Barbara Maria Terhal

List of Publications by Citations

77 papers	6,459 citations	40 h-index	80 g-index
85 ext. papers	7,536 ext. citations	4.7 avg, IF	6.46 L-index

#	Paper	IF	Citations
77	Remote state preparation. *Physical Review Letters*, **2001**, 87, 077902	7.4	578
76	Bell inequalities and the separability criterion. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2000**, 271, 319-326	2.3	482
75	Unextendible Product Bases and Bound Entanglement. *Physical Review Letters*, **1999**, 82, 5385-5388	7.4	475
74	Quantum error correction for quantum memories. *Reviews of Modern Physics*, **2015**, 87, 307-346	40.5	404
73	Quantum data hiding. *IEEE Transactions on Information Theory*, **2002**, 48, 580-598	2.8	224
72	Schmidt number for density matrices. *Physical Review A*, **2000**, 61,	2.6	223
71	Unextendible Product Bases, Uncompletable Product Bases and Bound Entanglement. *Communications in Mathematical Physics*, **2003**, 238, 379-410	2	204
70	The asymptotic entanglement cost of preparing a quantum state. *Journal of Physics A*, **2001**, 34, 6891-6898		187
69	Entanglement of formation for isotropic states. *Physical Review Letters*, **2000**, 85, 2625-8	7.4	185
68	Roads towards fault-tolerant universal quantum computation. *Nature*, **2017**, 549, 172-179	50.4	175
67	Locking classical correlations in quantum States. *Physical Review Letters*, **2004**, 92, 067902	7.4	163
66	Detecting quantum entanglement. *Theoretical Computer Science*, **2002**, 287, 313-335	1.1	161
65	The entanglement of purification. *Journal of Mathematical Physics*, **2002**, 43, 4286-4298	1.2	155
64	Is entanglement monogamous?. *IBM Journal of Research and Development*, **2004**, 48, 71-78	2.5	152
63	Evidence for bound entangled states with negative partial transpose. *Physical Review A*, **2000**, 61,	2.6	150
62	Hiding bits in bell states. *Physical Review Letters*, **2001**, 86, 5807-10	7.4	143
61	Classical simulation of noninteracting-fermion quantum circuits. *Physical Review A*, **2002**, 65,	2.6	132

60	A no-go theorem for a two-dimensional self-correcting quantum memory based on stabilizer codes. *New Journal of Physics*, **2009**, 11, 043029	2.9	128
59	A family of indecomposable positive linear maps based on entangled quantum states. *Linear Algebra and Its Applications*, **2001**, 323, 61-73	0.9	117
58	Topological order in an exactly solvable 3D spin model. *Annals of Physics*, **2011**, 326, 839-866	2.5	115
57	Performance and structure of single-mode bosonic codes. *Physical Review A*, **2018**, 97,	2.6	100
56	Fault-tolerant quantum computation for local non-Markovian noise. *Physical Review A*, **2005**, 71,	2.6	97
55	Problem of equilibration and the computation of correlation functions on a quantum computer. *Physical Review A*, **2000**, 61,	2.6	91
54	Cryptography from noisy storage. *Physical Review Letters*, **2008**, 100, 220502	7.4	83
53	Nonadditivity of bipartite distillable entanglement follows from a conjecture on bound entangled Werner states. *Physical Review Letters*, **2001**, 86, 2681-4	7.4	79
52	Symmetric extensions of quantum States and local hidden variable theories. *Physical Review Letters* , **2003**, 90, 157903	7.4	75
51	Tradeoffs for reliable quantum information storage in 2D systems. *Physical Review Letters*, **2010**, 104, 050503	7.4	74
50	From Majorana fermions to topological order. *Physical Review Letters*, **2012**, 108, 260504	7.4	60
49	Local fault-tolerant quantum computation. *Physical Review A*, **2005**, 72,	2.6	60
48	Encoding a qubit into a cavity mode in circuit QED using phase estimation. *Physical Review A*, **2016**, 93,	2.6	58
47	Complexity of Stoquastic Frustration-Free Hamiltonians. *SIAM Journal on Computing*, **2010**, 39, 1462-1485	5.1	58
46	Fast, High-Fidelity Conditional-Phase Gate Exploiting Leakage Interference in Weakly Anharmonic Superconducting Qubits. *Physical Review Letters*, **2019**, 123, 120502	7.4	57
45	Majorana fermion codes. *New Journal of Physics*, **2010**, 12, 083039	2.9	50
44	Quantum simulation of many-body Hamiltonians using perturbation theory with bounded-strength interactions. *Physical Review Letters*, **2008**, 101, 070503	7.4	50
43	Quantum error correction with the toric Gottesman-Kitaev-Preskill code. *Physical Review A*, **2019**, 99,	2.6	49

