

Arthur Jaffe

List of Publications by Year in descending order

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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	Quantum Physics. , 1987, , .		459
2	Quantum Physics. , 1981, , .		360
3	Positivity of the \hat{H}_{34} Hamiltonian. Fortschritte Der Physik, 1973, 21, 327-376.	1.5	174
4	\hat{H}_{4} Quantum Field Theory without Cutoffs. I. Physical Review, 1968, 176, 1945-1951.	2.7	158
5	The \hat{H}_{4} Quantum Field Theory Without Cutoffs: II. The Field Operators and the Approximate Vacuum. Annals of Mathematics, 1970, 91, 362.	2.1	158
6	The Wightman Axioms and Particle Structure in the \hat{H}_{4} Quantum Field Model. Annals of Mathematics, 1974, 100, 585.	2.1	157
7	Phase transitions for \hat{H}_{4} quantum fields. Communications in Mathematical Physics, 1975, 45, 203-216.	1.0	157
8	Divergence of perturbation theory for bosons. Communications in Mathematical Physics, 1965, 1, 127-149.	1.0	144
9	QuantumK-theory. Communications in Mathematical Physics, 1988, 118, 1-14.	1.0	141
10	The \hat{H}_{4} quantum field theory without cutoffs quantum field theory without cutoffs: III. The physical vacuum. Acta Mathematica, 1970, 125, 203-267.	1.4	130
11	The \hat{H}_{4} Quantum Field Theory without Cutoffs. IV. Perturbations of the Hamiltonian. Journal of Mathematical Physics, 1972, 13, 1568-1584.	0.5	108
12	A convergent expansion about mean field theory. Annals of Physics, 1976, 101, 610-630.	1.0	101
13	The \hat{H}_{4} quantum field theory without cutoffs: II. The field operators and the approximate vacuum. , 1985, , 13-52.		79
14	Phase Transitions for \hat{H}_{4} Quantum Fields. , 1985, , 249-262.		75
15	Singular perturbations of selfadjoint operators. Communications on Pure and Applied Mathematics, 1969, 22, 401-414.	1.2	73
16	A convergent expansion about mean field theory. Annals of Physics, 1976, 101, 631-669.	1.0	73
17	Remark on the Existence of \hat{H}_{4} . Physical Review Letters, 1974, 33, 440-442.	2.9	69
18	Ground state structure in supersymmetric quantum mechanics. Annals of Physics, 1987, 178, 313-329.	1.0	61

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19	Index of a family of Dirac operators on loop space. Communications in Mathematical Physics, 1987, 112, 75-88.	1.0	55
20	Instantons in $U(1)$ lattice gauge theory: A Coulomb dipole gas. Communications in Mathematical Physics, 1977, 56, 195-212.	1.0	51
21	Entire functions of the free field. Annals of Physics, 1965, 32, 127-156.	1.0	45
22	The mass gap for Higgs models on a unit lattice. Annals of Physics, 1984, 158, 281-319.	1.0	45
23	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
24	\mathbb{Z}_2 quantum 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
25	Self-adjointness of the Yukawa Hamiltonian. Annals of Physics, 1970, 60, 321-383.	1.0	40
26	Two and three body equations in quantum field models. Communications in Mathematical Physics, 1975, 44, 293-320.	1.0	40
27	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
28	Particles and scaling for lattice fields and Ising models. Communications in Mathematical Physics, 1976, 51, 1-13.	1.0	37
29	The Yukawa quantum field theory without cutoffs. Journal of Functional Analysis, 1971, 7, 323-357.	0.7	36
30	The particle structure of the weakly coupled \mathbb{Z}_2 model and other applications of high temperature expansions. , 1973, , 132-198.		33
31	The two-dimensional, $N=2$ Wess-Zumino model on a cylinder. Communications in Mathematical Physics, 1988, 114, 147-165.	1.0	32
32	The energy momentum spectrum and vacuum expectation values in quantum field theory, II. Communications in Mathematical Physics, 1971, 22, 1-22.	1.0	31
33	Reflection Positivity for Parafermions. Communications in Mathematical Physics, 2015, 337, 455-472.	1.0	28
34	Positivity and self adjointness of the \mathbb{Z}_2 Hamiltonian. Communications in Mathematical Physics, 1971, 22, 253-258.	1.0	26
35	Charges, vortices and confinement. Nuclear Physics B, 1979, 149, 49-60.	0.9	26
36	A priori estimates for $N=2$ Wess-Zumino models on a cylinder. Communications in Mathematical Physics, 1988, 114, 553-575.	1.0	26

