## David DiVincenzo

## List of Publications by Year in descending order

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187 36,360 61 papers citations h-index

195 195 195 14645 all docs docs citations times ranked citing authors

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#	Article	IF	CITATIONS
1	Quantum computation with quantum dots. Physical Review A, 1998, 57, 120-126.	2.5	5,712
2	Mixed-state entanglement and quantum error correction. Physical Review A, 1996, 54, 3824-3851.	2.5	4,032
3	Elementary gates for quantum computation. Physical Review A, 1995, 52, 3457-3467.	2.5	2,958
4	Quantum information and computation. Nature, 2000, 404, 247-255.	27.8	2,142
5	Quantum Information Processing Using Quantum Dot Spins and Cavity QED. Physical Review Letters, 1999, 83, 4204-4207.	7.8	1,777
6	Quantum Computation. Science, 1995, 270, 255-261.	12.6	1,488
7	The Physical Implementation of Quantum Computation. Fortschritte Der Physik, 2000, 48, 771-783.	4.4	1,412
8	Coupled quantum dots as quantum gates. Physical Review B, 1999, 59, 2070-2078.	3.2	1,306
9	Quantum nonlocality without entanglement. Physical Review A, 1999, 59, 1070-1091.	2.5	829
10	Two-bit gates are universal for quantum computation. Physical Review A, 1995, 51, 1015-1022.	2.5	818
11	Universal quantum computation with the exchange interaction. Nature, 2000, 408, 339-342.	27.8	774
12	Electron-spin-resonance transistors for quantum computing in silicon-germanium heterostructures. Physical Review A, 2000, 62, .	2.5	733
13	Remote State Preparation. Physical Review Letters, 2001, 87, 077902.	7.8	699
14	Self-consistent effective-mass theory for intralayer screening in graphite intercalation compounds. Physical Review B, 1984, 29, 1685-1694.	3.2	611
15	Unextendible Product Bases and Bound Entanglement. Physical Review Letters, 1999, 82, 5385-5388.	7.8	569
16	Optimal universal and state-dependent quantum cloning. Physical Review A, 1998, 57, 2368-2378.	2.5	468
17	Schrieffer–Wolff transformation for quantum many-body systems. Annals of Physics, 2011, 326, 2793-2826.	2.8	351
18	Capacities of Quantum Erasure Channels. Physical Review Letters, 1997, 78, 3217-3220.	7.8	297

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19	Suppression of tunneling by interference in half-integer-spin particles. Physical Review Letters, 1992, 69, 3232-3235.	7.8	286
20	Classical and quantum ballistic-transport anomalies in microjunctions. Physical Review B, 1991, 44, 10637-10675.	3.2	279
21	Macroscopic quantum tunneling in magnetic proteins. Physical Review Letters, 1992, 68, 3092-3095.	7.8	273
22	Complex Dynamics of Mesoscopic Magnets. Physics Today, 1995, 48, 43-48.	0.3	265
23	Unextendible Product Bases, Uncompletable Product Bases and Bound Entanglement. Communications in Mathematical Physics, 2003, 238, 379-410.	2.2	263
24	Fault-Tolerant Error Correction with Efficient Quantum Codes. Physical Review Letters, 1996, 77, 3260-3263.	7.8	256
25	Macroscopic Quantum Effects in Nanometer-Scale Magnets. Science, 1992, 258, 414-421.	12.6	241
26	Dephasing of a Superconducting Qubit Induced by Photon Noise. Physical Review Letters, 2005, 95, 257002.	7.8	241
27	Quantum-channel capacity of very noisy channels. Physical Review A, 1998, 57, 830-839.	2.5	216
28	Five two-bit quantum gates are sufficient to implement the quantum Fredkin gate. Physical Review A, 1996, 53, 2855-2856.	2.5	206
29	Self-consistent measurement and state tomography of an exchange-only spin qubit. Nature Nanotechnology, 2013, 8, 654-659.	31.5	204
30	Coherent spin manipulation in an exchange-only qubit. Physical Review B, 2010, 82, .	3.2	203
31	Classical simulation of noninteracting-fermion quantum circuits. Physical Review A, 2002, 65, .	2.5	197
32	Hiding Bits in Bell States. Physical Review Letters, 2001, 86, 5807-5810.	7.8	192
33	High-Kinetic-Inductance Superconducting Nanowire Resonators for Circuit QED in a Magnetic Field. Physical Review Applied, 2016, 5, .	3.8	192
34	The entanglement of purification. Journal of Mathematical Physics, 2002, 43, 4286-4298.	1,1	190
35	Locking Classical Correlations in Quantum States. Physical Review Letters, 2004, 92, 067902.	7.8	189
36	Evidence for bound entangled states with negative partial transpose. Physical Review A, 2000, 61, .	2.5	171

