Naomichi Hatano

List of Publications by Year
in descending order

156 papers	5,067 citations	159358 30 h-index	98622 67 g-index
161 all docs	161 docs citations	161 times ranked	3291 citing authors

#	Article	IF	Citations
1	Localization Transitions in Non-Hermitian Quantum Mechanics. Physical Review Letters, 1996, 77, 570-573.	2.9	951
2	Communicability in complex networks. Physical Review E, 2008, 77, 036111.	0.8	512
3	Vortex pinning and non-Hermitian quantum mechanics. Physical Review B, 1997, 56, 8651-8673.	1.1	435
4	The physics of communicability in complex networks. Physics Reports, 2012, 514, 89-119.	10.3	242
5	Dispersive transport of ions in column experiments: An explanation of long-tailed profiles. Water Resources Research, 1998, 34, 1027-1033.	1.7	201
6	Non-Hermitian delocalization and eigenfunctions. Physical Review B, 1998, 58, 8384-8390.	1.1	198
7	Statistical-mechanical approach to subgraph centrality in complex networks. Chemical Physics Letters, 2007, 439, 247-251.	1.2	146
8	Communicability betweenness in complex networks. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 764-774.	1.2	103
9	Non-Abelian gauge field theory of the spin-orbit interaction and a perfect spin filter. Physical Review A, 2007, 75, .	1.0	100
10	Non-Hermitian localization in biological networks. Physical Review E, 2016, 93, 042310.	0.8	73
11	Some Properties of the Resonant State in Quantum Mechanics and Its Computation. Progress of Theoretical Physics, 2008, 119, 187-222.	2.0	67
12	Communicability graph and community structures in complex networks. Applied Mathematics and Computation, 2009, 214, 500-511.	1.4	62
13	Quasibound States in the Continuum in a Two Channel Quantum Wire with an Adatom. Physical Review Letters, 2007, 99, 210404.	2.9	54
14	Isotropic spin-1 chains with bond alternation: analytic and numerical studies. Journal of Physics Condensed Matter, 1995, 7, 4895-4920.	0.7	53
15	Bound states, scattering states, and resonant states in $\mathcal{PT}$-symmetric open quantum systems. Physical Review A, 2015, 92, .	1.0	53
16	Phase Transition and Hidden Orders of the Heisenberg Ladder Model in the Ground State. Journal of the Physical Society of Japan, 1995, 64, 1967-1979.	0.7	49
17	Exact Scattering Eigenstates, Many-Body Bound States, and Nonequilibrium Current in an Open Quantum Dot System. Physical Review Letters, 2009, 102, 146803.	2.9	45
18	Efficiency bounds on thermoelectric transport in magnetic fields: The role of inelastic processes. Physical Review B, 2016, 94, .	1.1	43