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37	Energy-Momentum Spectrum and Vacuum Expectation Values in Quantum Field Theory. Journal of Mathematical Physics, 1970, 11, 3335-3338.	0.5	25
38	Meron Pairs and Quark Confinement. Physical Review Letters, 1978, 40, 277-278.	2.9	24
39	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
40	Representations of the Heisenberg algebra on a Riemann surface. Communications in Mathematical Physics, 1989, 126, 421-431.	1.0	24
41	Planar Para Algebras, Reflection Positivity. Communications in Mathematical Physics, 2017, 352, 95-133.	1.0	24
42	Three-particle structure of ϕ^4 interactions and the scaling limit. Physical Review D, 1975, 11, 2816-2827.	1.6	23
43	The loop space $S^1 \hat{\times} \mathbb{R}$ and supersymmetric quantum fields. Annals of Physics, 1988, 183, 337-351.	1.0	23
44	Deformations of super-KMS functionals. Communications in Mathematical Physics, 1989, 121, 527-540.	1.0	23
45	Quantum Field Theory on Curved Backgrounds. I. The Euclidean Functional Integral. Communications in Mathematical Physics, 2007, 270, 545-572.	1.0	23
46	Reflection positivity and monotonicity. Journal of Mathematical Physics, 2008, 49, 052301.	0.5	23
47	Infinite Renormalization of the Hamiltonian Is Necessary. Journal of Mathematical Physics, 1969, 10, 2213-2214.	0.5	22
48	A note on reflection positivity. Letters in Mathematical Physics, 1979, 3, 377-378.	0.5	22
49	On Super-KMS functionals and entire cyclic cohomology. K-theory, 1989, 2, 675-682.	0.5	22
50	Quantum scrambling with classical shadows. Physical Review Research, 2021, 3, .	1.3	20
51	A Yukawa interaction in infinite volume. Communications in Mathematical Physics, 1968, 11, 9-18.	1.0	19
52	Pfaffians on Hilbert space. Journal of Functional Analysis, 1989, 83, 348-363.	0.7	19
53	Characterization of Reflection Positivity: Majoranas and Spins. Communications in Mathematical Physics, 2016, 346, 1021-1050.	1.0	19
54	Expansions in statistical physics. Communications on Pure and Applied Mathematics, 1985, 38, 613-630.	1.2	17

#	ARTICLE	IF	CITATIONS
55	Reflection positive doubles. <i>Journal of Functional Analysis</i> , 2017, 272, 3506-3557.	0.7	17
56	Complex Classical Fields: A Framework for Reflection Positivity. <i>Communications in Mathematical Physics</i> , 2014, 329, 1-28.	1.0	15
57	Reflection Positivity for Majoranas. <i>Annales Henri Poincare</i> , 2015, 16, 189-203.	0.8	15
58	Wick Polynomials at a Fixed Time. <i>Journal of Mathematical Physics</i> , 1966, 7, 1250-1255.	0.5	14
59	Effective action and cluster properties of the abelian Higgs model. <i>Communications in Mathematical Physics</i> , 1988, 114, 257-315.	1.0	14
60	Droplet model for quark confinement. <i>Physical Review D</i> , 1978, 18, 463-467.	1.6	13
61	Quantum Field Theory and Statistical Mechanics. , 1985, , .		13
62	Quantum K-theory. II. Homotopy invariance of the Chern character. <i>Journal of Functional Analysis</i> , 1990, 90, 355-368.	0.7	13
63	Quantum Harmonic Analysis and Geometric Invariants. <i>Advances in Mathematics</i> , 1999, 143, 1-110.	0.5	13
64	Holographic software for quantum networks. <i>Science China Mathematics</i> , 2018, 61, 593-626.	0.8	13
65	Supersymmetric Quantum Fields and Infinite Dimensional Analysis. <i>NATO ASI Series Series B: Physics</i> , 1988, , 227-280.	0.2	13
66	On the Approximation of Quantum Field Theories. <i>Journal of Mathematical Physics</i> , 1965, 6, 1172-1178.	0.5	12
67	Quantum Fourier analysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 10715-10720.	3.3	11
68	Stochastic Quantization, Reflection Positivity, and Quantum Fields. <i>Journal of Statistical Physics</i> , 2015, 161, 1-15.	0.5	10
69	The resummation of one particle lines. <i>Communications in Mathematical Physics</i> , 1979, 67, 267-293.	1.0	9
70	Constructive simulation and topological design of protocols. <i>New Journal of Physics</i> , 2017, 19, 063016.	1.2	9
71	Quantum Field Theory Models. , 1985, , 11-121.		9
72	Ward identities for non-commutative geometry. <i>Communications in Mathematical Physics</i> , 1990, 132, 119-130.	1.0	8