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37	Model for 1/fFlux Noise in SQUIDs and Qubits. Physical Review Letters, 2007, 98, 267003.	7.8	165
38	Charge Detection Enables Free-Electron Quantum Computation. Physical Review Letters, 2004, 93, 020501.	7.8	156
39	Systematics of Disorder in Quasiperiodic Material. Physical Review Letters, 1986, 57, 1444-1447.	7.8	154
40	Cohesion and structure in stage-1 graphite intercalation compounds. Physical Review B, 1985, 32, 2538-2553.	3.2	153
41	Multilevel quantum description of decoherence in superconducting qubits. Physical Review B, 2004, 69, .	3.2	135
42	The Physical Implementation of Quantum Computation. , 2000, 48, 771.		133
43	Quantum computers and quantum coherence. Journal of Magnetism and Magnetic Materials, 1999, 200, 202-218.	2.3	131
44	Problem of equilibration and the computation of correlation functions on a quantum computer. Physical Review A, 2000, $61$ , .	2.5	125
45	Electronic and Structural Properties of a Twin Boundary in Si. Physical Review Letters, 1986, 56, 1925-1928.	7.8	113
46	Super-roughening: A new phase transition on the surfaces of crystals with quenched bulk disorder. Physical Review B, 1990, 41, 632-650.	3.2	107
47	Growing Perfect Quasicrystals. Physical Review Letters, 1988, 60, 2653-2656.	7.8	105
48	Rigorous Born approximation and beyond for the spin-boson model. Physical Review B, 2005, 71, .	3.2	99
49	High-Coherence Hybrid Superconducting Qubit. Physical Review Letters, 2010, 105, 100502.	7.8	99
50	Quantum gates and circuits. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 1998, 454, 261-276.	2.1	95
51	Theoretical investigation of the electronic properties of potassium graphite. Physical Review B, 1982, 25, 4110-4125.	3.2	94
52	Effective Fault-Tolerant Quantum Computation with Slow Measurements. Physical Review Letters, 2007, 98, 020501.	7.8	93
53	Physical optimization of quantum error correction circuits. Physical Review B, 1999, 60, 11404-11416.	3.2	88
54	Resistance fluctuations in multiprobe microstructures: Length dependence and nonlocality. Physical Review B, 1988, 37, 6521-6524.	3.2	86

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55	Fault-tolerant architectures for superconducting qubits. Physica Scripta, 2009, T137, 014020.	2.5	85
56	Effect of In-Plane Density on the Structural and Elastic Properties of Graphite Intercalation Compounds. Physical Review Letters, 1983, 50, 182-185.	7.8	80
57	Anisotropic Spin Exchange in Pulsed Quantum Gates. Physical Review Letters, 2001, 87, 207901.	7.8	80
58	Local fault-tolerant quantum computation. Physical Review A, 2005, 72, .	2.5	78
59	From Majorana fermions to topological order. Physical Review Letters, 2012, 108, 260504.	7.8	71
60	Circuit design implementing longitudinal coupling: A scalable scheme for superconducting qubits. Physical Review B, 2016, 93, .	3.2	71
61	Quantum computing and single-qubit measurements using the spin-filter effect (invited). Journal of Applied Physics, 1999, 85, 4785-4787.	2.5	69
62	PHYSICS: Double Quantum Dot as a Quantum Bit. Science, 2005, 309, 2173-2174.	12.6	66
63	Fault-tolerant computing with biased-noise superconducting qubits: a case study. New Journal of Physics, 2009, 11, 013061.	2.9	63
64	Spin-orbit coupling and time-reversal symmetry in quantum gates. Physical Review B, 2003, 68, .	3.2	62
65	Voltage fluctuations in multilead devices. Physical Review B, 1988, 38, 2995-3005.	3.2	61
66	Polytope model and the electronic and structural properties of amorphous semiconductors. Physical Review B, 1985, 32, 3974-4000.	3.2	60
67	Quantum Simulation of Many-Body Hamiltonians Using Perturbation Theory with Bounded-Strength Interactions. Physical Review Letters, 2008, 101, 070503.	7.8	60
68	Quantum code words contradict local realism. Physical Review A, 1997, 55, 4089-4092.	2.5	59
69	Majorana Braiding with Thermal Noise. Physical Review Letters, 2015, 115, 120402.	7.8	59
70	TDependence of the Conductance in Quasi One-Dimensional Systems. Physical Review Letters, 1984, 52, 1641-1644.	7.8	58
71	Real and realistic quantum computers. Nature, 1998, 393, 113-114.	27.8	53
72	Entanglement of Assistance. Lecture Notes in Computer Science, 1999, , 247-257.	1.3	52

