Quantum computational chemistry

Reviews of Modern Physics 92, DOI: 10.1103/revmodphys.92.015003

Citation Report

#	Article	IF	CITATIONS
1	Super-Resolution for Imagery Enhancement Using Variational Quantum Eigensolver. , 2019, , .		1
2	Noise Analysis of Quantum Approximate Optimization Algorithm on Weighted MAX-CUT. , 2019, , .		0
3	Efficient Step-Merged Quantum Imaginary Time Evolution Algorithm for Quantum Chemistry. Journal of Chemical Theory and Computation, 2020, 16, 6256-6266.	5.3	42
4	Digital Simulation of Topological Matter on Programmable Quantum Processors. Physical Review Letters, 2020, 125, 160503.	7.8	20
5	Simulating Periodic Systems on a Quantum Computer Using Molecular Orbitals. Journal of Chemical Theory and Computation, 2020, 16, 6904-6914.	5.3	27
6	Solving complex eigenvalue problems on a quantum annealer with applications to quantum scattering resonances. Physical Chemistry Chemical Physics, 2020, 22, 26136-26144.	2.8	16
7	Resource-efficient digital quantum simulation of d-level systems for photonic, vibrational, and spin-s Hamiltonians. Npj Quantum Information, 2020, 6, .	6.7	74
8	Quantum simulations employing connected moments expansions. Journal of Chemical Physics, 2020, 153, 201102.	3.0	17
9	Computational chemistry on quantum computers. Applied Physics A: Materials Science and Processing, 2020, 126, 1.	2.3	8
10	Demonstration of Adiabatic Variational Quantum Computing with a Superconducting Quantum Coprocessor. Physical Review Letters, 2020, 125, 180501.	7.8	33
11	Very low overhead fault-tolerant magic state preparation using redundant ancilla encoding and flag qubits. Npj Quantum Information, 2020, 6, .	6.7	35
12	Exploring Hilbert space on a budget: Novel benchmark set and performance metric for testing electronic structure methods in the regime of strong correlation. Journal of Chemical Physics, 2020, 153, 104108.	3.0	15
13	Quantum entanglement, local indicators, and the effect of external fields in the Kugel-Khomskii model. Physical Review B, 2020, 102, .	3.2	1
14	Resource Estimation for Quantum Variational Simulations of the Hubbard Model. Physical Review Applied, 2020, 14, .	3.8	45
15	Quantum phase estimation for a class of generalized eigenvalue problems. Physical Review A, 2020, 102,	2.5	21
16	A quantum-computing advantage for chemistry. Science, 2020, 369, 1054-1055.	12.6	17
17	Quantum computation of silicon electronic band structure. Physical Chemistry Chemical Physics, 2020, 22, 21816-21822.	2.8	13
18	A probabilistic spin annihilation method for quantum chemical calculations on quantum computers. Physical Chemistry Chemical Physics, 2020, 22, 20990-20994.	2.8	5