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19	Study on dynamical critical exponents of the Ising model using the damage spreading method. Journal of Physics A, 1995, 28, 4543-4552.	1.6	41
20	Thermodynamics of the mesoscopic thermoelectric heat engine beyond the linear-response regime. Physical Review E, 2015, 92, 042165.	0.8	41
21	Two-channel quantum wire with an adatom impurity: Role of the van Hove singularity in the quasibound state in continuum, decay rate amplification, and the Fano effect. Physical Review B, 2009, 80, .	1.1	39
22	Topological atomic displacements, Kirchhoff and Wiener indices of molecules. Chemical Physics Letters, 2010, 486, 166-170.	1.2	35
23	Exceptional points of the Lindblad operator of a two-level system. Molecular Physics, 2019, 117, 2121-2127.	0.8	35
24	Real-Space Renormalization-Group Analysisof the S=2 Antiferromagnetic Heisenberg Chain. Journal of the Physical Society of Japan, 1995, 64, 414-422.	0.7	34
25	A vibrational approach to node centrality and vulnerability in complex networks. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 3648-3660.	1.2	34
26	Triangular arbitrage as an interaction among foreign exchange rates. Physica A: Statistical Mechanics and Its Applications, 2002, 310, 467-479.	1.2	33
27	Path Laplacian operators and superdiffusive processes on graphs. I. One-dimensional case. Linear Algebra and Its Applications, 2017, 523, 307-334.	0.4	33
28	Correlation Length of theS=2Antiferromagnetic Heisenberg Chain. Journal of the Physical Society of Japan, 1993, 62, 1346-1353.	0.7	31
29	Time-reversal symmetric resolution of unity without background integrals in open quantum systems. Journal of Mathematical Physics, 2014, 55, 122106.	0.5	31
30	Thermoelectricity near Anderson localization transitions. Physical Review B, 2017, 96, .	1.1	31
31	Random multi-hopper model: super-fast random walks on graphs. Journal of Complex Networks, 2018, 6, 382-403.	1.1	30
32	Localization in non-Hermitian quantum mechanics and flux-line pinning in superconductors. Physica A: Statistical Mechanics and Its Applications, 1998, 254, 317-331.	1.2	29
33	Resonant Spectrum Analysis of the Conductance of an Open Quantum System and Three Types of Fano Parameter. Journal of the Physical Society of Japan, 2011, 80, 104707.	0.7	29
34	Equivalence of the effective Hamiltonian approach and the Siegert boundary condition for resonant states. Fortschritte Der Physik, 2013, 61, 238-249.	1.5	29
35	Predicting the characteristics of the aetiological agent for Kawasaki disease from other paediatric infectious diseases in Japan. Epidemiology and Infection, 2016, 144, 478-492.	1.0	29
36	Critical behaviour of the two-dimensional EA model with a Gaussian bond distribution. Journal of Physics A, 1992, 25, 4985-5003.	1.6	28

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37	Communicability Angle and the Spatial Efficiency of Networks. SIAM Review, 2016, 58, 692-715.	4.2	28
38	Walk entropies in graphs. Linear Algebra and Its Applications, 2014, 443, 235-244.	0.4	26
39	Communicability and multipartite structures in complex networks at negative absolute temperatures. Physical Review E, 2008, 78, 026102.	0.8	24
40	Quantum Monte Carlo Calculation of theJ1-J2Model. Journal of the Physical Society of Japan, 1993, 62, 3062-3070.	0.7	23
41	Probabilistic interpretation of resonant states. Pramana - Journal of Physics, 2009, 73, 553-564.	0.9	22
42	Reweighting Method for Quantum Monte Carlo Simulations with the Negative-Sign Problem. Journal of the Physical Society of Japan, 1992, 61, 3494-3502.	0.7	22
43	Representation basis in quantum Monte Carlo calculations and the negative-sign problem. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 163, 246-249.	0.9	21
44	Triangular arbitrage and negative auto-correlation of foreign exchange rates. Physica A: Statistical Mechanics and Its Applications, 2003, 324, 253-257.	1.2	20
45	Resistance Distance, Information Centrality, Node Vulnerability and Vibrations in Complex Networks. , 2010, , 13-29.		20
46	Universality of Zipf's Law. Journal of the Physical Society of Japan, 2002, 71, 1211-1213.	0.7	19
47	Entanglement generation through an open quantum dot: Exact two-electron scattering state in the Anderson model. Physical Review B, 2009, 80, .	1.1	19
48	Analysis Technique for Exceptional Points in Open Quantum Systems and QPT Analogy for the Appearance of Irreversibility. International Journal of Theoretical Physics, 2012, 51, 3536-3550.	0.5	19
49	Non-Markovian effect on quantum Otto engine: Role of system-reservoir interaction. Physical Review Research, 2021, 3, .	1.3	18
50	Scaling theory of antiferromagnetic Heisenberg ladder models. Journal of Physics A, 1995, 28, 3911-3923.	1.6	17
51	Fractal fluctuation of aerosol concentration near Chernobyl. Atmospheric Environment, 1997, 31, 2297-2303.	1.9	17
52	Quantum interference effect of resonant transport in nano-scale systems. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 29, 609-613.	1.3	16
53	The arrow of time in open quantum systems and dynamical breaking of the resonanceâ€"anti-resonance symmetry. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 405304.	0.7	16
54	Aerosol migration near chernobyl. Atmospheric Environment, 1998, 32, 2587-2594.	1.9	15