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73	Dispersive corrections to continuum elastic theory in cubic crystals. Physical Review B, 1986, 34, 5450-5465.	3.2	50
74	Hall Effect Gyrators and Circulators. Physical Review X, 2014, 4, .	8.9	50
75	(P,T) phase boundary in Li-intercalated graphite: Theory and experiment. Physical Review B, 1984, 29, 1115-1117.	3.2	49
76	Quantum computing: An IBM perspective. IBM Journal of Research and Development, 2011, 55, 13:1-13:11.	3.1	45
77	Density-functional study of interplanar binding in graphite. Physical Review B, 1983, 27, 2458-2469.	3.2	44
78	Experimental Demonstration of an Oscillator Stabilized Josephson Flux Qubit. Physical Review Letters, 2006, 96, 127001.	7.8	44
79	Dispersive qubit measurement by interferometry with parametric amplifiers. Physical Review B, 2014, 90, .	3.2	44
80	High-Fidelity Single-Qubit Gates for Two-Electron Spin Qubits in GaAs. Physical Review Letters, 2014, 113, 150501.	7.8	42
81	Blackbox quantization of superconducting circuits using exact impedance synthesis. Physical Review B, 2014, 90, .	3.2	42
82	Topics in Quantum Computers., 1997,, 657-677.		42
83	Detecting Entanglement Using a Double-Quantum-Dot Turnstile. Physical Review Letters, 2005, 95, 160402.	7.8	40
84	Quantum interference in small magnetic particles. Physical Review B, 1993, 48, 10548-10551.	3.2	39
85	Better than excellent. Nature Materials, 2010, 9, 468-469.	27.5	39
86	Quantum tunneling and dissipation in nanometer-scale magnets. Physica B: Condensed Matter, 1993, 189, 189-203.	2.7	38
87	Voltage fluctuations in mesoscopic metal rings and wires. Physical Review B, 1988, 38, 3006-3015.	3.2	37
88	Two-qubit couplings of singlet-triplet qubits mediated by one quantum state. Physical Review B, 2014, 90, .	3.2	37
89	Towards an engineering era?. Nature, 1995, 377, 389-390.	27.8	34
90	Schumacher's quantum data compression as a quantum computation. Physical Review A, 1996, 54, 2636-2650.	2.5	34