TATION REDO

#	Article	IF	CITATIONS
19	Resource-Efficient Chemistry on Quantum Computers with the Variational Quantum Eigensolver and the Double Unitary Coupled-Cluster Approach. Journal of Chemical Theory and Computation, 2020, 16, 6165-6175.	5.3	50
20	Chemistry on Quantum Computers with Virtual Quantum Subspace Expansion. Journal of Chemical Theory and Computation, 2020, 16, 5425-5431.	5.3	20
21	Electronic structure with direct diagonalization on a D-wave quantum annealer. Scientific Reports, 2020, 10, 20753.	3.3	18
22	Quantum simulation of quantum field theories as quantum chemistry. Journal of High Energy Physics, 2020, 2020, 1.	4.7	36
23	Symmetry-Assisted Preparation of Entangled Many-Body States on a Quantum Computer. Physical Review Letters, 2020, 125, 230502.	7.8	27
24	Benchmarking Adaptive Variational Quantum Eigensolvers. Frontiers in Chemistry, 2020, 8, 606863.	3.6	28
25	Application of Quantum Computing to Biochemical Systems: A Look to the Future. Frontiers in Chemistry, 2020, 8, 587143.	3.6	28
26	Classical simulation of noncontextual Pauli Hamiltonians. Physical Review A, 2020, 102, .	2.5	8
27	Hardware efficient quantum algorithms for vibrational structure calculations. Chemical Science, 2020, 11, 6842-6855.	7.4	50
28	Efficient evaluation of quantum observables using entangled measurements. Npj Quantum Information, 2020, 6, .	6.7	44
29	An open-source, industrial-strength optimizing compiler for quantum programs. Quantum Science and Technology, 2020, 5, 044001.	5.8	19
30	Variational Quantum Simulation of General Processes. Physical Review Letters, 2020, 125, 010501.	7.8	137
31	Error-mitigated quantum gates exceeding physical fidelities in a trapped-ion system. Nature Communications, 2020, 11, 587.	12.8	60
32	Advances in Silicon Quantum Photonics. IEEE Journal of Selected Topics in Quantum Electronics, 2021, 27, 1-24.	2.9	41
33	Quantum Information and Algorithms for Correlated Quantum Matter. Chemical Reviews, 2021, 121, 3061-3120.	47.7	67
34	A quantum algorithm for spin chemistry: a Bayesian exchange coupling parameter calculator with broken-symmetry wave functions. Chemical Science, 2021, 12, 2121-2132.	7.4	8
35	Shallow-circuit variational quantum eigensolver based on symmetry-inspired Hilbert space partitioning for quantum chemical calculations. Physical Review Research, 2021, 3, .	3.6	24
36	Bosonic quantum error correction codes in superconducting quantum circuits. Fundamental Research, 2021, 1, 50-67.	3.3	83

#	Article	IF	CITATIONS
37	Efficient quantum measurement of Pauli operators in the presence of finite sampling error. Quantum - the Open Journal for Quantum Science, 0, 5, 385.	0.0	80
38	Bell inequalities for entangled qubits: quantitative tests of quantum character and nonlocality on quantum computers. Physical Chemistry Chemical Physics, 2021, 23, 6370-6387.	2.8	1
39	Exponentially faster implementations of Select(H) for fermionic Hamiltonians. Quantum - the Open Journal for Quantum Science, 0, 5, 380.	0.0	4
40	Hybrid quantum-classical algorithms for solving quantum chemistry in Hamiltonian–wave-function space. Physical Review A, 2021, 103, .	2.5	9
41	Biomolecular QM/MM Simulations: What Are Some of the "Burning Issues�. Journal of Physical Chemistry B, 2021, 125, 689-702.	2.6	68
42	Hybrid Quantum-Classical Eigensolver without Variation or Parametric Gates. Quantum Reports, 2021, 3, 137-152.	1.3	2
43	A state-averaged orbital-optimized hybrid quantum–classical algorithm for a democratic description of ground and excited states. Quantum Science and Technology, 2021, 6, 024004.	5.8	38
44	Overhead for simulating a non-local channel with local channels by quasiprobability sampling. Quantum - the Open Journal for Quantum Science, 0, 5, 388.	0.0	16
45	Discretized quantum adiabatic process for free fermions and comparison with the imaginary-time evolution. Physical Review Research, 2021, 3, .	3.6	8
46	Quantum Generative Models for Small Molecule Drug Discovery. IEEE Transactions on Quantum Engineering, 2021, 2, 1-8.	4.9	27
47	A feasible approach for automatically differentiable unitary coupled-cluster on quantum computers. Chemical Science, 2021, 12, 3497-3508.	7.4	43
48	Bayesian phase difference estimation: a general quantum algorithm for the direct calculation of energy gaps. Physical Chemistry Chemical Physics, 2021, 23, 20152-20162.	2.8	11
49	Relationship between costs for quantum error mitigation and non-Markovian measures. Physical Review A, 2021, 103, .	2.5	14
50	Unitary-coupled restricted Boltzmann machine ansatz for quantum simulations. Npj Quantum Information, 2021, 7, .	6.7	13
51	Quantum optimal control with quantum computers: A hybrid algorithm featuring machine learning optimization. Physical Review A, 2021, 103, .	2.5	13
52	Topological properties of the long-range Kitaev chain with Aubry-André-Harper modulation. Physical Review Research, 2021, 3, .	3.6	15
53	Microcanonical and finite-temperature <i>ab initio</i> molecular dynamics simulations on quantum computers. Physical Review Research, 2021, 3, .	3.6	26
54	Quantum Power Method by a Superposition of Time-Evolved States. PRX Quantum, 2021, 2, .	9.2	48