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73	Exact Renormalization Group for Gauge Theories. NATO ASI Series Series B: Physics, 1984, , 79-103.	0.2	7
74	Where does quantum field theory fit into the big picture?. , 1999, , 136-147.		7
75	Vortex loops and Majoranas. Journal of Mathematical Physics, 2013, 54, 112203.	0.5	6
76	Quantifying scrambling in quantum neural networks. Journal of High Energy Physics, 2022, 2022, 1.	1.6	6
77	Heat kernel regularization of quantum fields. Communications in Mathematical Physics, 1989, 121, 337-344.	1.0	5
78	Stability for a class of bilocal Hamiltonians. Communications in Mathematical Physics, 1993, 155, 183-197.	1.0	5
79	Twist Positivity. Annals of Physics, 1999, 278, 10-61.	1.0	5
80	Complex classical fields: An example. Journal of Functional Analysis, 2014, 266, 1833-1881.	0.7	4
81	A Model of Yukawa Quantum Field Theory. Physical Review Letters, 1969, 23, 1362-1363.	2.9	3
82	Supersymmetry and the spectral condition on a cylinder. Letters in Mathematical Physics, 1988, 16, 385-388.	0.5	3
83	A priori quantum field equations. Annals of Physics, 1989, 192, 2-20.	1.0	3
84	The Holonomy Expansion: Invariants and Approximate Supersymmetry. Annals of Physics, 2000, 279, 161-262.	1.0	3
85	Topological order and reflection positivity. Europhysics Letters, 2014, 105, 40002.	0.7	3
86	Euclidean quantum field theory. Nuclear Physics B, 1985, 254, 31-43.	0.9	2
87	On convergence of inverse functions of operators. Journal of Functional Analysis, 1988, 81, 320-324.	0.7	2
88	An index theorem for super derivations. Communications in Mathematical Physics, 1989, 125, 147-152.	1.0	2
89	Geometry of Supersymmetry. NATO ASI Series Series B: Physics, 1990, , 283-305.	0.2	2
90	Quantum Invariants. Communications in Mathematical Physics, 2000, 209, 1-12.	1.0	2

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91	Twist fields and broken supersymmetry. <i>Journal of Mathematical Physics</i> , 2000, 41, 3698-3763.	0.5	2
92	Renormalization of the Higgs Model: Minimizers, Propagators and the Stability of Mean Field Theory. , 1985, , 299-329.		2
93	Quantum Physics as Non-Commutative Geometry. , 1992, , 281-290.		2
94	The Particle Structure of the Weakly Coupled $P(\hat{t})^2$ Model and Other Applications of High Temperature Expansions. , 1985, , 201-269.		2
95	The particle search in a quantum field model. <i>Bulletin of the American Mathematical Society</i> , 1973, 79, 979-980.	3.0	1
96	Particles and bound states and progress toward unitarity and scaling. , 1975, , 118-127.		1
97	The Elliptic Genus and Hidden Symmetry. <i>Communications in Mathematical Physics</i> , 2001, 219, 89-124.	1.0	1
98	Reflection Positivity. <i>Oberwolfach Reports</i> , 2017, 14, 3263-3343.	0.0	1
99	De Finetti Theorems for Braided Parafermions. <i>Communications in Mathematical Physics</i> , 2020, 373, 435-456.	1.0	1
100	On the approach to the critical point. , 1985, , 348-361.		1
101	Non-Commutative Geometry and Mathematical Physics. <i>NATO ASI Series Series B: Physics</i> , 1992, , 295-308.	0.2	1
102	The modular group and super-KMS functionals. , 1991, , 382-384.		1
103	Particles and Bound States and Progress Toward Unitarity and Scaling. , 1985, , 317-328.		0
104	A Tutorial Course in Constructive Field Theory. , 1985, , 383-418.		0
105	Critical Problems in Quantum Fields. , 1985, , 329-347.		0
106	Asymptotically commuting families of operators. <i>Commentarii Mathematici Helvetici</i> , 1990, 65, 672-679.	0.4	0
107	DERIVATIVES WITH TWISTS. <i>Reviews in Mathematical Physics</i> , 2002, 14, 887-895.	0.7	0
108	REPLICA CONDENSATION AND TREE DECAY. <i>Reviews in Mathematical Physics</i> , 2009, 21, 439-457.	0.7	0