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91	Inductively shunted transmon qubit with tunable transverse and longitudinal coupling. Physical Review B, 2017, 96, .	3.2	32
92	Decoherence: the obstacle to quantum computation. Physics World, 1998, 11, 53-58.	0.0	31
93	Asymmetry and decoherence in a double-layer persistent-current qubit. Physical Review B, 2005, 71, .	3.2	31
94	Superconducting Resonators as Beam Splitters for Linear-Optics Quantum Computation. Physical Review Letters, 2010, 104, 230502.	7.8	31
95	Valence and core electronic excitations in LiC6. Physical Review B, 1983, 28, 6681-6686.	3.2	30
96	Hiding Quantum Data. Foundations of Physics, 2003, 33, 1629-1647.	1.3	30
97	Multi-qubit parity measurement in circuit quantum electrodynamics. New Journal of Physics, 2013, 15, 075001.	2.9	30
98	Localized states and the electronic properties of a hydrogenated defect in amorphous silicon. Physical Review B, 1983, 28, 3246-3257.	3.2	29
99	Finite-temperature conductance in one dimension. Physical Review B, 1984, 30, 6877-6888.	3.2	29
100	Structural Energies in Stage-One Graphite Intercalation Compounds. Physical Review Letters, 1984, 53, 52-55.	7.8	28
101	Simulating quantum operations with mixed environments. Physical Review A, 1999, 60, 881-885.	2.5	28
102	Theoretical phase diagram for Li-intercalated graphite. Physical Review B, 1984, 30, 7092-7096.	3.2	26
103	Exact rotating wave approximation. Annals of Physics, 2020, 423, 168327.	2.8	26
104	Long-range structural and electronic coherence in amorphous semiconductors. Physical Review B, 1984, 29, 5934-5936.	3.2	25
105	Fermionic Linear Optics Revisited. Foundations of Physics, 2005, 35, 1967-1984.	1.3	25
106	Exploiting Kerr cross nonlinearity in circuit quantum electrodynamics for nondemolition measurements. Physical Review B, 2010, 82, .	3.2	25
107	Transmon platform for quantum computing challenged by chaotic fluctuations. Nature Communications, 2022, 13, 2495.	12.8	25
108	Comment on â€~â€~Have resonance experiments seen macroscopic quantum coherence in magnetic particles? The case from power absorption''. Physical Review Letters, 1993, 71, 4276-4276.	7.8	24

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109	Electron Spins in Quantum Dots as Quantum Bits. Journal of Nanoparticle Research, 2000, 2, 401-411.	1.9	24
110	Quantum computation and spin physics (invited). Journal of Applied Physics, 1997, 81, 4602-4607.	2.5	23
111	Decoherence rates in complex Josephson qubit circuits. Physical Review B, 2006, 74, .	3.2	23
112	Quantum circuits for measuring Levin-Wen operators. Physical Review B, 2012, 86, .	3.2	23
113	Energy-band structure and charge distribution for BaC6. International Journal of Quantum Chemistry, 1983, 23, 1223-1230.	2.0	22
114	Response: Does Macroscopic Quantum Coherence Occur in Ferritin?. Science, 1996, 272, 425-426.	12.6	21
115	Optimal decompositions of barely separable states. Journal of Modern Optics, 2000, 47, 377-385.	1.3	21
116	Multiport impedance quantization. Annals of Physics, 2015, 361, 605-669.	2.8	21
117	Simple Impedance Response Formulas for the Dispersive Interaction Rates in the Effective Hamiltonians of Low Anharmonicity Superconducting Qubits. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 928-948.	4.6	21
118	Monte Carlo studies of the self-correcting properties of the Majorana quantum error correction code under braiding. Physical Review B, 2015, 92, .	3.2	20
119	Comment on â€~â€~Forbidden nature of multipolar contributions to second-harmonic generation in isotropic fluids''. Physical Review A, 1990, 42, 6249-6251.	2.5	19
120	Noise analysis of qubits implemented in triple quantum dot systems in a Davies master equation approach. Physical Review B, 2013, 87, .	3.2	19
121	Hardware-Encoding Grid States in a Nonreciprocal Superconducting Circuit. Physical Review X, 2021, 11, .	8.9	19
122	Low-bandwidth control scheme for an oscillator-stabilized Josephson qubit. Physical Review B, 2005, 72, .	3.2	18
123	Circuit quantization with time-dependent magnetic fields for realistic geometries. Npj Quantum Information, 2022, 8, .	6.7	18
124	Efficient one- and two-qubit pulsed gates for an oscillator-stabilized Josephson qubit. New Journal of Physics, 2008, 10, 033027.	2.9	16
125	Fault-tolerant quantum computation for singlet-triplet qubits with leakage errors. Physical Review B, 2015, 91, .	3.2	16
126	Awschalomet al. reply. Physical Review Letters, 1993, 70, 2199-2199.	7.8	15

