Kavan Modi

List of Publications by Year
in descending order

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Version: 2024-02-01

95 papers	6,039 citations	109264 35 h-index	74108 75 g-index
98 all docs	98 docs citations	98 times ranked	2297 citing authors

#	Article	IF	Citations
1	How long does it take to implement a projective measurement?. European Journal of Physics, 2022, 43, 035404.	0.3	3
2	Signatures of Quantum Chaos in an Out-of-Time-Order Tensor. Physical Review Letters, 2022, 128, 150601.	2.9	7
3	Inverse linear versus exponential scaling of work penalty in finite-time bit reset. Physical Review E, 2022, 105, 044147.	0.8	5
4	Resource speed limits: maximal rate of resource variation. New Journal of Physics, 2022, 24, 065001.	1.2	14
5	Non-Markovian Quantum Process Tomography. PRX Quantum, 2022, 3, .	3.5	22
6	Bounding generalized relative entropies: Nonasymptotic quantum speed limits. Physical Review E, 2021, 103, 032105.	0.8	10
7	Delayed-choice causal order and nonclassical correlations. Physical Review Research, 2021, 3, .	1.3	6
8	Markovianization with approximate unitary designs. Communications Physics, 2021, 4, .	2.0	10
9	Genuine multipartite entanglement in time. SciPost Physics, 2021, 10, .	1.5	15
10	Quantum Stochastic Processes and Quantum non-Markovian Phenomena. PRX Quantum, 2021, 2, .	3.5	63
11	Non-Markovian memory strength bounds quantum process recoverability. Npj Quantum Information, 2021, 7, .	2.8	7
12	Universal Bound on Energy Cost of Bit Reset in Finite Time. Physical Review Letters, 2021, 127, 190602.	2.9	32
13	Quantum non-Markovianity elusive to interventions. Physical Review A, 2021, 104, .	1.0	8
14	Randomized Benchmarking for Non-Markovian Noise. PRX Quantum, 2021, 2, .	3.5	9
15	Fluctuation theorem for nonunital dynamics. AVS Quantum Science, 2021, 3, 045001.	1.8	6
16	Equilibration on average in quantum processes with finite temporal resolution. Physical Review E, 2020, 102, 032144.	0.8	5
17	Probabilistic and approximate masking of quantum information. Physical Review A, 2020, 102, .	1.0	12
18	Demonstration of non-Markovian process characterisation and control on a quantum processor. Nature Communications, 2020, 11, 6301.	5.8	53

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19	Tensor-network-based machine learning of non-Markovian quantum processes. Physical Review A, 2020, 102, .	1.0	30
20	Monogamy of temporal correlations: Witnessing non-Markovianity beyond data processing. Physical Review Research, 2020, 2, .	1.3	3
21	General anesthesia reduces complexity and temporal asymmetry of the informational structures derived from neural recordings inDrosophila. Physical Review Research, 2020, 2, .	1.3	17
22	Completely Positive Divisibility Does Not Mean Markovianity. Physical Review Letters, 2019, 123, 040401.	2.9	76
23	Quantum work statistics and resource theories: Bridging the gap through RÃ©nyi divergences. Physical Review E, 2019, 99, 050101.	0.8	14
24	Structure of quantum stochastic processes with finite Markov order. Physical Review A, 2019, 99, .	1.0	45
25	Quantum Markov Order. Physical Review Letters, 2019, 122, 140401.	2.9	44
26	George Sudarshan and Quantum Dynamics. Open Systems and Information Dynamics, 2019, 26, 1950013.	0.5	1
27	Algorithm for solving unconstrained unitary quantum brachistochrone problems. Physical Review A, 2019, 100, .	1.0	9
28	Entanglement, non-Markovianity, and causal non-separability. New Journal of Physics, 2018, 20, 033033.	1.2	28
29	Spin-chain model of a many-body quantum battery. Physical Review A, 2018, 97, .	1.0	136
30	Quantum plug nâ€™ play: modular computation in the quantum regime. New Journal of Physics, 2018, 20, 013004.	1.2	19
31	Tightening Quantum Speed Limits for Almost All States. Physical Review Letters, 2018, 120, 060409.	2.9	98
32	Non-Markovian quantum processes: Complete framework and efficient characterization. Physical Review A, 2018, 97, .	1.0	202
33	Operational Markov Condition for Quantum Processes. Physical Review Letters, 2018, 120, 040405.	2.9	157
34	Energy-efficient quantum frequency estimation. New Journal of Physics, 2018, 20, 063009.	1.2	10
35	Non-Markovian quantum control as coherent stochastic trajectories. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 414014.	0.7	18
36	Reconstructing non-Markovian quantum dynamics with limited control. Physical Review A, 2018, 98, .	1.0	23

