Arthur Jaffe

List of Publications by Year
in descending order

143 papers	4,058 citations	201575 27 h-index	168321 53 g-index
157 all docs	157 docs citations	157 times ranked	672 citing authors

#	Article	IF	Citations
1	Quantifying scrambling in quantum neural networks. Journal of High Energy Physics, 2022, 2022, 1.	1.6	6
2	Quantum scrambling with classical shadows. Physical Review Research, 2021, 3, .	1.3	20
3	De Finetti Theorems for Braided Parafermions. Communications in Mathematical Physics, 2020, 373, 435-456.	1.0	1
4	Quantum Fourier analysis. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 10715-10720.	3.3	11
5	Reflection positivity and Levinâ€“Wen models. , 2020, 38, 202-216.		0
6	Holographic software for quantum networks. Science China Mathematics, 2018, 61, 593-626.	0.8	13
7	Reflection positive doubles. Journal of Functional Analysis, 2017, 272, 3506-3557.	0.7	17
8	Planar Para Algebras, Reflection Positivity. Communications in Mathematical Physics, 2017, 352, 95-133.	1.0	24
9	Constructive simulation and topological design of protocols. New Journal of Physics, 2017, 19, 063016.	1.2	9
10	Reflection Positivity. Oberwolfach Reports, 2017, 14, 3263-3343.	0.0	1
11	Characterization of Reflection Positivity: Majoranas and Spins. Communications in Mathematical Physics, 2016, 346, 1021-1050.	1.0	19
12	Reflection Positivity for Parafermions. Communications in Mathematical Physics, 2015, 337, 455-472.	1.0	28
13	Stochastic Quantization, Reflection Positivity, and Quantum Fields. Journal of Statistical Physics, 2015, 161, 1-15.	0.5	10
14	Reflection Positivity for Majoranas. Annales Henri Poincare, 2015, 16, 189-203.	0.8	15
15	Topological order and reflection positivity. Europhysics Letters, 2014, 105, 40002.	0.7	3
16	Complex Classical Fields: A Framework for Reflection Positivity. Communications in Mathematical Physics, 2014, 329, 1-28.	1.0	15
17	Complex classical fields: An example. Journal of Functional Analysis, 2014, 266, 1833-1881.	0.7	4
18	Vortex loops and Majoranas. Journal of Mathematical Physics, 2013, 54, 112203.	0.5	6

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19	REPLICA CONDENSATION AND TREE DECAY. Reviews in Mathematical Physics, 2009, 21, 439-457.	0.7	0
20	Reflection positivity and monotonicity. Journal of Mathematical Physics, 2008, 49, 052301.	0.5	23
21	Quantum Field Theory on Curved Backgrounds. I. The Euclidean Functional Integral. Communications in Mathematical Physics, 2007, 270, 545-572.	1.0	23
22	DERIVATIVES WITH TWISTS. Reviews in Mathematical Physics, 2002, 14, 887-895.	0.7	0
23	The Elliptic Genus and Hidden Symmetry. Communications in Mathematical Physics, 2001, 219, 89-124.	1.0	1
24	The Holonomy Expansion: Invariants and Approximate Supersymmetry. Annals of Physics, 2000, 279, 161-262.	1.0	3
25	Quantum Invariants. Communications in Mathematical Physics, 2000, 209, 1-12.	1.0	2
26	Twist fields and broken supersymmetry. Journal of Mathematical Physics, 2000, 41, 3698-3763.	0.5	2
27	Where does quantum field theory fit into the big picture?. , 1999, , 136-147.		7
28	Quantum Harmonic Analysis and Geometric Invariants. Advances in Mathematics, 1999, 143, 1-110.	0.5	13
29	Twist Positivity. Annals of Physics, 1999, 278, 10-61.	1.0	5
30	Stability for a class of bilocal Hamiltonians. Communications in Mathematical Physics, 1993, 155, 183-197.	1.0	5
31	Quantum Physics as Non-Commutative Geometry. , 1992, , 281-290.		2
32	Non-Commutative Geometry and Mathematical Physics. NATO ASI Series Series B: Physics, 1992, , 295-308.	0.2	1
33	The modular group and super-KMS functionals. , 1991, , 382-384.		1
34	Ward identities for non-commutative geometry. Communications in Mathematical Physics, 1990, 132, 119-130.	1.0	8
35	Asymptotically commuting families of operators. Commentarii Mathematici Helvetici, 1990, 65, 672-679.	0.4	0
36	Quantum K-theory. II. Homotopy invariance of the Chern character. Journal of Functional Analysis, 1990, 90, 355-368.	0.7	13