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127	Validity of the single-particle description and charge noise resilience for multielectron quantum dots. Physical Review B, 2015, 91, .	3.2	15
128	Canonical circuit quantization with linear nonreciprocal devices. Physical Review B, 2019, 99, .	3.2	15
129	Optimal gauge for the multimode Rabi model in circuit QED. Physical Review Research, 2019, 1, .	3.6	15
130	Nonlinear optics as a probe of chiral ordering in amorphous semiconductors. Physical Review B, 1988, 37, 1245-1261.	3.2	14
131	Noise-protected gate for six-electron double-dot qubit. Physical Review B, 2013, 88, .	3.2	14
132	Electrostatic effects in the cohesion of an intercalant lattice. Physical Review B, 1982, 25, 7822-7825.	3.2	13
133	Fluctuations in the Temperature Dependence of the Resistance of a One-Dimensional System. Physical Review Letters, 1983, 50, 2102-2105.	7.8	13
134	Phonons on reconstructed silicon surfaces. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1985, 3, 1068.	1.6	13
135	Quantum information storage using tunable flux qubits. Journal of Physics Condensed Matter, 2010, 22, 053201.	1.8	13
136	Decoherence of floating qubits due to capacitive coupling. New Journal of Physics, 2009, 11, 033030.	2.9	12
137	Inverted singlet-triplet qubit coded on a two-electron double quantum dot. Physical Review B, 2014, 90, .	3.2	12
138	Nonreciprocal quantum Hall devices with driven edge magnetoplasmons in two-dimensional materials. Physical Review B, 2017, 95, .	3.2	12
139	Stochastic-master-equation analysis of optimized three-qubit nondemolition parity measurements. Physical Review A, 2014, 89, .	2.5	11
140	Transmission lines and resonators based on quantum Hall plasmonics: Electromagnetic field, attenuation, and coupling to qubits. Physical Review B, 2019, 100, .	3.2	10
141	High resolution electron microscopy of Al–Cu–Fe quasicrystals: Atomic structure and modeling. Journal of Materials Research, 1993, 8, 24-37.	2.6	10
142	Macroscopic Quantum Tunneling in Magnetic Proteins. Physical Review Letters, 1993, 71, 4279-4279.	7.8	9
143	Readout for phase qubits without Josephson junctions. Applied Physics Letters, 2010, 96, .	3.3	9
144	Simple operation sequences to couple and interchange quantum information between spin qubits of different kinds. Physical Review B, 2015, 92, .	3.2	9

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145	Multi-qubit joint measurements in circuit QED: stochastic master equation analysis. EPJ Quantum Technology, 2016, 3, .	6.3	9
146	PERFECT AND IMPERFECT ICOSAHEDRAL SOLIDS AND THE PROJECTION METHOD. Journal De Physique Colloque, 1986, 47, C3-237-C3-243.	0.2	9
147	Hamiltonian quantum computing with superconducting qubits. Quantum Science and Technology, 2019, 4, 035002.	5.8	8
148	Coherent backaction of quantum dot detectors: Qubit isospin precession. Physical Review B, 2014, 89, .	3.2	7
149	Three-qubit direct dispersive parity measurement with tunable coupling qubits. Physical Review B, 2017, 96, .	3.2	7
150	Dielectric function and critical-point transitions in boron-doped graphite. Physical Review B, 1982, 26, 4674-4679.	3.2	6
151	Nonlinear spectroscopy of superconducting anharmonic resonators. New Journal of Physics, 2012, 14, 013051.	2.9	6
152	Qubit quantum-dot sensors: Noise cancellation by coherent backaction, initial slips, and elliptical precession. Physical Review B, 2016, 93, .	3.2	6
153	Structure of asymmetric small-angle grain boundaries. Physical Review B, 1988, 37, 5242-5251.	3.2	5
154	Perfect quasicrystals?. Nature, 1989, 340, 504-505.	27.8	5
155	Fluctuating local thermoelectric heat in dirty metals. Physical Review B, 1993, 48, 1404-1408.	3.2	5
156	Polynomial-Time Algorithm for Simulation of Weakly Interacting Quantum Spin Systems. Communications in Mathematical Physics, 2008, 284, 481-507.	2.2	5
157	Scientists and citizens: getting to quantum technologies. Ethics and Information Technology, 2017, 19, 247-251.	3.8	5
158	STRUCTURE STUDIES OF ALUMINUM BASED QUASICRYSTALS. Journal De Physique Colloque, 1986, 47, C3-379-C3-387.	0.2	5
159	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
160	Toward Control of Large-Scale Quantum Computing. Science, 2011, 334, 50-51.	12.6	4
161	Structural Energies in Stage-One Graphite Intercalation Compounds. Physical Review Letters, 1984, 53, 742-742.	7.8	3
162	An atomic model of Alî—,Cuî—,Fe, and its comparison with high-resolution electron microscope images. Journal of Non-Crystalline Solids, 1993, 153-154, 145-149.	3.1	3

