

# Paolo Zanardi

## List of Publications by Year in descending order

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110  
papers

9,787  
citations

41258

49  
h-index

34900

98  
g-index

110  
all docs

110  
docs citations

110  
times ranked

4217  
citing authors

#	ARTICLE	IF	CITATIONS
1	Holonomic quantum computation. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 264, 94-99.	0.9	794
2	Ground state overlap and quantum phase transitions. Physical Review E, 2006, 74, 031123.	0.8	643
3	Quantum Information Processing with Semiconductor Macroatoms. Physical Review Letters, 2000, 85, 5647-5650.	2.9	454
4	Quantum Critical Scaling of the Geometric Tensors. Physical Review Letters, 2007, 99, 095701.	2.9	362
5	Information-Theoretic Differential Geometry of Quantum Phase Transitions. Physical Review Letters, 2007, 99, 100603.	2.9	358
6	Quantum entanglement in fermionic lattices. Physical Review A, 2002, 65, .	1.0	352
7	Entangling power of quantum evolutions. Physical Review A, 2000, 62, .	1.0	284
8	Symmetrizing evolutions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 258, 77-82.	0.9	256
9	Non-Abelian Berry connections for quantum computation. Physical Review A, 1999, 61, .	1.0	252
10	Bipartite entanglement and entropic boundary law in lattice spin systems. Physical Review A, 2005, 71, .	1.0	220
11	Quantum entanglement and Bell inequalities in Heisenberg spin chains. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 301, 1-6.	0.9	205
12	Quantum adiabatic Markovian master equations. New Journal of Physics, 2012, 14, 123016.	1.2	202
13	Quantum speed limits, coherence, and asymmetry. Physical Review A, 2016, 93, .	1.0	197
14	Quantum Tensor Product Structures are Observable Induced. Physical Review Letters, 2004, 92, 060402.	2.9	196
15	Quantum criticality as a resource for quantum estimation. Physical Review A, 2008, 78, .	1.0	191
16	Entanglement of quantum evolutions. Physical Review A, 2001, 63, .	1.0	189
17	Ground state entanglement and geometric entropy in the Kitaev model. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 337, 22-28.	0.9	187
18	Mixed-state fidelity and quantum criticality at finite temperature. Physical Review A, 2007, 75, .	1.0	183

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19	Virtual Quantum Subsystems. <i>Physical Review Letters</i> , 2001, 87, 077901.	2.9	175
20	Quantum Information in Semiconductors: Noiseless Encoding in a Quantum-Dot Array. <i>Physical Review Letters</i> , 1998, 81, 4752-4755.	2.9	168
21	Stabilizing quantum information. <i>Physical Review A</i> , 2000, 63, .	1.0	161
22	Geometric quantum gates that are robust against stochastic control errors. <i>Physical Review A</i> , 2005, 72, .	1.0	146
23	Geometric Quantum Computation and Multiqubit Entanglement with Superconducting Qubits inside a Cavity. <i>Physical Review Letters</i> , 2005, 94, 100502.	2.9	138
24	Error Avoiding Quantum Codes. <i>Modern Physics Letters B</i> , 1997, 11, 1085-1093.	1.0	134
25	Quantum phase transitions and quantum fidelity in free fermion graphs. <i>Physical Review B</i> , 2007, 75, .	1.1	132
26	Quantum algorithms for topological and geometric analysis of data. <i>Nature Communications</i> , 2016, 7, 10138.	5.8	128
27	Semiconductor-based geometrical quantum gates. <i>Physical Review B</i> , 2003, 67, .	1.1	114
28	Internal consistency of fault-tolerant quantum error correction in light of rigorous derivations of the quantum Markovian limit. <i>Physical Review A</i> , 2006, 73, .	1.0	113
29	Dissipation and decoherence in a quantum register. <i>Physical Review A</i> , 1998, 57, 3276-3284.	1.0	111
30	Electro-optical properties of semiconductor quantum dots: Application to quantum information processing. <i>Physical Review B</i> , 2002, 65, .	1.1	111
31	Fermionic entanglement in itinerant systems. <i>Journal of Physics A</i> , 2002, 35, 7947-7959.	1.6	110
32	Robustness of non-Abelian holonomic quantum gates against parametric noise. <i>Physical Review A</i> , 2004, 70, .	1.0	109
33	QUANTUM HOLONOMIES FOR QUANTUM COMPUTING. <i>International Journal of Modern Physics B</i> , 2001, 15, 1257-1285.	1.0	100
34	Sublattice entanglement and quantum phase transitions in antiferromagnetic spin chains. <i>New Journal of Physics</i> , 2006, 8, 97-97.	1.2	99
35	Fluctuation theorems for quantum processes. <i>Physical Review E</i> , 2013, 88, 032146.	0.8	95
36	Unitary equilibrations: Probability distribution of the Loschmidt echo. <i>Physical Review A</i> , 2010, 81, .	1.0	94