42	Single-mode displacement sensor. *Physical Review A*, **2017**, 95,	2.6	48
41	Rank two bipartite bound entangled states do not exist. *Theoretical Computer Science*, **2003**, 292, 589-596	1.1	48
40	Quantum phase estimation of multiple eigenvalues for small-scale (noisy) experiments. *New Journal of Physics*, **2019**, 21, 023022	2.9	44
39	Fault-tolerant computing with biased-noise superconducting qubits: a case study. *New Journal of Physics*, **2009**, 11, 013061	2.9	43
38	Constructions and Noise Threshold of Hyperbolic Surface Codes. *IEEE Transactions on Information Theory*, **2016**, 62, 3731-3744	2.8	42
37	Generating grid states from Schrödinger-cat states without postselection. *Physical Review A*, **2018**, 97,	2.6	38
36	Dispersive qubit measurement by interferometry with parametric amplifiers. *Physical Review B*, **2014**, 90,	3.3	37
35	Towards scalable bosonic quantum error correction. *Quantum Science and Technology*, **2020**, 5, 043001	5.5	36
34	The Bounded-Storage Model in the Presence of a Quantum Adversary. *IEEE Transactions on Information Theory*, **2008**, 54, 749-762	2.8	34
33	Thermodynamic stability criteria for a quantum memory based on stabilizer and subsystem codes. *New Journal of Physics*, **2010**, 12, 025013	2.9	33
32	Single quantum querying of a database. *Physical Review A*, **1998**, 58, 1822-1826	2.6	33
31	Simulating quantum operations with mixed environments. *Physical Review A*, **1999**, 60, 881-885	2.6	25
30	Hyperbolic and semi-hyperbolic surface codes for quantum storage. *Quantum Science and Technology*, **2017**, 2, 035007	5.5	24
29	Universal adiabatic quantum computation via the space-time circuit-to-Hamiltonian construction. *Physical Review Letters*, **2015**, 114, 140501	7.4	23
28	Hiding Quantum Data. *Foundations of Physics*, **2003**, 33, 1629-1647	1.2	23
27	Quantum capacity is properly defined without encodings. *Physical Review A*, **1998**, 58, 3496-3501	2.6	22
26	Decoherence: the obstacle to quantum computation. *Physics World*, **1998**, 11, 53-58	0.5	22
25	Constructions and noise threshold of topological subsystem codes. *Journal of Physics A: Mathematical and Theoretical*, **2011**, 44, 155301	2	21

24	Quantum Entanglement: A Modern Perspective. *Physics Today*, **2003**, 56, 46-52	0.9	20
23	Space-time circuit-to-Hamiltonian construction and its applications. *Journal of Physics A: Mathematical and Theoretical*, **2014**, 47, 195304	2	19
22	Adiabatic and Hamiltonian computing on a 2D lattice with simple two-qubit interactions. *New Journal of Physics*, **2016**, 18, 023042	2.9	18
21	Qubit state discrimination. *Physical Review A*, **2010**, 81,	2.6	18
20	Fermionic Linear Optics Revisited. *Foundations of Physics*, **2005**, 35, 1967-1984	1.2	18
19	The power of noisy fermionic quantum computation. *New Journal of Physics*, **2013**, 15, 013015	2.9	16
18	Optimal decompositions of barely separable states. *Journal of Modern Optics*, **2000**, 47, 377-385	1.1	16
17	Two-local qubit Hamiltonians: when are they stoquastic?. *Quantum - the Open Journal for Quantum Science*,3, 139		15
16	Realizing modular quadrature measurements via a tunable photon-pressure coupling in circuit QED. *Physical Review A*, **2020**, 101,	2.6	13
15	Code deformation and lattice surgery are gauge fixing. *New Journal of Physics*, **2019**, 21, 033028	2.9	12
14	Noise thresholds for the [4,2,2]-concatenated toric code. *Quantum Information and Computation*, **2016**, 16, 1261-1281	0.9	10
13	Local decoders for the 2D and 4D toric code. *Quantum Information and Computation*, **2017**, 17, 181-208	0.9	10
12	Quantum Phase Transitions of the Majorana Toric Code in the Presence of Finite Cooper-Pair Tunneling. *Physical Review Letters*, **2017**, 119, 180508	7.4	9
11	The small stellated dodecahedron code and friends. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2018**, 376,	3	9
10	Leakage detection for a transmon-based surface code. *Npj Quantum Information*, **2020**, 6,	8.6	8
9	Hardness and Ease of Curing the Sign Problem for Two-Local Qubit Hamiltonians. *SIAM Journal on Computing*, **2020**, 49, 1332-1362	1.1	7
8	Spectral quantum tomography. *Npj Quantum Information*, **2019**, 5,	8.6	6
7	Quantum bit commitment with misaligned reference frames. *Physical Review A*, **2006**, 73,	2.6	6

6	Hamiltonian quantum computing with superconducting qubits. *Quantum Science and Technology*, **2019**, 4, 035002	5.5	5
5	Security trade-offs in ancilla-free quantum bit commitment in the presence of superselection rules. *New Journal of Physics*, **2004**, 6, 80-80	2.9	4
4	The Fragility of Quantum Information?. *Lecture Notes in Computer Science*, **2012**, 47-56	0.9	2
3	Towards a realistic GaAs-spin qubit device for a classical error-corrected quantum memory. *Physical Review A*, **2020**, 102,	2.6	2
2	Optimal decompositions of barely separable states		1
1	Quantum Dense Coding **2015**, 1-5		