Yakir Aharonov

List of Publications by Year
in descending order

104 papers	7,205 citations	101496 36 h-index	58549 82 g-index
117 all docs	117 docs citations	117 times ranked	2468 citing authors

#	Article	IF	Citations
1	How the result of a measurement of a component of the spin of a spin-1/2particle can turn out to be 100. Physical Review Letters, 1988, 60, 1351-1354.	2.9	1,952
2	Properties of a quantum system during the time interval between two measurements. Physical Review A, 1990, 41, 11-20.	1.0	900
3	Time Symmetry in the Quantum Process of Measurement. Physical Review, 1964, 134, B1410-B1416.	2.7	694
4	Phase uncertainty and loss of interference: A general picture. Physical Review A, 1990, 41, 3436-3448.	1.0	376
5	Revisiting Hardy's paradox: counterfactual statements, real measurements, entanglement and weak values. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 301, 130-138.	0.9	241
6	Superpositions of time evolutions of a quantum system and a quantum time-translation machine. Physical Review Letters, 1990, 64, 2965-2968.	2.9	198
7	A time-symmetric formulation of quantum mechanics. Physics Today, 2010, 63, 27-32.	0.3	191
8	Can we make sense out of the measurement process in relativistic quantum mechanics?. Physical Review D, 1981, 24, 359-370.	1.6	147
9	Quantum Cheshire Cats. New Journal of Physics, 2013, 15, 113015.	1.2	130
10	Measurement of the SchrÃ¶dinger wave of a single particle. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 178, 38-42.	0.9	123
11	How to ascertain the values ofsigmax,Ïƒy, andÏƒzof a spin-1/2particle. Physical Review Letters, 1987, 58, 1385-1387.	2.9	110
12	The Two-State Vector Formalism: An Updated Review. , 2008, , 399-447.		99
13	Quantum averages of weak values. Physical Review A, 2005, 72, .	1.0	95
14	States and observables in relativistic quantum field theories. Physical Review D, 1980, 21, 3316-3324.	1.6	80
15	Time and the Quantum: Erasing the Past and Impacting the Future. Science, 2005, 307, 875-879.	6.0	80
16	Is the usual notion of time evolution adequate for quantum-mechanical systems? II. Relativistic considerations. Physical Review D, 1984, 29, 228-234.	1.6	78
17	Surprising quantum effects. Physics Letters, Section A: General, Atomic and Solid State Physics, 1987, 124, 199-203.	0.9	74
18	Measurements, errors, and negative kinetic energy. Physical Review A, 1993, 48, 4084-4090.	1.0	74

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19	Multiple-time states and multiple-time measurements in quantum mechanics. Physical Review A, 2009, 79, .	1.0	72
20	Protective measurements and Bohm trajectories. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 263, 137-146.	0.9	71
21	Superoscillations and tunneling times. Physical Review A, 2002, 65, .	1.0	68
22	Foundations and applications of weak quantum measurements. Physical Review A, 2014, 89, .	1.0	66
23	Curious New Statistical Prediction of Quantum Mechanics. Physical Review Letters, 1985, 54, 5-7.	2.9	59
24	Quantum interference experiments, modular variables and weak measurements. New Journal of Physics, 2010, 12, 013023.	1.2	57
25	Measurement process in relativistic quantum theory. Physical Review D, 1986, 34, 1805-1813.	1.6	56
26	Quantum violation of the pigeonhole principle and the nature of quantum correlations. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 532-535.	3.3	56
27	Remote operations and interactions for systems of arbitrary-dimensional Hilbert space: State-operator approach. Physical Review A, 2002, 65, .	1.0	51
28	Cherenkov radiation of superluminal particles. Physical Review A, 2002, 66, .	1.0	49
29	Can a future choice affect a past measurementâ€™s outcome?. Annals of Physics, 2015, 355, 258-268.	1.0	49
30	Finally making sense of the double-slit experiment. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6480-6485.	3.3	45
31	Is the usual notion of time evolution adequate for quantum-mechanical systems? I. Physical Review D, 1984, 29, 223-227.	1.6	44
32	The meaning of protective measurements. Foundations of Physics, 1996, 26, 117-126.	0.6	44
33	Quantum Limitations on Superluminal Propagation. Physical Review Letters, 1998, 81, 2190-2193.	2.9	44
34	Measurement and collapse within the two-state vector formalism. Quantum Studies: Mathematics and Foundations, 2014, 1, 133-146.	0.4	44
35	The Mean King's Problem: Spin. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2001, 56, 16-19.	0.7	41
36	â€œWeighingâ€•a Closed System and the Time-Energy Uncertainty Principle. Physical Review Letters, 2000, 84, 1368-1370.	2.9	39