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37	Bures metric over thermal state manifolds and quantum criticality. Physical Review A, 2007, 76, .	1.0	90
38	Fidelity analysis of topological quantum phase transitions. Physical Review A, 2008, 78, .	1.0	80
39	Coherent Quantum Dynamics in Steady-State Manifolds of Strongly Dissipative Systems. Physical Review Letters, 2014, 113, 240406.	2.9	77
40	Exact Infinite-Time Statistics of the Loschmidt Echo for a Quantum Quench. Physical Review Letters, 2011, 107, 010403.	2.9	70
41	Adiabaticity in open quantum systems. Physical Review A, 2016, 93, .	1.0	68
42	Ground state fidelity and quantum phase transitions in free Fermi systems. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, L02002-L02002.	0.9	67
43	Quantum information-geometry of dissipative quantum phase transitions. Physical Review E, 2014, 89, 022102.	0.8	63
44	Quantum Entanglement in Random Physical States. Physical Review Letters, 2012, 109, 040502.	2.9	57
45	Fidelity Approach to the Disordered Quantum $X$ $Y$ Model. Physical Review Letters, 2009, 102, 057205.	2.9	56
46	Storage qubits and their potential implementation through a semiconductor double quantum dot. Physical Review B, 2001, 64, .	1.1	54
47	Topological Protection and Quantum Noiseless Subsystems. Physical Review Letters, 2003, 90, 067902.	2.9	53
48	Simulation of many-body interactions by conditional geometric phases. Physical Review A, 2002, 65, .	1.0	51
49	Universal leakage elimination. Physical Review A, 2005, 71, .	1.0	51
50	Dissipative dynamics in a quantum register. Physical Review A, 1997, 56, 4445-4451.	1.0	49
51	Spin-based quantum-information processing with semiconductor quantum dots and cavity QED. Physical Review A, 2003, 67, .	1.0	47
52	Nonadiabatic geometrical quantum gates in semiconductor quantum dots. Physical Review A, 2003, 67, .	1.0	47
53	Distance bounds on quantum dynamics. Physical Review A, 2008, 78, .	1.0	47
54	Subdecoherent information encoding in a quantum-dot array. Physical Review B, 1999, 59, 8170-8181.	1.1	43

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55	Holonomic quantum gates: A semiconductor-based implementation. <i>Physical Review A</i> , 2003, 67, .	1.0	43
56	Coherence-generating power of quantum unitary maps and beyond. <i>Physical Review A</i> , 2017, 95, .	1.0	43
57	Testing Bell's inequality with ballistic electrons in semiconductors. <i>Physical Review A</i> , 2001, 63, .	1.0	42
58	Computation on an error-avoiding quantum code and symmetrization. <i>Physical Review A</i> , 1999, 60, R729-R732.	1.0	40
59	Operator fidelity susceptibility, decoherence, and quantum criticality. <i>Physical Review A</i> , 2008, 78, .	1.0	36
60	Quantum-information processing in bosonic lattices. <i>Physical Review A</i> , 2002, 66, .	1.0	35
61	Fidelity in topological quantum phases of matter. <i>Physical Review A</i> , 2009, 79, .	1.0	35
62	Information Scrambling over Bipartitions: Equilibration, Entropy Production, and Typicality. <i>Physical Review Letters</i> , 2021, 126, 030601.	2.9	35
63	Dissipative universal Lindbladian simulation. <i>Physical Review A</i> , 2016, 93, .	1.0	33
64	Fidelity optimization for holonomic quantum gates in dissipative environments. <i>Physical Review A</i> , 2006, 73, .	1.0	32
65	Geometry, robustness, and emerging unitarity in dissipation-projected dynamics. <i>Physical Review A</i> , 2015, 91, .	1.0	30
66	Universality in the equilibration of quantum systems after a small quench. <i>Physical Review A</i> , 2010, 81, .	1.0	29
67	Gaussian equilibration. <i>Physical Review E</i> , 2013, 87, 012106.	0.8	26
68	Scaling of the fidelity susceptibility in a disordered quantum spin chain. <i>Physical Review B</i> , 2009, 79, .	1.1	24
69	Dynamical response theory for driven-dissipative quantum systems. <i>Physical Review A</i> , 2016, 93, .	1.0	22
70	Quantum entanglement in states generated by bilocal group algebras. <i>Physical Review A</i> , 2005, 72, .	1.0	21
71	Ensembles of physical states and random quantum circuits on graphs. <i>Physical Review A</i> , 2012, 86, .	1.0	21
72	Bipartite quantum states and random complex networks. <i>New Journal of Physics</i> , 2012, 14, 013011.	1.2	21