#	Article	IF	CITATIONS
55	Towards practical applications in quantum computational biology. Nature Computational Science, 2021, 1, 114-119.	8.0	24
56	Direct estimation of the energy gap between the ground state and excited state with quantum annealing. Japanese Journal of Applied Physics, 2021, 60, SBBI02.	1.5	7
57	Penalty methods for a variational quantum eigensolver. Physical Review Research, 2021, 3, .	3.6	32
58	Scalable Evaluation of Quantum-Circuit Error Loss Using Clifford Sampling. Physical Review Letters, 2021, 126, 080501.	7.8	4
59	QCEC: A JKQ tool for quantum circuit equivalence checking. Software Impacts, 2021, 7, 100051.	1.4	6
60	Quantum Simulators: Architectures and Opportunities. PRX Quantum, 2021, 2, .	9.2	229
61	Quantum Solver of Contracted Eigenvalue Equations for Scalable Molecular Simulations on Quantum Computing Devices. Physical Review Letters, 2021, 126, 070504.	7.8	59
62	Faster SchrĶdinger-style simulation of quantum circuits. , 2021, , .		8
63	Theory of Trotter Error with Commutator Scaling. Physical Review X, 2021, 11, .	8.9	185
64	Quantum Zeno approach for molecular energies with maximum commuting initial Hamiltonians. Physical Review Research, 2021, 3, .	3.6	3
65	Faster Digital Quantum Simulation by Symmetry Protection. PRX Quantum, 2021, 2, .	9.2	50
66	Reduction of the molecular hamiltonian matrix using quantum community detection. Scientific Reports, 2021, 11, 4099.	3.3	11
67	Composable Programming of Hybrid Workflows for Quantum Simulation. , 2021, , .		3
68	Hybrid Quantum-Classical Algorithms and Quantum Error Mitigation. Journal of the Physical Society of Japan, 2021, 90, 032001.	1.6	263
69	Quantum Algorithm for the Direct Calculations of Vertical Ionization Energies. Journal of Physical Chemistry Letters, 2021, 12, 2880-2885.	4.6	11
70	TEQUILA: a platform for rapid development of quantum algorithms. Quantum Science and Technology, 2021, 6, 024009.	5.8	36
71	Closing the gaps in Quantum Computing: Co-Development and Co-Design. Digitale Welt, 2021, 5, 85-93.	0.3	1
72	Theoretical and Experimental Perspectives of Quantum Verification. PRX Quantum, 2021, 2, .	9.2	40