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55	Triangular arbitrage in the foreign exchange market. Physica A: Statistical Mechanics and Its Applications, 2004, 344, 174-177.	1.2	15
56	Strong Resonance of Light in a Cantor Set. Journal of the Physical Society of Japan, 2005, 74, 3093-3111.	0.7	14
57	Quantum Nernst effect. Solid State Communications, 2005, 135, 510-514.	0.9	14
58	Test of fluctuation theorems in non-Markovian open quantum systems. Physical Review E, 2011, 84, 031116.	0.8	14
59	Discrete-time quantum walk on complex networks for community detection. Physical Review Research, 2020, 2, .	1.3	14
60	Canonicality of the Double-Cluster Approximationin the CAM Theory. Journal of the Physical Society of Japan, 1991, 60, 3990-3992.	0.7	13
61	QUANTUM MONTE CARLO AND RELATED METHODS â€" RECENT DEVELOPMENTS â€". , 1993, , 13-47.		13
62	Study of correction terms for higher-order decompositions of exponential operators. Physica A: Statistical Mechanics and Its Applications, 1994, 211, 234-254.	1.2	13
63	The multicanonical Monte Carlo method. Computing in Science and Engineering, 2000, 2, 95-102.	1.2	13
64	Formula for the resuspension factor and estimation of the date of surface contamination. Atmospheric Environment, 2003, 37, 3475-3480.	1.9	13
65	Chebyshev-polynomial expansion of the localization length of Hermitian and non-Hermitian random chains. Physical Review E, 2016, 94, 063305.	0.8	13
66	Heating in Integrable Time-Periodic Systems. Physical Review Letters, 2018, 120, 220602.	2.9	13
67	Transfer-Matrix Calculations of the Spin 1/2 Antiferromagnetic XXZ Model on the 4 Ã—2 Triangular Lattice Using the Fractal Decomposition. , 0, .		13
68	Non-adiabatic transition in spin-boson model and generalization of the Landauâ€"Zener formula. Physica A: Statistical Mechanics and Its Applications, 1999, 265, 565-583.	1.2	12
69	Resonance in an Open Quantum Dot System with a Coulomb Interaction: a Bethe-Ansatz Approach. Journal of the Physical Society of Japan, 2007, 76, 063002.	0.7	12
70	Returnability in complex directed networks (digraphs). Linear Algebra and Its Applications, 2009, 430, 1886-1896.	0.4	12
71	Viral spreading of daily information in online social networks. Physica A: Statistical Mechanics and Its Applications, 2014, 406, 34-41.	1.2	12
72	Quantum Jarzynski equality of measurement-based work extraction. Physical Review E, 2017, 95, 032147.	0.8	12