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73	Relaxation versus adiabatic quantum steady-state preparation. <i>Physical Review A</i> , 2017, 95, .	1.0	21
74	Coherence-generating power of quantum dephasing processes. <i>Physical Review A</i> , 2018, 97, .	1.0	21
75	Unitary equilibration after a quantum quench of a thermal state. <i>Physical Review A</i> , 2011, 84, .	1.0	20
76	Quantum coherence as a signature of chaos. <i>Physical Review Research</i> , 2021, 3, .	1.3	20
77	Universal subleading terms in ground-state fidelity from boundary conformal field theory. <i>Physical Review B</i> , 2009, 79, .	1.1	19
78	Local Response of Topological Order to an External Perturbation. <i>Physical Review Letters</i> , 2013, 110, 210602.	2.9	19
79	Noise suppression via generalized-Markovian processes. <i>Physical Review A</i> , 2017, 96, .	1.0	18
80	Refocusing schemes for holonomic quantum computation in the presence of dissipation. <i>Physical Review A</i> , 2004, 70, .	1.0	17
81	Quantum chaos and operator fidelity metric. <i>Physical Review E</i> , 2010, 81, 017203.	0.8	17
82	Universal control of quantum subspaces and subsystems. <i>Physical Review A</i> , 2004, 69, .	1.0	16
83	Thermal states of the Kitaev honeycomb model: Bures metric analysis. <i>Physical Review A</i> , 2009, 79, .	1.0	15
84	Simulation of entangled electronic states in semiconductor quantum wires. <i>Physica B: Condensed Matter</i> , 2002, 314, 10-14.	1.3	14
85	Mode entanglement and entangling power in bosonic graphs. <i>Physical Review A</i> , 2003, 68, .	1.0	14
86	Quantum coherence and the localization transition. <i>Physical Review B</i> , 2019, 100, .	1.1	13
87	Quantum Chernoff bound metric for the $\langle X \rangle \langle Y \rangle$ model at finite temperature. <i>Physical Review A</i> , 2008, 77, .	1.0	12
88	Local quenches in frustrated quantum spin chains: Global versus subsystem equilibration. <i>Physical Review A</i> , 2010, 82, .	1.0	11
89	Modular quantum-information processing by dissipation. <i>Physical Review A</i> , 2016, 94, .	1.0	11
90	Mode transformations and entanglement relativity in bipartite Gaussian states. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006, 354, 274-280.	0.9	10

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91	Coupling bosonic modes with a qubit: entanglement dynamics at zero and finite temperatures. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006, 360, 49-56.	0.9	10
92	Quantum coherence generating power, maximally abelian subalgebras, and Grassmannian geometry. <i>Journal of Mathematical Physics</i> , 2018, 59, 012203.	0.5	10
93	Quantifying the Incompatibility of Quantum Measurements Relative to a Basis. <i>Physical Review Letters</i> , 2019, 123, 070401.	2.9	10
94	Quantum entangling power of adiabatically connected Hamiltonians. <i>Physical Review A</i> , 2004, 69, .	1.0	9
95	Universal time fluctuations in near-critical out-of-equilibrium quantum dynamics. <i>Physical Review E</i> , 2014, 89, 022101.	0.8	9
96	Local convertibility of the ground state of the perturbed toric code. <i>Physical Review B</i> , 2014, 90, .	1.1	9
97	Accuracy of the adiabatic-impulse approximation for closed and open quantum systems. <i>Physical Review A</i> , 2018, 97, .	1.0	8
98	Theory of temporal fluctuations in isolated quantum systems. <i>International Journal of Modern Physics B</i> , 2015, 29, 1530008.	1.0	7
99	Local random quantum circuits: Ensemble completely positive maps and swap algebras. <i>Journal of Mathematical Physics</i> , 2014, 55, 082204.	0.5	6
100	Entanglement susceptibility: area laws and beyond. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P04023.	0.9	4
101	Decoherence suppression for oscillator-assisted geometric quantum gates via symmetrization. <i>Physical Review A</i> , 2005, 71, .	1.0	3
102	Transition to chaos of coupled oscillators: An operator fidelity susceptibility study. <i>Physical Review E</i> , 2010, 82, 056204.	0.8	3
103	Quantum scrambling of observable algebras. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 6, 666.	0.0	3
104	BROTCs and Quantum Information Scrambling at Finite Temperature. <i>Quantum - the Open Journal for Quantum Science</i> , 0, 6, 746.	0.0	3
105	Localizable quantum coherence. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2021, 397, 127264.	0.9	2
106	Optical quantum gates with semiconductor nanostructures. <i>International Journal of Circuit Theory and Applications</i> , 2001, 29, 137-150.	1.3	1
107	Quantum measurement of excitonic states using stimulated Raman adiabatic passage. <i>Physica B: Condensed Matter</i> , 2002, 314, 20-24.	1.3	1
108	Ultrafast quantum information processing in nanostructured semiconductors. <i>Superlattices and Microstructures</i> , 2002, 31, 107-116.	1.4	0

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109	Mixing of quantum states under Markovian dissipation and coherent control. Physical Review A, 2019, 99, .	1.0	0
110	BROTCs and Quantum Information Scrambling at Finite Temperature. Quantum - the Open Journal for Quantum Science, 0, 6, 744.	0.0	0