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37	The Two-State Vector Formalism of Quantum Mechanics. , 2002, , 369-412.		38
38	The Case of the Disappearing (and Re-Appearing) Particle. Scientific Reports, 2017, 7, 531.	1.6	37
39	Aharonov-Bohm and Berry Phases for a Quantum Cloud of Charge. Physical Review Letters, 1994, 73, 918-921.	2.9	36
40	The Two-Time Interpretation and Macroscopic Time-Reversibility. Entropy, 2017, 19, 111.	1.1	33
41	Modification of counterfactual communication protocols that eliminates weak particle traces. Physical Review A, 2019, 99, .	1.0	33
42	Heisenberg scaling with weak measurement: a quantum state discrimination point of view. Quantum Studies: Mathematics and Foundations, 2015, 2, 5-15.	0.4	25
43	Superluminal tunnelling times as weak values. Journal of Modern Optics, 2003, 50, 1139-1149.	0.6	23
44	On conservation laws in quantum mechanics. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	23
45	Multiple-time properties of quantum-mechanical systems. Physical Review D, 1985, 32, 1975-1984.	1.6	19
46	How macroscopic properties dictate microscopic probabilities. Physical Review A, 2002, 65, .	1.0	19
47	The Weak Reality That Makes Quantum Phenomena More Natural: Novel Insights and Experiments. Entropy, 2018, 20, 854.	1.1	17
48	SchrÃ¶dinger evolution of superoscillations with $$delta $$- and $$delta '$$-potentials. Quantum Studies: Mathematics and Foundations, 2020, 7, 293-305.	0.4	17
49	A dynamical quantum Cheshire Cat effect and implications for counterfactual communication. Nature Communications, 2021, 12, 4770.	5.8	16
50	Correcting quantum errors with the Zeno effect. Physical Review A, 2004, 69, .	1.0	15
51	Completely topâ€“down hierarchical structure in quantum mechanics. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11730-11735.	3.3	15
52	Nonlinear vector product to describe rotations. American Journal of Physics, 1977, 45, 451-454.	0.3	14
53	Interaction-Free Effects Between Distant Atoms. Foundations of Physics, 2018, 48, 1-16.	0.6	14
54	Extraordinary interactions between light and matter determined by anomalous weak values. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2018, 474, 20180030.	1.0	13

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55	Green's function for the SchrÃ¶dinger equation with a generalized point interaction and stability of superoscillations. Journal of Differential Equations, 2021, 277, 153-190.	1.1	13
56	The classical limit of quantum optics: not what it seems at first sight. New Journal of Physics, 2013, 15, 093006.	1.2	12
57	Each Instant of Time a New Universe. , 2014, , 21-36.		12
58	Protective Measurementsa. Annals of the New York Academy of Sciences, 1995, 755, 361-373.	1.8	11
59	Complementarity between Local and Nonlocal Topological Effects. Physical Review Letters, 2000, 84, 4790-4793.	2.9	11
60	Time and Ensemble Averages in Bohmian Mechanics. Physica Scripta, 2004, 69, 81-83.	1.2	11
61	Peculiar features of entangled states with postselection. Physical Review A, 2013, 87, .	1.0	11
62	Weak values are quantum: you can bet on it. Quantum Studies: Mathematics and Foundations, 2016, 3, 1-4.	0.4	11
63	A new method to generate superoscillating functions and supershifts. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210020.	1.0	11
64	What Is Nonlocal in Counterfactual Quantum Communication?. Physical Review Letters, 2020, 125, 260401.	2.9	10
65	Protective Measurements of Two-State Vectors. Boston Studies in the Philosophy and History of Science, 1997, , 1-8.	0.4	9
66	Can Weak Measurement Lend Empirical Support to Quantum Retrocausality?. EPJ Web of Conferences, 2013, 58, 01015.	0.1	8
67	Quantum to Classical Transitions via Weak Measurements and Post-Selection. , 2017, , 401-425.		7
68	Negative Kinetic Energy between Past and Future State Vectorsa. Annals of the New York Academy of Sciences, 1995, 755, 394-399.	1.8	6
69	A unified approach to SchrÃ¶dinger evolution of superoscillations and supershifts. Journal of Evolution Equations, 2022, 22, 26.	0.6	6
70	Model for entangled states with spin-spin interaction. Physical Review A, 2004, 70, .	1.0	4
71	Classical Analog to Topological Nonlocal Quantum Interference Effects. Physical Review Letters, 2004, 92, 020401.	2.9	4
72	Quantum non-barking dogs. New Journal of Physics, 2014, 16, 063026.	1.2	4