ARTICLE IF CITATIONS # Application-Motivated, Holistic Benchmarking of a Full Quantum Computing Stack. Quantum - the 73 0.0 19 Open Journal for Quantum Science, 0, 5, 415. Simulating quantum chemistry in the seniority-zero space on qubit-based quantum computers. 74 2.5 23 Physical Review A, 2021, 103, . Simulation of Quantum Tomography Process of Biphoton Polarization States on a Quantum Computer. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo) Tj ETQq0 0 0 rgBT /Overlock 100f 50 657 75 Quantum computation of dominant products in lithium–sulfur batteries. Journal of Chemical Physics, 2021, 154, 134115. Improving Hamiltonian encodings with the Gray code. Physical Review A, 2021, 103, . 77 2.5 23 Quantum versus classical generative modelling in finance. Quantum Science and Technology, 2021, 6, 5.8 024013. Analog Quantum Simulation of Non-Condon Effects in Molecular Spectroscopy. ACS Photonics, 2021, 79 6.6 8 8, 2007-2016. Generic detection-based error mitigation using quantum autoencoders. Physical Review A, 2021, 103, . 2.5 9 81 Simulating the Same Physics with Two Distinct Hamiltonians. Physical Review Letters, 2021, 126, 160402. 7.8 5 Post-Hartree–Fock method in quantum chemistry for quantum computer. European Physical Journal: 2.6 Special Topics, 2021, 230, 1037-1051. Preparing ground states with a broken symmetry with variational quantum algorithms. Quantum 83 5.8 6 Science and Technology, 2021, 6, 035003. Materials challenges and opportunities for quantum computing hardware. Science, 2021, 372, . 196 Quantum supremacy and quantum phase transitions. Physical Review B, 2021, 103, . 85 3.2 3 <i>Ab initio</i> molecular dynamics on quantum computers. Journal of Chemical Physics, 2021, 154, 164103. Geometric constraints on two-electron reduced density matrices. Physical Review A, 2021, 103, . 87 2.50 Quantum computing hardware in the cloud: Should a computational chemist care?. International Journal of Quantum Chemistry, 2021, 121, e26688. Computational molecular spectroscopy. Nature Reviews Methods Primers, 2021, 1, . 89 21.2 73 Many-body physics in small systems: Observing the onset and saturation of correlation in linear 3.2 atomic chains. Physical Review B, 2021, 103, .

ARTICLE IF CITATIONS # Hybrid localized graph kernel for machine learning energyâ€related properties of molecules and solids. 91 3.3 2 Journal of Computational Chemistry, 2021, 42, 1390-1401. Excited State Search Using Quantum Annealing. Journal of the Physical Society of Japan, 2021, 90, 1.6 054002. Benchmarking Quantum Chemistry Computations with Variational, Imaginary Time Evolution, and 93 3.9 21 Krylov Space Solver Algorithms. Advanced Quantum Technologies, 2021, 4, 2100012. Variational Quantum Chemistry Programs in JaqalPaq. Entropy, 2021, 23, 657. 2.2 94 Solving nonlinear differential equations with differentiable quantum circuits. Physical Review A, 95 2.5 56 2021, 103, . Qubit-efficient encoding schemes for binary optimisation problems. Quantum - the Open Journal for Quantum Science, 0, 5, 454. Meta-Variational Quantum Eigensolver: Learning Energy Profiles of Parameterized Hamiltonians for 97 9.2 33 Quantum Simulation. PRX Quantum, 2021, 2, . Variational quantum simulations of stochastic differential equations. Physical Review A, 2021, 103, . 2.5 98 Calculating nonadiabatic couplings and Berry's phase by variational quantum eigensolvers. Physical 99 10 3.6 Review Research, 2021, 3, . Calculation of vibrational eigenenergies on a quantum computer: Application to the Fermi resonance in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>CO</mml:mi><mml:mn>2</mml:mn³*/mml:msub></m Physical Review A. 2021, 103 Simulating molecules on a cloud-based 5-qubit IBM-Q universal quantum computer. Communications 101 5.310 Physics, 2021, 4, . Gutzwiller wave function on a digital quantum computer. Physical Review B, 2021, 103, . 3.2 Improved Accuracy on Noisy Devices by Nonunitary Variational Quantum Eigensolver for Chemistry 103 5.3 9 Applications. Journal of Chemical Theory and Computation, 2021, 17, 3946-3954. An efficient adaptive variational quantum solver of the Schrödinger equation based on reduced 104 23 density matrices. Journal of Chemical Physics, 2021, 154, 244112 Compact Ion-Trap Quantum Computing Demonstrator. PRX Quantum, 2021, 2, . 105 9.2 159 Digital quantum simulation of molecular dynamics and control. Physical Review Research, 2021, 3, . Correlation-Informed Permutation of Qubits for Reducing Ansatz Depth in the Variational Quantum 107 9.2 36 Eigensolver. PRX Quantum, 2021, 2, . Quantum gates by adiabatic and superadiabatic probabilistic controlled evolutions. Europhysics Letters, 2021, 134, 50005.