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73	Transfer-Matrix Calculations of the Spin 1/2 Antiferromagnetic XXZ Model on the 4 x2 Triangular Lattice Using the Fractal Decomposition. Progress of Theoretical Physics, 1991, 85, 481-492.	2.0	11
74	A Multicanonical Monte Carlo Study of the 3D $\pm J$ Spin Glass. Progress of Theoretical Physics Supplement, 2000, 138, 442-447.	0.2	11
75	Calculation of the Self-Energy of Open Quantum Systems. Journal of the Physical Society of Japan, 2008, 77, 025003.	0.7	11
76	Quantum Nernst effect in a bismuth single crystal. Physical Review B, 2009, 80, .	1.1	11
77	Existence and nonexistence of an intrinsic tunneling time. Physical Review A, 2009, 79, .	1.0	11
78	$I \cdot V$ characteristics of an open quantum dot with a Coulomb interaction: Extension of the Landauer formula with exact scattering eigenstates. Physical Review B, 2011, 83, .	1.1	11
79	Nontrivial Eigenvalues of the Liouvillian of an Open Quantum System. International Journal of Theoretical Physics, 2011, 50, 1134-1142.	0.5	11
80	Correction-term theorem concerning decompositions of exponential operators. Physics Letters, Section A: General, Atomic and Solid State Physics, 1991, 153, 191-194.	0.9	10
81	Effective-field theory of spin glasses and the coherent-anomaly method. I. Journal of Statistical Physics, 1991, 63, 25-46.	0.5	10
82	Effective-field theory of spin glasses and the coherent-anomaly method. II. Double-Cluster approximation. Journal of Statistical Physics, 1992, 66, 897-911.	0.5	10
83	Statistical properties of eigenvalues of the non-Hermitian Su-Schrieffer-Heeger model with random hopping terms. Physical Review E, 2020, 102, 012101.	0.8	10
84	Goldberg's theorem and the Baker–Campbell–Hausdorff formula. Physica A: Statistical Mechanics and Its Applications, 1998, 250, 535-548.	1.2	9
85	Evidence for the double degeneracy of the ground state in the three-dimensional $\pm J$ spin glass. Physical Review B, 2002, 66, .	1.1	9
86	Resonant States of Open Quantum Systems. Progress of Theoretical Physics Supplement, 2010, 184, 497-515.	0.2	9
87	Resonance theory for discrete models: Methodology and isolated resonances. Journal of Chemical Physics, 2011, 134, 154111.	1.2	9
88	Non-Hermitian Fabry-Pérot resonances in a PT-symmetric system. Physical Review Research, 2021, 3, .	0.0	9
89	Reentrant Superfluid-Insulator Transitions of Random Boson Hubbard Models. Journal of the Physical Society of Japan, 1995, 64, 1529-1551.	0.7	8
90	A Non-Hermitian Critical Point and the Correlation Length of Strongly Correlated Quantum Systems. Journal of the Physical Society of Japan, 2006, 75, 104001.	0.7	8

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91	The Entanglement of the *X* *Y* Spin Chain in a Random Magnetic Field. Journal of the Physical Society of Japan, 2007, 76, 094001.	0.7	8
92	'Clumpiness' mixing in complex networks. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P03008.	0.9	8
93	Fundamental relation between longitudinal and transverse conductivities in the quantum Hall system. Journal of Physics Condensed Matter, 2009, 21, 345803.	0.7	8
94	Anomalous-order exceptional point and non-Markovian Purcell effect at threshold in one-dimensional continuum systems. Physical Review Research, 2021, 3, .	1.3	8
95	CFT estimates of the universal Binder parameter for quantum ground-state transitions in one dimension. Journal of Physics A, 1994, 27, L223-L230.	1.6	7
96	A critical-amplitude relation for one-dimensional quantum transitions and determination of the exponent eta. Journal of Physics A, 1994, 27, 6077-6089.	1.6	7
97	Hidden Orders and RVB Formation of the Four-Leg Heisenberg Ladder Model. Journal of the Physical Society of Japan, 1996, 65, 560-568.	0.7	7
98	Resonant-state Expansion of the Green's Function of Open Quantum Systems. International Journal of Theoretical Physics, 2011, 50, 1105-1115.	0.5	7
99	PT-symmetric graphene under a magnetic field. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160365.	1.0	7
100	Efficient communication dynamics on macro-connectome, and the propagation speed. Scientific Reports, 2018, 8, 2510.	1.6	7
101	Delocalization of non-Hermitian quantum walk on random media in one dimension. Annals of Physics, 2021, 435, 168615.	1.0	7
102	Impurity Effect in the Quantum Nernst Effect. E-Journal of Surface Science and Nanotechnology, 2005, 3, 518-523.	0.1	7
103	Data Analysis for Quantum Monte Carlo Simulations with the Negative-Sign Problem. Journal of the Physical Society of Japan, 1994, 63, 1691-1697.	0.7	6
104	Universal Finite-Size Scaling Function of the Ferromagnetic Heisenberg Chain in a Magnetic Field. Journal of the Physical Society of Japan, 1995, 64, 1955-1966.	0.7	6
105	Maximization of thermal entanglement of arbitrarily interacting two qubits. Physical Review A, 2011, 83, .	1.0	6
106	Universal electric current of interacting resonant-level models with asymmetric interactions: An extension of the Landauer formula. Physical Review B, 2015, 91, .	1.1	6
107	Time-Reversal Symmetry and Arrow of Time in Quantum Mechanics of Open Systems. Entropy, 2019, 21, 380.	1.1	6
108	A chain of solvable non-Hermitian Hamiltonians constructed by a series of metric operators. Annals of Physics, 2021, 430, 168511.	1.0	6