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73	Weak values and modular variables from a quantum phase-space perspective. Quantum Studies: Mathematics and Foundations, 2014, 1, 97-132.	0.4	4
74	Comment on â€œTime asymmetry in quantum mechanics: a retrodiction paradoxâ€ Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 203, 148-149.	0.9	3
75	Sharpening accepted thermodynamic wisdom via quantum control: or cooling to an internal temperature of zero by external coherent control fields without spontaneous emission. Journal of Modern Optics, 2002, 49, 2297-2307.	0.6	3
76	The deterministic set of operators, quantum interference phenomena, and quantum reality. Journal of Physics: Conference Series, 2009, 196, 012006.	0.3	3
77	Weak Values and Quantum Nonlocality. , 0, , 305-314.		3
78	New Insight into Quantum Entanglement Using Weak Values. The Frontiers Collection, 2005, , 283-297.	0.1	2
79	Combined electric and magnetic Aharonovâ€“Bohm effects. American Journal of Physics, 2007, 75, 1141-1146.	0.3	2
80	On the Aharonov-Bohm Effect and Why Heisenberg Captures Nonlocality Better Than SchrÃ¶dinger. , 2014, , 50-61.		2
81	Reply to Svensson: Quantum violations of the pigeonhole principle. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E3053-E3053.	3.3	2
82	Complex-Valued Classical Behavior from the Correspondence Limit of Quantum Mechanics with Two Boundary Conditions. Foundations of Physics, 2022, 52, .	0.6	2
83	The Predictability of the Results of Measurements of Noncommuting Variables. Annals of the New York Academy of Sciences, 1986, 480, 620-621.	1.8	1
84	Dephasing of Interference by a Back Reacting Environment. , 1991, , .		1
85	ALGEBRAIC APPROACH TO THE BORN-OPPENHEIMER APPROXIMATION. Modern Physics Letters A, 1993, 08, 3691-3700.	0.5	1
86	Superselection Rules. , 0, , 149-159.		1
87	Charges and Fluxons. , 0, , 177-191.		1
88	Phases and Gauges. , 0, , 43-59.		1
89	Locality and nonlocality in the interaction-free measurement. EPJ Web of Conferences, 2018, 182, 02105.	0.1	1
90	Diffraction-based interaction-free measurements. Quantum Studies: Mathematics and Foundations, 2020, 7, 145-153.	0.4	1

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91	Failed attempt to escape from the quantum pigeon conundrum. Physics Letters, Section A: General, Atomic and Solid State Physics, 2021, 399, 127287.	0.9	1
92	Protective measurement, postselection and the Heisenberg representation. , 0, , 28-38.		0
93	QUANTUM TIME MACHINE. , 1991, , .		0
94	Interplay of Aharonov-Bohm and Berry Phases for a Quantum Cloud of Chargea. Annals of the New York Academy of Sciences, 1995, 755, 882-887.	1.8	0
95	Weak Values. , 0, , 225-248.		0
96	Weak Values and Entanglement. , 0, , 249-263.		0
97	The Quantum World. , 0, , 265-286.		0
98	Modular Variables. , 0, , 61-75.		0
99	Nonlocality and Causality. , 0, , 77-91.		0
100	Quantum Measurements. , 0, , 93-103.		0
101	Preface to Volume 2, Issue 1 of Quantum Studies: Mathematics and Foundations. Quantum Studies: Mathematics and Foundations, 2015, 2, 1-3.	0.4	0
102	Why physical understanding should precede the mathematical formalismâ€"Conditional quantum probabilities as a case-study. American Journal of Physics, 2019, 87, 668-673.	0.3	0
103	Beyond Wavefunctions: A Time-Symmetric Nonlocal Ontology for Quantum Mechanics. Boston Studies in the Philosophy and History of Science, 2017, , 235-239.	0.4	0
104	The super Dirac $$delta $$ function and its applications. Quantum Studies: Mathematics and Foundations, 0, , .	0.4	0