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109	Reflection positivity and Levin-Wen models. , 2020, 38, 202-216.		0
110	An Asymptotic Perturbation Expansion for Multiphase φ^4 , 1976, , 167-175.		0
111	A Tutorial Course in Constructive Field Theory. , 1977, , 1-34.		0
112	Classical Gauge Theories and Their Quantum Role. , 1980, , 189-200.		0
113	The Cluster Expansion. , 1981, , 321-343.		0
114	Two and Three Body Equations in Quantum Field Models. , 1985, , 409-436.		0
115	The Resummation of One Particle Lines. , 1985, , 450-476.		0
116	The φ^4 Quantum Field Theory without Cutoffs. IV. Perturbations of the Hamiltonian. , 1985, , 177-193.		0
117	Positivity and Self Adjointness of the φ^4 Hamiltonian. , 1985, , 171-176.		0
118	The Resummation of One Particle Lines. , 1985, , 450-476.		0
119	Two and Three Body Equations in Quantum Field Models. , 1985, , 409-436.		0
120	A Convergent Expansion about Mean Field Theory I. The Expansion. , 1985, , 263-283.		0
121	The φ^4 quantum field theory without cutoffs: II. The field operators and the approximate vacuum. , 1985, , 13-52.		0
122	The φ^4 Quantum Field Theory without Cutoffs.IV. Perturbations of the Hamiltonian. , 1985, , 177-193.		0
123	Positivity and Self Adjointness of the φ^4 Hamiltonian. , 1985, , 171-176.		0
124	The φ^4 Quantum Field Theory without Cutoffs. , 1985, , 53-116.		0
125	Absolute bounds on vertices and couplings. , 1985, , 480-490.		0
126	A φ^4 Quantum Field Theory without Cutoffs. I. , 1985, , 6-12.		0

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127	Critical Problems in Quantum Fields. , 1985, , 329-347.		0
128	The $\hat{\Psi}(\mathbb{R}^4)$ Quantum Field Theory without Cutoffs. , 1985, , 53-117.		0
129	Quantum Field Theory Models: Part II. The Yukawa Model. , 1985, , 69-108.		0
130	A tutorial course in constructive field theory. , 1985, , 383-418.		0
131	Charges, Vortices and Confinement. , 1985, , 516-527.		0
132	The Wightman axioms and particle structure in the $P(\mathbb{R}^2)$ quantum field model. , 1985, , 118-165.		0
133	A $\hat{\Psi}(\mathbb{R}^4)$ Quantum Field Theory without Cutoffs. I. , 1985, , 6-12.		0
134	The Wightman axioms and particle structure in the $\hat{\Psi}(\mathbb{R}^2)$ quantum field model. , 1985, , 118-165.		0
135	Particles and Bound States and Progress Toward Unitarity and Scaling. , 1985, , 317-328.		0
136	On the approach to the critical point. , 1985, , 348-361.		0
137	Remark on the Existence of $\hat{\Psi}(\mathbb{R}^4)$. , 1985, , 345-347.		0
138	Three-particle structure of $\hat{\Psi}(\mathbb{R}^4)$ interactions and the scaling limit. , 1985, , 397-408.		0
139	Particles and Scaling for Lattice Fields and Ising Models. , 1985, , 437-449.		0
140	A Convergent Expansion about Mean Field Theory I. The Expansion. , 1985, , 263-283.		0
141	Remark on the Existence of $\hat{\Psi}(\mathbb{R}^4)$. , 1985, , 345-347.		0
142	Particles and Scaling for Lattice Fields and Ising Models. , 1985, , 437-449.		0
143	The Particle Structure of the Weakly Coupled $P(\mathbb{R}^2)$ Model and Other Applications of High Temperature Expansions: Part I. Physics of Quantum Field Models. , 1985, , 203-269.		0