	Сітатіо	n Report	
#	Article	IF	CITATIONS
109	Measurement-Based Variational Quantum Eigensolver. Physical Review Letters, 2021, 126, 220501.	7.8	30
110	Software-Hardware Co-Optimization for Computational Chemistry on Superconducting Quantum Processors. , 2021, , .		7
111	Variational quantum solver employing the PDS energy functional. Quantum - the Open Journal for Quantum Science, 0, 5, 473.	0.0	11
112	Learning from Physics Experiments with Quantum Computers: Applications in Muon Spectroscopy. PRX Quantum, 2021, 2, .	9.2	4
113	Variational quantum eigensolver for approximate diagonalization of downfolded Hamiltonians using generalized unitary coupled cluster ansatz. Quantum Science and Technology, 2021, 6, 034008.	5.8	17
114	Toward simulating superstring/M-theory on a quantum computer. Journal of High Energy Physics, 2021, 2021, 1.	4.7	18
115	Adaptive Variational Quantum Dynamics Simulations. PRX Quantum, 2021, 2, .	9.2	57
116	Bayesian Quantum Multiphase Estimation Algorithm. Physical Review Applied, 2021, 16, .	3.8	21
117	Natural evolutionary strategies for variational quantum computation. Machine Learning: Science and Technology, 2021, 2, 045012.	5.0	16
118	Quantum computation for predicting electron and phonon properties of solids. Journal of Physics Condensed Matter, 2021, 33, 385501.	1.8	5
119	Quantum Simulation with Hybrid Tensor Networks. Physical Review Letters, 2021, 127, 040501.	7.8	47
120	Mutual information-assisted adaptive variational quantum eigensolver. Quantum Science and Technology, 2021, 6, 035001.	5.8	26
121	Even More Efficient Quantum Computations of Chemistry Through Tensor Hypercontraction. PRX Quantum, 2021, 2, .	9.2	93
122	Silicon photonic quantum computing with spin qubits. APL Photonics, 2021, 6, .	5.7	22
123	Accelerating quantum computer developments. EPJ Quantum Technology, 2021, 8, .	6.3	11
124	Variational quantum algorithm with information sharing. Npj Quantum Information, 2021, 7, .	6.7	15
125	Quantum computing enhanced computational catalysis. Physical Review Research, 2021, 3, .	3.6	96
126	Quantum simulation of nuclear inelastic scattering. Physical Review A, 2021, 104, .	2.5	18

#	Article	IF	CITATIONS
127	Hardware-efficient variational quantum algorithms for time evolution. Physical Review Research, 2021, 3, .	3.6	79
128	Nearly tight Trotterization of interacting electrons. Quantum - the Open Journal for Quantum Science, 0, 5, 495.	0.0	35
129	Measurement Cost of Metric-Aware Variational Quantum Algorithms. PRX Quantum, 2021, 2, .	9.2	28
130	Optimal resource cost for error mitigation. Physical Review Research, 2021, 3, .	3.6	41
131	Polymer Physics by Quantum Computing. Physical Review Letters, 2021, 127, 080501.	7.8	17
132	Quantum computation: Algorithms and Applications. Chinese Journal of Physics, 2021, 72, 248-269.	3.9	19
133	Numerical hardware-efficient variational quantum simulation of a soliton solution. Physical Review A, 2021, 104, .	2.5	10
134	Evaluating the noise resilience of variational quantum algorithms. Physical Review A, 2021, 104, .	2.5	25
135	High-Efficiency Arbitrary Quantum Operation on a High-Dimensional Quantum System. Physical Review Letters, 2021, 127, 090504.	7.8	6
136	Computational Chemistry in the Undergraduate Classroom – Pedagogical Considerations and Teaching Challenges. Israel Journal of Chemistry, 2022, 62, .	2.3	7
137	Exploiting anticommutation in Hamiltonian simulation. Quantum - the Open Journal for Quantum Science, 0, 5, 534.	0.0	2
138	Hamiltonian Operator Approximation for Energy Measurement and Ground-State Preparation. PRX Quantum, 2021, 2, .	9.2	16
139	Fostering multidisciplinary collaborations. Nature Computational Science, 2021, 1, 503-503.	8.0	2
140	Laser-annealing Josephson junctions for yielding scaled-up superconducting quantum processors. Npj Quantum Information, 2021, 7, .	6.7	80
141	Robust Shadow Estimation. PRX Quantum, 2021, 2, .	9.2	51
142	Many-Body Physics in the NISQ Era: Quantum Programming a Discrete Time Crystal. PRX Quantum, 2021, 2, .	9.2	41
143	Simulating quantum materials with digital quantum computers. Quantum Science and Technology, 2021, 6, 043002.	5.8	32
144	Learning bounds for quantum circuits in the agnostic setting. Quantum Information Processing, 2021, 20, 1.	2.2	7