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37	Emergence of a fluctuation relation for heat in nonequilibrium Landauer processes. Physical Review E, 2018, 97, 052111.	0.8	4
38	Noisy frequency estimation with noisy probes. New Journal of Physics, 2018, 20, 083008.	1.2	7
39	Masking Quantum Information is Impossible. Physical Review Letters, 2018, 120, 230501.	2.9	52
40	Divisible quantum dynamics satisfies temporal Tsirelsonâ€™s bound. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 055302.	0.7	10
41	Enhancing the Charging Power of Quantum Batteries. Physical Review Letters, 2017, 118, 150601.	2.9	237
42	An Introduction to Operational Quantum Dynamics. Open Systems and Information Dynamics, 2017, 24, 1740016.	0.5	64
43	How Does Interference Fall?. Quantum Science and Technology, 2017, , 421-451.	1.5	1
44	Experimental demonstration of information to energy conversion in a quantum system at the Landauer limit. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20150813.	1.0	75
45	A test of the equivalence principle(s) for quantum superpositions. Classical and Quantum Gravity, 2016, 33, 19LT01.	1.5	20
46	Correlations, operations and the second law of thermodynamics. International Journal of Quantum Information, 2016, 14, 1640033.	0.6	7
47	Using a biased qubit to probe complex systems. Physical Review A, 2016, 94, .	1.0	2
48	Excessive distribution of quantum entanglement. Physical Review A, 2016, 93, .	1.0	10
49	Supraclassical measurement using single-atom control of an atomic ensemble. Physical Review A, 2016, 93, .	1.0	6
50	Power of one bit of quantum information in quantum metrology. Physical Review A, 2016, 93, .	1.0	12
51	Power of one qumode for quantum computation. Physical Review A, 2016, 93, .	1.0	26
52	Entropy bounds for quantum processes with initial correlations. Physical Review A, 2015, 92, .	1.0	13
53	Nonequilibrium Quantum Landauer Principle. Physical Review Letters, 2015, 114, 060602.	2.9	94
54	Characterizing Quantum Dynamics with Initial System-Environment Correlations. Physical Review Letters, 2015, 114, 090402.	2.9	58

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55	Coherent measurements in quantum metrology. New Journal of Physics, 2015, 17, 023057.	1.2	31
56	Quantum thermodynamics of general quantum processes. Physical Review E, 2015, 91, 032119.	0.8	81
57	Quantacell: powerful charging of quantum batteries. New Journal of Physics, 2015, 17, 075015.	1.2	235
58	Discord as a quantum resource for bi-partite communication. , 2014, , .		0
59	Experimental verification of quantum discord in continuous-variable states and operational significance of discord consumption. , 2014, , .		1
60	A Pedagogical Overview of Quantum Discord. Open Systems and Information Dynamics, 2014, 21, 1440006.	0.5	29
61	Role of correlations in the two-body-marginal problem. Physical Review A, 2014, 90, .	1.0	16
62	Measuring the heat exchange of a quantum process. Physical Review E, 2014, 90, 020101.	0.8	39
63	Work and quantum phase transitions: Quantum latency. Physical Review E, 2014, 89, 062103.	0.8	51
64	Harness quantum noise to unlock quantum computing. New Scientist, 2013, 220, 30-31.	0.0	0
65	COHERENT AND INCOHERENT CONTENTS OF CORRELATIONS. International Journal of Modern Physics B, 2013, 27, 1345027.	1.0	5
66	Vanishing quantum discord is not necessary for completely positive maps. Physical Review A, 2013, 87, .	1.0	54
67	Relation between nonlocality and contextuality for a biphoton. Physical Review A, 2013, 87, .	1.0	2
68	Witnessing the quantumness of a single system: From anticommutators to interference and discord. Physical Review A, 2013, 87, .	1.0	6
69	Discord as a consumable resource. , 2013, , .		0
70	Positivity in the presence of initial system-environment correlation. Physical Review A, 2012, 86, .	1.0	28
71	Unification of witnessing initial system-environment correlations and witnessing non-Markovianity. Europhysics Letters, 2012, 99, 20010.	0.7	33
72	Operational approach to open dynamics and quantifying initial correlations. Scientific Reports, 2012, 2, 581.	1.6	79