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109	Universal Finite-Size Scaling Function of the Ferromagnetic Heisenberg Chain in a Magnetic Field. II â€"Nonlinear Susceptibilityâ€". Journal of the Physical Society of Japan, 1995, 64, 4142-4155.	0.7	5
110	A microscopic model of triangular arbitrage. Physica A: Statistical Mechanics and Its Applications, 2006, 371, 572-584.	1.2	5
111	Tight-binding â€˜dihedral orbitalsâ€™ approach to electronic communicability in macromolecular chains. Chemical Physics Letters, 2007, 449, 216-220.	1.2	5
112	Irreversibility and the breaking of resonance-antiresonance symmetry. Chaos, 2017, 27, 104608.	1.0	5
113	Ground-State Quantum Monte Carlo Method Applied to Alternating-Bond Spin Chains. Journal of the Physical Society of Japan, 1993, 62, 847-850.	0.7	4
114	Phenomenological perturbation theory of quantum ground-state phase transitions. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 185, 46-50.	0.9	4
115	Dynamic analysis of nuclide diffusion with illitization of the buffer material. Waste Management, 1995, 15, 495-500.	3.7	4
116	A wind tunnel experiment of sand transport and its comparison with the Werner model. Journal of Geophysical Research, 2004, 109, .	3.3	4
117	Localization, resonance and non-Hermitian quantum mechanics. Physica A: Statistical Mechanics and Its Applications, 2002, 314, 170-176.	1.2	3
118	A new algorithm of analyzing the metal-insulator transition of the Anderson model. Computer Physics Communications, 2002, 147, 263-266.	3.0	3
119	Gap-mediated magnetization of a pseudo-one-dimensional system with a spinâ€"orbit interaction. Solid State Communications, 2007, 141, 79-83.	0.9	3
120	Vortex generation in the RSP game on the triangular lattice. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 1319-1337.	1.2	3
121	Hofstadter's Butterfly Type of Singular Spectrum of a Collision Operator for a Model of Molecular Chains. Progress of Theoretical Physics Supplement, 2010, 184, 457-465.	0.2	3
122	Temperature distribution in nano-devices under a strong magnetic field. Computer Physics Communications, 2011, 182, 90-92.	3.0	3
123	Temperature Distribution in Two-Dimensional Electron Gases under a Strong Magnetic Field. Journal of Electronic Materials, 2011, 40, 529-532.	1.0	3
124	Quantum Oscillations of Thermoelectric Effects in a Pseudo-one-dimensional Electron Gas With a Spinâ€"Orbit Interaction. Journal of Electronic Materials, 2011, 40, 601-605.	1.0	3
125	Null-eigenvalue localization of quantum walks on complex networks. Physical Review Research, 2020, 2, .	1.3	3
126	Relaxation from a metastable state due to quantum fluctuation. Physica A: Statistical Mechanics and Its Applications, 1996, 226, 137-151.	1.2	2