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37	Geometry of Supersymmetry. NATO ASI Series Series B: Physics, 1990, , 283-305.	0.2	2
38	Representations of the Heisenberg algebra on a Riemann surface. Communications in Mathematical Physics, 1989, 126, 421-431.	1.0	24
39	A priori quantum field equations. Annals of Physics, 1989, 192, 2-20.	1.0	3
40	Pfaffians on Hilbert space. Journal of Functional Analysis, 1989, 83, 348-363.	0.7	19
41	An index theorem for super derivations. Communications in Mathematical Physics, 1989, 125, 147-152.	1.0	2
42	Heat kernel regularization of quantum fields. Communications in Mathematical Physics, 1989, 121, 337-344.	1.0	5
43	Deformations of super-KMS functionals. Communications in Mathematical Physics, 1989, 121, 527-540.	1.0	23
44	On Super-KMS functionals and entire cyclic cohomology. K-theory, 1989, 2, 675-682.	0.5	22
45	The loop space S1 â†' R and supersymmetric quantum fields. Annals of Physics, 1988, 183, 337-351.	1.0	23
46	The two-dimensional,N=2 Wess-Zumino model on a cylinder. Communications in Mathematical Physics, 1988, 114, 147-165.	1.0	32
47	QuantumK-theory. Communications in Mathematical Physics, 1988, 118, 1-14.	1.0	141
48	Effective action and cluster properties of the abelian Higgs model. Communications in Mathematical Physics, 1988, 114, 257-315.	1.0	14
49	A priori estimates forN=2 Wess-Zumino models on a cylinder. Communications in Mathematical Physics, 1988, 114, 553-575.	1.0	26
50	Supersymmetry and the spectral condition on a cylinder. Letters in Mathematical Physics, 1988, 16, 385-388.	0.5	3
51	On convergence of inverse functions of operators. Journal of Functional Analysis, 1988, 81, 320-324.	0.7	2
52	Supersymmetric Quantum Fields and Infinite Dimensional Analysis. NATO ASI Series Series B: Physics, 1988, , 227-280.	0.2	13
53	Quantum Physics. , 1987, , .		459
54	Index of a family of Dirac operators on loop space. Communications in Mathematical Physics, 1987, 112, 75-88.	1.0	55

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55	Ground state structure in supersymmetric quantum mechanics. Annals of Physics, 1987, 178, 313-329.	1.0	61
56	Renormalization of the Higgs model: Minimizers, propagators and the stability of mean field theory. Communications in Mathematical Physics, 1985, 97, 299-329.	1.0	24
57	Expansions in statistical physics. Communications on Pure and Applied Mathematics, 1985, 38, 613-630.	1.2	17
58	Particles and Bound States and Progress Toward Unitarity and Scaling. , 1985, , 317-328.		0
59	A Tutorial Course in Constructive Field Theory. , 1985, , 383-418.		0
60	Quantum Field Theory and Statistical Mechanics. , 1985, , .		13
61	Critical Problems in Quantum Fields. , 1985, , 329-347.		0
62	Euclidean quantum field theory. Nuclear Physics B, 1985, 254, 31-43.	0.9	2
63	The Î»(Ï•4)2 quantum field theory without cutoffs: II. The field operators and the approximate vacuum. , 1985, , 13-52.		79
64	Renormalization of the Higgs Model: Minimizers, Propagators and the Stability of Mean Field Theory. , 1985, , 299-329.		2
65	Two and Three Body Equations in Quantum Field Models. , 1985, , 409-436.		0
66	The Resummation of One Particle Lines. , 1985, , 450-476.		0
67	The Î»Ï† 2 4 Quantum Field Theory without Cutoffs. IV. Perturbations of the Hamiltonian. , 1985, , 177-193.		0
68	Positivity and Self Adjointness of the P(Ï•)2 Hamiltonian. , 1985, , 171-176.		0
69	The Resummation of One Particle Lines. , 1985, , 450-476.		0
70	Two and Three Body Equations in Quantum Field Models. , 1985, , 409-436.		0
71	A Convergent Expansion about Mean Field Theory I. The Expansion. , 1985, , 263-283.		0
72	The Î»(Ï† 4)2 quantum field theory without cutoffs: II. The field operators and the approximate vacuum. , 1985, , 13-52.		0