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73	Classical to quantum in large-number limit. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 4810-4820.	1.6	7
74	The classical-quantum boundary for correlations: Discord and related measures. Reviews of Modern Physics, 2012, 84, 1655-1707.	16.4	1,273
75	Quantum Discord Bounds the Amount of Distributed Entanglement. Physical Review Letters, 2012, 109, 070501.	2.9	156
76	Observing the operational significance of discordÂconsumption. Nature Physics, 2012, 8, 671-675.	6.5	201
77	Dynamical role of system-environment correlations in non-Markovian dynamics. Physical Review A, 2012, 86, .	1.0	66
78	Criteria for measures of quantum correlations. Quantum Information and Computation, 2012, 12, 721-742.	0.1	42
79	QUANTUM LOCKING OF CLASSICAL CORRELATIONS AND QUANTUM DISCORD OF CLASSICAL-QUANTUM STATES. International Journal of Quantum Information, 2011, 09, 1643-1651.	0.6	40
80	Quantum Correlations in Mixed-State Metrology. Physical Review X, 2011, 1, .	2.8	78
81	Operational interpretations of quantum discord. Physical Review A, 2011, 83, .	1.0	306
82	Detecting multipartite classical states and their resemblances. Physical Review A, 2011, 83, .	1.0	53
83	Preparation of States in Open Quantum Mechanics. Open Systems and Information Dynamics, 2011, 18, 253-260.	0.5	32
84	Unification of quantum and classical correlations and quantumness measures. AIP Conference Proceedings, 2011, , .	0.3	14
85	Unified View of Quantum and Classical Correlations. Physical Review Letters, 2010, 104, 080501.	2.9	689
86	Role of preparation in quantum process tomography. Physical Review A, 2010, 81, .	1.0	39
87	Linear assignment maps for correlated system-environment states. Physical Review A, 2010, 81, .	1.0	54
88	Completely positive maps and classical correlations. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 205301.	0.7	178
89	How state preparation can affect a quantum experiment: Quantum process tomography for open systems. Physical Review A, 2007, 76, .	1.0	37
90	Quantum Zeno and anti-Zeno effects in an unstable system with two bound states. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 368, 215-221.	0.9	7

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91	Resource theories of multi-time processes: A window into quantum non-Markovianity. Quantum - the Open Journal for Quantum Science, 0, 5, 435.	0.0	11
92	Tomographically reconstructed master equations for any open quantum dynamics. Quantum - the Open Journal for Quantum Science, 0, 2, 76.	0.0	33
93	Almost Markovian processes from closed dynamics. Quantum - the Open Journal for Quantum Science, 0, 3, 136.	0.0	23
94	Tight, robust, and feasible quantum speed limits for open dynamics. Quantum - the Open Journal for Quantum Science, 0, 3, 168.	0.0	57
95	Kolmogorov extension theorem for (quantum) causal modelling and general probabilistic theories. Quantum - the Open Journal for Quantum Science, 0, 4, 255.	0.0	38