theory, 2022, 68, 7315-7345.	1.5	5
96	PassivePT-symmetric couplers without complex optical potentials. Physical Review A, 2015, 92, .	1.0	4
97	The Private and Public Correlation Cost of Three Random Variables With Collaboration. IEEE Transactions on Information Theory, 2016, 62, 2034-2043.	1.5	4
98	Sphere-packing bound for symmetric classical-quantum channels. , 2017, , .		4
99	The Conditional Common Information in Classical and Quantum Secret Key Distillation. IEEE Transactions on Information Theory, 2018, 64, 7381-7394.	1.5	4
100	Matrix Poincaré-Sobolev inequalities, and quantum ensembles. Journal of Mathematical Physics, 2019, 60, 032201.	0.5	4
101	Strong Converse Bounds in Quantum Network Information Theory. , 2020, , .		4
102	Quantum Gram-Schmidt processes and their application to efficient state readout for quantum algorithms. Physical Review Research, 2021, 3, .	1.3	4
103	Properties of Noncommutative Rényi and Augustin Information. Communications in Mathematical Physics, 2022, 390, 501-544.	1.0	4
104	One-Shot Hybrid State Redistribution. Quantum - the Open Journal for Quantum Science, 0, 6, 724.	0.0	4
105	Adaptively correcting quantum errors with entanglement. , 2011, , .		3
106	Source compression with a quantum helper. , 2015, , .		3
107	A novel channel interference identification. , 0, , .		2
108	Entanglement-assisted quantum error-correcting codes. , 2013, , 181-200.		2

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109	The MacWilliams identity for quantum convolutional codes. , 2014, , .		2
110	Fully quantum source compression with a quantum helper. , 2015, , .		2
111	Compatibility of state assignments and pooling of information. Physical Review A, 2015, 92, .	1.0	2
112	Petz recovery versus matrix reconstruction. Journal of Mathematical Physics, 2018, 59, 042201.	0.5	2
113	Superadditivity in Trade-Off Capacities of Quantum Channels. , 2018, , .		2
114	Hierarchy of quantum operations in manipulating coherence and entanglement. Quantum - the Open Journal for Quantum Science, 0, 5, 480.	0.0	2
115	Guesswork With Quantum Side Information. IEEE Transactions on Information Theory, 2022, 68, 322-338.	1.5	2
116	A complete MacWilliams theorem for convolutional codes. , 2014, , .		1
117	Error Exponents and Strong Converse Exponents for Classical Data Compression with Quantum Side Information. , 2018, , .		1
118	Properties of Scaled Noncommutative Rényi and Augustin Information. , 2019, , .		1
119	Single-Serving Quantum Broadcast Channel With Common, Individualized, and Confidential Messages. IEEE Transactions on Information Theory, 2020, 66, 7752-7771.	1.5	1
120	Noisy Quantum State Redistribution With Promise and the Alpha-Bit. IEEE Transactions on Information Theory, 2020, 66, 7772-7786.	1.5	1
121	Matrix Infinitely Divisible Series: Tail Inequalities and Their Applications. IEEE Transactions on Information Theory, 2020, 66, 1099-1117.	1.5	1
122	Multicasting homogeneous and heterogeneous quantum states in quantum networks. Nano Communication Networks, 2010, 1, 273-282.	1.6	0
123	Strong converse theorems using Rényi entropies. , 2016, , .		0
124	Moderate deviations for classical-quantum channels. , 2017, , .		0
125	Sphere-packing bound for classical-quantum channels. , 2017, , .		0
126	Moderate deviations for quantum hypothesis testing and a martingale inequality. , 2017, , .		0



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127	Guesswork with Quantum Side Information: Optimal Strategies and Aspects of Security. , 2020, , .		0
128	Entanglement-assisted multiple-access channels: capacity regions and protocol designs. , 2021, , .		0
129	Entanglement-assisted multiple-access channels: capacity regions and protocol designs. , 2021, , .		0