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73	The Î» Ï• 2 4 Quantum Field Theory without Cutoffs.IV. Perturbations of the Hamiltonian. , 1985, , 177-193.		0
74	Positivity and Self Adjointness of the (PÏ†)2 Hamiltonian. , 1985, , 171-176.		0
75	The Î»(Ï†4)2 Quantum Field Theory without Cutoffs. , 1985, , 53-116.		0
76	Absolute bounds on vertices and couplings. , 1985, , 480-490.		0
77	A Î»Ï† 4 Quantum Field Theory without Cutoffs. I. , 1985, , 6-12.		0
78	Critical Problems in Quantum Fields. , 1985, , 329-347.		0
79	The Î»(Ï• 4)2 Quantum Field Theory without Cutoffs. , 1985, , 53-117.		0
80	Quantum Field Theory Models: Part II. The Yukawa Model. , 1985, , 69-108.		0
81	A tutorial course in constructive field theory. , 1985, , 383-418.		0
82	Charges, Vortices and Confinement. , 1985, , 516-527.		0
83	On the approach to the critical point. , 1985, , 348-361.		1
84	The Wightman axioms and particle structure in the P (Ï•)2 quantum field model. , 1985, , 118-165.		0
85	Phase Transitions for Ï• 2 4 Quantum Fields. , 1985, , 249-262.		75
86	A Î»Ï† 4 Quantum Field Theory without Cutoffs. I. , 1985, , 6-12.		0
87	The Wightman axioms and particle structure in the â„˜(Ï†)2 quantum field model. , 1985, , 118-165.		0
88	Particles and Bound States and Progress Toward Unitarity and Scaling. , 1985, , 317-328.		0
89	Quantum Field Theory Models. , 1985, , 11-121.		9
90	On the approach to the critical point. , 1985, , 348-361.		0

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91	Remark on the Existence of Ï† 4 4. , 1985, , 345-347.		0
92	Three-particle structure of Ï† 4 interactions and the scaling limit. , 1985, , 397-408.		0
93	Particles and Scaling for Lattice Fields and Ising Models. , 1985, , 437-449.		0
94	The Particle Structure of the Weakly Coupled P(Ï†)2 Model and Other Applications of High Temperature Expansions. , 1985, , 201-269.		2
95	A Convergent Expansion about Mean Field Theory I. The Expansion. , 1985, , 263-283.		0
96	Remark on the Existence of Ï• 4 4. , 1985, , 345-347.		0
97	Particles and Scaling for Lattice Fields and Ising Models. , 1985, , 437-449.		0
98	The Particle Structure of the Weakly Coupled P(Ï†)2 Model and Other Applications of High Temperature Expansions: Part I. Physics of Quantum Field Models. , 1985, , 203-269.		0
99	The mass gap for Higgs models on a unit lattice. Annals of Physics, 1984, 158, 281-319.	1.0	45
100	Exact Renormalization Group for Gauge Theories. NATO ASI Series Series B: Physics, 1984, , 79-103.	0.2	7
101	Quantum Physics. , 1981, , .		360
102	The Cluster Expansion. , 1981, , 321-343.		0
103	Classical Gauge Theories and Their Quantum Role. , 1980, , 189-200.		0
104	A note on reflection positivity. Letters in Mathematical Physics, 1979, 3, 377-378.	0.5	22
105	The resummation of one particle lines. Communications in Mathematical Physics, 1979, 67, 267-293.	1.0	9
106	Charges, vortices and confinement. Nuclear Physics B, 1979, 149, 49-60.	0.9	26
107	Multiple meron solutions of the classical Yang-Mills equation. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1978, 73, 167-170.	1.5	44
108	Meron Pairs and Quark Confinement. Physical Review Letters, 1978, 40, 277-278.	2.9	24

