Giuseppe Carleo

List of Publications by Year
in descending order

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43 papers	5,581 citations	201674 27 h-index	276875 41 g-index
44 all docs	44 docs citations	44 times ranked	4250 citing authors

#	Article	IF	Citations
1	Solving the quantum many-body problem with artificial neural networks. Science, 2017, 355, 602-606.	12.6	1,307
2	Machine learning and the physical sciences. Reviews of Modern Physics, 2019, 91, .	45.6	1,245
3	Neural-network quantum state tomography. Nature Physics, 2018, 14, 447-450.	16.7	521
4	Quantum Simulators: Architectures and Opportunities. PRX Quantum, 2021, 2, .	9.2	229
5	Quantum Natural Gradient. Quantum - the Open Journal for Quantum Science, 0, 4, 269.	0.0	200
6	Neural-Network Approach to Dissipative Quantum Many-Body Dynamics. Physical Review Letters, 2019, 122, 250502.	7.8	161
7	Localization and Glassy Dynamics Of Many-Body Quantum Systems. Scientific Reports, 2012, 2, 243.	3.3	145
8	Symmetries and Many-Body Excitations with Neural-Network Quantum States. Physical Review Letters, 2018, 121, 167204.	7.8	127
9	Fermionic neural-network states for ab-initio electronic structure. Nature Communications, 2020, 11, 2368.	12.8	121
10	Restricted Boltzmann machines in quantum physics. Nature Physics, 2019, 15, 887-892.	16.7	117
11	Deep Autoregressive Models for the Efficient Variational Simulation of Many-Body Quantum Systems. Physical Review Letters, 2020, 124, 020503.	7.8	117
12	Constructing exact representations of quantum many-body systems with deep neural networks. Nature Communications, 2018, 9, 5322.	12.8	111
13	Two-dimensional frustrated <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>J</mml:mi><mml:mn>1</mml:mn></mml:msub></mml:mrow></mml:math> model studied with neural network quantum states. Physical Review B, 2019, 100, .	3.2	104
14	Light-cone effect and supersonic correlations in one- and two-dimensional bosonic superfluids. Physical Review A, 2014, 89, .	2.5	90
15	Nonstoquastic Hamiltonians and quantum annealing of an Ising spin glass. Physical Review B, 2017, 95, .	3.2	69
16	NetKet: A machine learning toolkit for many-body quantum systems. SoftwareX, 2019, 10, 100311.	2.6	65
17	Quench-Induced Breathing Mode of One-Dimensional Bose Gases. Physical Review Letters, 2014, 113, 035301.	7.8	64
18	Protected quasilocality in quantum systems with long-range interactions. Physical Review A, 2015, 92, .	2.5	58

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19	An efficient quantum algorithm for the time evolution of parameterized circuits. Quantum - the Open Journal for Quantum Science, 0, 5, 512.	0.0	55
20	Precise measurement of quantum observables with neural-network estimators. Physical Review Research, 2020, 2, .	3.6	53
21	Learning hard quantum distributions with variational autoencoders. Npj Quantum Information, 2018, 4, .	6.7	49
22	Universal scaling laws for correlation spreading in quantum systems with short- and long-range interactions. Physical Review B, 2018, 98, .	3.2	48
23	Mott transition for strongly interacting one-dimensional bosons in a shallow periodic potential. Physical Review A, 2016, 93, .	2.5	47
24	Spreading of correlations in exactly solvable quantum models with long-range interactions in arbitrary dimensions. New Journal of Physics, 2016, 18, 093002.	2.9	44
25	Classical variational simulation of the Quantum Approximate Optimization Algorithm. Npj Quantum Information, 2021, 7, .	6.7	42
26	Broken-Symmetry Ground States of the Heisenberg Model on the Pyrochlore Lattice. Physical Review X, 2021, 11, .	8.9	40
27	Deep Learning the Hohenberg-Kohn Maps of Density Functional Theory. Physical Review Letters, 2020, 125, 076402.	7.8	38
28	Simultaneous Perturbation Stochastic Approximation of the Quantum Fisher Information. Quantum - the Open Journal for Quantum Science, 0, 5, 567.	0.0	38
29	Variational Monte Carlo Calculations of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>A</mml:mi><mml:mo>â‰</mml:mo><mml:mn>4</mml:mn></mml:mrow></mml:math> Nuclei with an Artificial Neural-Network Correlator Ansatz. Physical Review Letters, 2021, 127, 022502.	7.8	37
30	Universal Superfluid Transition and Transport Properties of Two-Dimensional Dirty Bosons. Physical Review Letters, 2013, 111, 050406.	7.8	30
31	Itinerant ferromagnetic phase of the Hubbard model. Physical Review B, 2011, 83, .	3.2	26
32	Phases of two-dimensional spinless lattice fermions with first-quantized deep neural-network quantum states. Physical Review B, 2020, 102, .	3.2	25
33	Bose-Einstein Condensation in Quantum Glasses. Physical Review Letters, 2009, 103, 215302.	7.8	21
34	Unbiased Monte Carlo cluster updates with autoregressive neural networks. Physical Review Research, 2021, 3, .	3.6	20
35	Neural-network quantum states for periodic systems in continuous space. Physical Review Research, 2022, 4, .	3.6	18
36	Unitary Dynamics of Strongly Interacting Bose Gases with the Time-Dependent Variational MonteÂCarlo Method in Continuous Space. Physical Review X, 2017, 7, .	8.9	16

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37	Gauge Equivariant Neural Networks for Quantum Lattice Gauge Theories. Physical Review Letters, 2021, 127, 276402.	7.8	14
38	Reptation quantum Monte Carlo algorithm for lattice Hamiltonians with a directed-update scheme. Physical Review E, 2010, 82, 046710.	2.1	13
39	Nuclei with Up to $$varvec{A=6}$$ Nucleons with Artificial Neural Network Wave Functions. Few-Body Systems, 2022, 63, 1.	1.5	13
40	Natural evolution strategies and variational Monte Carlo. Machine Learning: Science and Technology, 2021, 2, 02LT01.	5.0	12
41	Ground state phase diagram of the one-dimensional Bose-Hubbard model from restricted Boltzmann machines. Journal of Physics: Conference Series, 2019, 1290, 012005.	0.4	11
42	Role of stochastic noise and generalization error in the time propagation of neural-network quantum states. SciPost Physics, 2022, 12, .	4.9	9
43	Zero-temperature dynamics of solid<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mtext>H</mml:mtext><mml:mprescripts /><mml:none /><mml:mn>4</mml:mn></mml:mmultiscripts><mml:mtext>e</mml:mtext></mml:mrow></mml:math>from quantum Monte Carlo simulations. Physical Review B, 2009, 80, .	3.2	8