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127	MONTE CARLO SIMULATION OF RANDOM BOSON HUBBARD MODEL. International Journal of Modern Physics C, 1996, 07, 449-456.	0.8	2
128	ARK: A Pentium II/Linux Cluster. Progress of Theoretical Physics Supplement, 2000, 138, 757-758.	0.2	2
129	Triangular Arbitrage in the Foreign Exchange Market. , 2004, , 18-23.		2
130	Thermomagnetic Effect in the Quantum Hall System. Journal of Electronic Materials, 2012, 41, 1540-1545.	1.0	2
131	Current-Induced Cooling Phenomenon in a Two-Dimensional Electron Gas Under a Magnetic Field. Journal of Low Temperature Physics, 2013, 172, 132-153.	0.6	2
132	Generation of Multiple Dirac Cones in Graphene under Double-Periodic and Quasiperiodic Potentials. Journal of the Physical Society of Japan, 2013, 82, 113706.	0.7	2
133	What is the resonant state in open quantum systems?. Journal of Physics: Conference Series, 2021, 2038, 012013.	0.3	2
134	Monte Carlo study of superfluid-insulator transitions in Boson Hubbard models. Physica B: Condensed Matter, 1995, 206-207, 157-159.	1.3	1
135	Temporal Oscillation of Conductances in Quantum Hall Effect of Bloch Electrons. Journal of the Physical Society of Japan, 2006, 75, 063704.	0.7	1
136	A non-Hermitian analysis of strongly correlated quantum systems. Physica B: Condensed Matter, 2006, 378-380, 292-293.	1.3	1
137	Eigenvalue problem of the Liouvillian of open quantum systems. AIP Conference Proceedings, 2015, , .	0.3	1
138	Numerical-Diagonalization Analyses of an Effective Hamiltonian for the Haldane System. Journal of the Physical Society of Japan, 1994, 63, 3249-3262.	0.7	1
139	Communicability and Communities in Complex Socio-Economic Networks. , 2010, , 271-288.		1
140	Universal parabola of interface deviation in two dimensions. Physica A: Statistical Mechanics and Its Applications, 1993, 199, 318-334.	1.2	0
141	CFT estimates of the universal Binder parameter for one-dimensional quantum transitions. Journal of Magnetism and Magnetic Materials, 1995, 140-144, 1481-1482.	1.0	0
142	Phenomenological perturbation theory on quantum ground-state phase diagrams. Journal of Magnetism and Magnetic Materials, 1995, 140-144, 1483-1484.	1.0	0
143	A critical-amplitude relation for quantum transitions in one dimension. Journal of Magnetism and Magnetic Materials, 1995, 140-144, 1485-1486.	1.0	0
144	Extrapolation-CAM theory for critical exponents. Journal of Physics A, 1997, 30, 6299-6311.	1.6	0

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145	Six-Vertex Model with an Frustrated Impurity. Journal of the Physical Society of Japan, 1997, 66, 3048-3052.	0.7	0
146	Double degeneracy in the ground state of the 3D Â±J spin glass. Computer Physics Communications, 2002, 147, 414-418.	3.0	0
147	Universality of Zipf's Law. Journal of the Physical Society of Japan, 2003, 72, 1594-1594.	0.7	0
148	Localization, Resonance, and Non-Hermitian Quantum Mechanics. Journal of the Physical Society of Japan, 2003, 72, 201-202.	0.7	0
149	Transient Oscillation of Currents in Quantum Hall Effect of Bloch Electrons. Journal of the Physical Society of Japan, 2008, 77, 024713.	0.7	0
150	Transport-Coefficient Dependence of Current-Induced Cooling Effect in a Two-Dimensional Electron Gas. Journal of Electronic Materials, 2012, 41, 1535-1539.	1.0	0
151	Exact scattering eigenstates in double quantum-dot systems with an interdot Coulomb interaction. Journal of Physics: Conference Series, 2016, 670, 012038.	0.3	0
152	On walk entropies in graphs. Response to Dehmer and Mowshowitz. Complexity, 2016, 21, 15-18.	0.9	0
153	A Graph Theoretic Approach to Atomic Displacements in Fullerenes. Carbon Materials, 2011, , 171-185.	0.2	0
154	Non-Hermitian quantum mechanics and localization in physical systems. , 1999, , 319-322.		0
155	Editorial: Non-Hermitian quantum mechanics. Progress of Theoretical and Experimental Physics, 2020, 2020, .	1.8	0
156	Triangular Arbitrage as an Interaction in Foreign Exchange Markets. , 2006, , 133-142.		0