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109	Droplet model for quark confinement. Physical Review D, 1978, 18, 463-467.	1.6	13
110	Quark trapping for lattice U(1) gauge fields. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1977, 66, 67-69.	1.5	38
111	Instantons in aU(1) lattice gauge theory: A Coulomb dipole gas. Communications in Mathematical Physics, 1977, 56, 195-212.	1.0	51
112	A Tutorial Course in Constructive Field Theory. , 1977, , 1-34.		0
113	Particles and scaling for lattice fields and Ising models. Communications in Mathematical Physics, 1976, 51, 1-13.	1.0	37
114	A convergent expansion about mean field theory. Annals of Physics, 1976, 101, 610-630.	1.0	101
115	A convergent expansion about mean field theory. Annals of Physics, 1976, 101, 631-669.	1.0	73
116	An Asymptotic Perturbation Expansion for Multiphase $$ varphi _2^4 cdot $$. , 1976, , 167-175.		0
117	Phase transitions for Ï† 2 4 quantum fields. Communications in Mathematical Physics, 1975, 45, 203-216.	1.0	157
118	Two and three body equations in quantum field models. Communications in Mathematical Physics, 1975, 44, 293-320.	1.0	40
119	Three-particle structure ofÏ†4interactions and the scaling limit. Physical Review D, 1975, 11, 2816-2827.	1.6	23
120	Particles and bound states and progress toward unitarity and scaling. , 1975, , 118-127.		1
121	Ï†24quantum field model in the single-phase region: Differentiability of the mass and bounds on critical exponents. Physical Review D, 1974, 10, 536-539.	1.6	42
122	Remark on the Existence ofÏ•44. Physical Review Letters, 1974, 33, 440-442.	2.9	69
123	The Wightman Axioms and Particle Structure in the î”¬(Ï†) 2 Quantum Field Model. Annals of Mathematics, 1974, 100, 585.	2.1	157
124	Positivity of the Ï•34 Hamiltonian. Fortschritte Der Physik, 1973, 21, 327-376.	1.5	174
125	The particle structure of the weakly coupled Ï±(Ï•)2 model and other applications of high temperature expansions. , 1973, , 132-198.		33
126	The particle search in a quantum field model. Bulletin of the American Mathematical Society, 1973, 79, 979-980.	3.0	1

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127	The Î»Ï†24 Quantum Field Theory without Cutoffs. IV. Perturbations of the Hamiltonian. Journal of Mathematical Physics, 1972, 13, 1568-1584.	0.5	108
128	The Yukawa2 quantum field theory without cutoffs. Journal of Functional Analysis, 1971, 7, 323-357.	0.7	36
129	Positivity and self adjointness of theP(Ï†)2 Hamiltonian. Communications in Mathematical Physics, 1971, 22, 253-258.	1.0	26
130	The energy momentum spectrum and vacuum expectation values in quantum field theory, II. Communications in Mathematical Physics, 1971, 22, 1-22.	1.0	31
131	The Î»(Ï†4)2 quantum field theory without cutoffsquantum field theory without cutoffs: III. The physical vacuum. Acta Mathematica, 1970, 125, 203-267.	1.4	130
132	Self-adjointness of the Yukawa2 Hamiltonian. Annals of Physics, 1970, 60, 321-383.	1.0	40
133	Energyâ€Momentum Spectrum and Vacuum Expectation Values in Quantum Field Theory. Journal of Mathematical Physics, 1970, 11, 3335-3338.	0.5	25
134	The Î»(Ï• 4) 2 Quantum Field Theory Without Cutoffs: II. The Field Operators and the Approximate Vacuum. Annals of Mathematics, 1970, 91, 362.	2.1	158
135	A Model of Yukawa Quantum Field Theory. Physical Review Letters, 1969, 23, 1362-1363.	2.9	3
136	Singular perturbations of selfadjoint operators. Communications on Pure and Applied Mathematics, 1969, 22, 401-414.	1.2	73
137	Infinite Renormalization of the Hamiltonian Is Necessary. Journal of Mathematical Physics, 1969, 10, 2213-2214.	0.5	22
138	A Yukawa interaction in infinite volume. Communications in Mathematical Physics, 1968, 11, 9-18.	1.0	19
139	AÎ»Ï•4Quantum Field Theory without Cutoffs. I. Physical Review, 1968, 176, 1945-1951.	2.7	158
140	Wick Polynomials at a Fixed Time. Journal of Mathematical Physics, 1966, 7, 1250-1255.	0.5	14
141	On the Approximation of Quantum Field Theories. Journal of Mathematical Physics, 1965, 6, 1172-1178.	0.5	12
142	Entire functions of the free field. Annals of Physics, 1965, 32, 127-156.	1.0	45
143	Divergence of perturbation theory for bosons. Communications in Mathematical Physics, 1965, 1, 127-149.	1.0	144