

Toby Cubitt

List of Publications by Year in descending order

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Version: 2024-02-01

43
papers

1,830
citations

331670

21
h-index

289244

40
g-index

43
all docs

43
docs citations

43
times ranked

1315
citing authors

#	ARTICLE	IF	CITATIONS
1	Assessing Non-Markovian Quantum Dynamics. Physical Review Letters, 2008, 101, 150402.	7.8	477
2	Undecidability of the spectral gap. Nature, 2015, 528, 207-211.	27.8	158
3	Separable States Can Be Used To Distribute Entanglement. Physical Review Letters, 2003, 91, 037902.	7.8	117
4	Improving Zero-Error Classical Communication with Entanglement. Physical Review Letters, 2010, 104, 230503.	7.8	90
5	The structure of degradable quantum channels. Journal of Mathematical Physics, 2008, 49, .	1.1	85
6	Simple universal models capture all classical spin physics. Science, 2016, 351, 1180-1183.	12.6	71
7	Unbounded number of channel uses may be required to detect quantum capacity. Nature Communications, 2015, 6, 6739.	12.8	62
8	On the dimension of subspaces with bounded Schmidt rank. Journal of Mathematical Physics, 2008, 49, .	1.1	57
9	Superactivation of the Asymptotic Zero-Error Classical Capacity of a Quantum Channel. IEEE Transactions on Information Theory, 2011, 57, 8114-8126.	2.4	49
10	Universal quantum Hamiltonians. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9497-9502.	7.1	49
11	Zero-Error Channel Capacity and Simulation Assisted by Non-Local Correlations. IEEE Transactions on Information Theory, 2011, 57, 5509-5523.	2.4	46
12	Counterexamples to Additivity of Minimum Output p-Rényi Entropy for p Close to 0. Communications in Mathematical Physics, 2008, 284, 281-290.	2.2	39
13	Extracting Dynamical Equations from Experimental Data is NP Hard. Physical Review Letters, 2012, 108, 120503.	7.8	39
14	Entanglement flow in multipartite systems. Physical Review A, 2005, 71, .	2.5	38
15	Stability of Local Quantum Dissipative Systems. Communications in Mathematical Physics, 2015, 337, 1275-1315.	2.2	38
16	Complexity Classification of Local Hamiltonian Problems. SIAM Journal on Computing, 2016, 45, 268-316.	1.0	33
17	Compact fermion to qubit mappings. Physical Review B, 2021, 104, .	3.2	32
18	Engineering Correlation and Entanglement Dynamics in Spin Systems. Physical Review Letters, 2008, 100, 180406.	7.8	31

#	ARTICLE	IF	CITATIONS
19	The Complexity of Relating Quantum Channels to Master Equations. Communications in Mathematical Physics, 2012, 310, 383-418.	2.2	30
20	Toy models of holographic duality between local Hamiltonians. Journal of High Energy Physics, 2019, 2019, 1.	4.7	27
21	Fundamental limitations in the purifications of tensor networks. Journal of Mathematical Physics, 2016, 57, .	1.1	22
22	Hamiltonian simulation algorithms for near-term quantum hardware. Nature Communications, 2021, 12, 4989.	12.8	22
23	An Extreme Form of Superactivation for Quantum Zero-Error Capacities. IEEE Transactions on Information Theory, 2012, 58, 1953-1961.	2.4	21
24	Undecidability of the Spectral Gap in One Dimension. Physical Review X, 2020, 10, .	8.9	20
25	Area law for fixed points of rapidly mixing dissipative quantum systems. Journal of Mathematical Physics, 2015, 56, .	1.1	18
26	Bounds on Entanglement-Assisted Source-Channel Coding via the Lovász (vartheta) Number and Its Variants. IEEE Transactions on Information Theory, 2014, 60, 7330-7344.	2.4	17
27	Preparing topological projected entangled pair states on a quantum computer. Physical Review A, 2013, 88, .	2.5	16
28	Complexity Classification of Local Hamiltonian Problems. , 2014, , .		15
29	The Complexity of Translationally Invariant Spin Chains with Low Local Dimension. Annales Henri Poincare, 2017, 18, 3449-3513.	1.7	14
30	Size-driven quantum phase transitions. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 19-23.	7.1	13
31	Nonsecret correlations can be used to distribute secrecy. Physical Review A, 2009, 79, .	2.5	11
32	The complexity of divisibility. Linear Algebra and Its Applications, 2016, 504, 64-107.	0.9	11
33	Quantum reverse hypercontractivity. Journal of Mathematical Physics, 2015, 56, .	1.1	10
34	Rapid mixing and stability of quantum dissipative systems. Physical Review A, 2015, 91, .	2.5	10
35	Translationally Invariant Universal Classical Hamiltonians. Journal of Statistical Physics, 2019, 176, 228-261.	1.2	7
36	Uncomputability of phase diagrams. Nature Communications, 2021, 12, 452.	12.8	7

#	ARTICLE	IF	CITATIONS
37	Translationally Invariant Universal Quantum Hamiltonians in 1D. Annales Henri Poincare, 2022, 23, 223-254.	1.7	7
38	Entanglement can Completely Defeat Quantum Noise. Physical Review Letters, 2011, 107, 250504.	7.8	5
39	Undecidability of the Spectral Gap. Forum of Mathematics, Pi, 2022, 10, .	2.0	5
40	Super-duper-activation of the zero-error quantum capacity. , 2010, , .		3
41	Holographic duality between local Hamiltonians from random tensor networks. Journal of High Energy Physics, 2022, 2022, 1.	4.7	3
42	Computational complexity of the ground state energy density problem. , 2022, , .		3
43	General Conditions for Universality of Quantum Hamiltonians. PRX Quantum, 2022, 3, .	9.2	2