# 145	ARTICLE Editorial: Quantum Information and Quantum Computing for Chemical Systems. Frontiers in Physics, 2021, 9, .	IF 2.1	CITATIONS
146	Quantum simulation of gauge theory via orbifold lattice. Journal of High Energy Physics, 2021, 2021, 1.	4.7	19
147	Exponential Error Suppression for Near-Term Quantum Devices. Physical Review X, 2021, 11, .	8.9	72
148	Optical Indistinguishability via Twinning Fields. Physical Review Letters, 2021, 127, 113201.	7.8	6
149	Variational quantum eigensolver for dynamic correlation functions. Physical Review A, 2021, 104, .	2.5	19
150	Equation-of-Motion Theory to Calculate Accurate Band Structures with a Quantum Computer. Journal of Physical Chemistry Letters, 2021, 12, 8833-8840.	4.6	25
151	On the Co-Design of Quantum Software and Hardware. , 2021, , .		10
152	Neural predictor based quantum architecture search. Machine Learning: Science and Technology, 2021, 2, 045027.	5.0	23
153	A new design for a traveling-wave Zeeman decelerator: I. Theory. New Journal of Physics, 0, , .	2.9	5
154	Quantum simulation of nuclear Hamiltonian with a generalized transformation for Gray code encoding. Physical Review C, 2021, 104, .	2.9	6
155	Quantum Phase Estimation Algorithm with Gaussian Spin States. PRX Quantum, 2021, 2, .	9.2	17
156	Variational algorithms for linear algebra. Science Bulletin, 2021, 66, 2181-2188.	9.0	72
157	Benchmarking the variational quantum eigensolver through simulation of the ground state energy of prebiotic molecules on high-performance computers. AIP Conference Proceedings, 2021, , .	0.4	11
158	The prospects of quantum computing in computational molecular biology. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2021, 11, e1481.	14.6	108
159	Correlating AGP on a quantum computer. Quantum Science and Technology, 2021, 6, 014004.	5.8	37
160	Predicting excited states from ground state wavefunction by supervised quantum machine learning. Machine Learning: Science and Technology, 2020, 1, 045027.	5.0	13
161	Topological States in Qubit Arrays Induced by Density-Dependent Coupling. Physical Review Applied, 2020, 14, .	3.8	3
162	Efficient two-electron ansatz for benchmarking quantum chemistry on a quantum computer. Physical Review Research, 2020, 2, .	3.6	13