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163	The Memory Problem of Quantum Information Processing. Proceedings of the IEEE, 2015, 103, 1417-1425.	21.3	3
164	Methodology for bus layout for topological quantum error correcting codes. EPJ Quantum Technology, $2016, 3, .$	6.3	3
165	Blind oracular quantum computation. Quantum Science and Technology, 2021, 6, 045022.	5.8	3
166	ELASTIC ENERGY OF FACETED LOW ANGLE TILT BOUNDARIES. Journal De Physique Colloque, 1985, 46, C4-243-C4-248.	0.2	3
167	Possible existence of Lyddane-Sachs-Teller splitting in graphite intercalation compounds. Physical Review B, 1985, 31, 1136-1138.	3.2	2
168	Spins for Quantum Information Processing. Nanoscience and Technology, 2002, , 221-227.	1.5	2
169	Publisher's Note: Hall Effect Gyrators and Circulators [Phys. Rev. X <b>4</b> , 021019 (2014)]. Physical Review X, 2014, 4, .	8.9	2
170	Physical Models of Perfect Quasicrystal Growth. NATO ASI Series Series B: Physics, 1990, , 133-139.	0.2	2
171	THE ELECTRONIC STRUCTURE OF A MODEL DEFECT IN HYDROGENATED AMORPHOUS SILICON. Journal De Physique Colloque, 1981, 42, C4-137-C4-140.	0.2	2
172	Density Functional Theory of Interplane Cohesion in Graphite and Graphite Intercalation Compounds. Materials Research Society Symposia Proceedings, 1982, 20, 123.	0.1	1
173	Solid Structures: Introduction to Quasicrystals Science, 1989, 246, 1330-1330.	12.6	1
174	2-D Physics. Science, 1993, 259, 390-390.	12.6	1
175	Quantum computers: the first gate opens. Physics World, 1996, 9, 27-27.	0.0	1
176	When a little can mean a lot. Physics World, 2003, 16, 26-27.	0.0	1
177	A superconducting resonator designed for coupling to spin based qubits in quantum dots. Journal of Physics: Conference Series, 2010, 245, 012024.	0.4	1
178	Publisher's Note: Blackbox quantization of superconducting circuits using exact impedance synthesis [Phys. Rev. B 90, 134504 (2014)]. Physical Review B, 2014, 90, .	3.2	1
179	What is measured when a qubit measurement is performed on a multiqubit chip. Physical Review A, 2020, 102, .	2.5	1
180	Topics in Aperiodicity: Penrose Tiling Growth and Quantum Circuits. , 1997, , 127-140.		1

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181	Quantum Computing and Spin Physics. , 1995, , 495-496.		1
182	Blind three-qubit exact Grover search on a nitrogen-vacancy-center platform. Physical Review A, 2021, 104, .	2.5	1
183	Thoughts on quantum computation. , 1999, , 482-491.		0
184	Conventional and Unconventional Quantum Physics. International Journal of Theoretical Physics, 2008, 47, 2130-2132.	1.2	0
185	Editorial: PRX's Scope and Standards: A Case in Point. Physical Review X, 2012, 2, .	8.9	O
186	A Structural Basis for Electronic Coherence in Amorphous Si and Ge. , 1985, , 803-806.		0
187	Decoherence and Recoherence in Quantum Computation. , 1999, , 7-12.		0