		CITATION RE	PORT	
#	Article		IF	CITATIONS
163	Pairwise tomography networks for many-body quantum systems. Physical Review Resea	arch, 2020, 2, .	3.6	12
164	Linear-response functions of molecules on a quantum computer: Charge and spin respo optical absorption. Physical Review Research, 2020, 2, .	onses and	3.6	9
165	Calculation of the Green's function on near-term quantum computers. Physical Review 2020, 2, .	Research,	3.6	48
166	Quantum computation of molecular response properties. Physical Review Research, 20	20, 2, .	3.6	20
167	Density functionals and Kohn-Sham potentials with minimal wavefunction preparations computer. Physical Review Research, 2020, 2, .	on a quantum	3.6	4
168	Variational quantum algorithm for nonequilibrium steady states. Physical Review Resea	rch, 2020, 2, .	3.6	31
169	Classical Optimizers for Noisy Intermediate-Scale Quantum Devices. , 2020, , .			39
170	\$O(N^3)\$ Measurement Cost for Variational Quantum Eigensolver on Molecular Hamil Transactions on Quantum Engineering, 2020, 1, 1-24.	tonians. IEEE	4.9	48
171	Enabling accuracy-aware Quantum compilers using symbolic resource estimation. , 202	0, 4, 1-26.		5
172	Time-dependent Hamiltonian simulation with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mi>Lscaling. Quantum - the Open Journal for Quantum Science, 0, 4, 254.</mml:mi></mml:msup></mml:math 	ni> < mml:mn > 1 <td>> <¢noml:m</td> <td>supo </td>	> < ¢noml: m	su po
173	An Adaptive Optimizer for Measurement-Frugal Variational Algorithms. Quantum - the for Quantum Science, 0, 4, 263.	Open Journal	0.0	77
174	Concentration for Random Product Formulas. PRX Quantum, 2021, 2, .		9.2	29
175	Simulation of Condensed-Phase Spectroscopy with Near-Term Digital Quantum Compu Chemical Theory and Computation, 2021, 17, 7178-7186.	ters. Journal of	5.3	8
176	Strong Quantum Computational Advantage Using a Superconducting Quantum Proces Review Letters, 2021, 127, 180501.	sor. Physical	7.8	491
177	What the foundations of quantum computer science teach us about chemistry. Journal Physics, 2021, 155, 150901.	of Chemical	3.0	9
178	Quantum simulation of cosmic inflation. Physical Review D, 2021, 104, .		4.7	3
179	Quantum computational advantage via 60-qubit 24-cycle random circuit sampling. Scie 2022, 67, 240-245.	nce Bulletin,	9.0	114
180	Early fault-tolerant simulations of the Hubbard model. Quantum Science and Technolog 015007.	çy, 2022, 7,	5.8	22

	Сітл	ation Report	
#	Article	IF	CITATIONS
181	Qubit-excitation-based adaptive variational quantum eigensolver. Communications Physics, 2021, 4, .	5.3	55
182	Distributed quantum computing with QMPI. , 2021, , .		17
183	Adaptive Variational Quantum Imaginary Time Evolution Approach for Ground State Preparation. Advanced Quantum Technologies, 2021, 4, 2100114.	3.9	32
184	QuaSiMo: A composable library to program hybrid workflows for quantum simulation. IET Quantum Communication, 0, , .	3.8	0
185	Quantum algorithm for the calculation of transition amplitudes in hybrid tensor networks. Physical Review A, 2021, 104, .	2.5	1
186	Quantum Gram-Schmidt processes and their application to efficient state readout for quantum algorithms. Physical Review Research, 2021, 3, .	3.6	4
187	Efficient quantum circuits for quantum computational chemistry. Physical Review A, 2020, 102, .	2.5	44
188	Topological Dynamic Matter. Journal of Physical Chemistry Letters, 2021, 12, 454-462.	4.6	1
189	Challenges and perspectives in the modeling of spin qubits. , 2020, , .		3
190	Teleportation of the Bell States on IBM Q Computers Under Their Hardware Errors. Communications in Computer and Information Science, 2020, , 129-143.	0.5	0
192	An survey: Quantum Phase Estimation Algorithms. , 2021, , .		0
193	Iterative quantum-assisted eigensolver. Physical Review A, 2021, 104, .	2.5	18
194	Vacuum-gap transmon qubits realized using flip-chip technology. Applied Physics Letters, 2021, 119, .	3.3	16
195	The dominant eigenvector of a noisy quantum state. New Journal of Physics, 2021, 23, 123047.	2.9	27
196	Variational quantum algorithm for molecular geometry optimization. Physical Review A, 2021, 104, .	2.5	15
197	Experimental Quantum State Measurement with Classical Shadows. Physical Review Letters, 2021, 127 200501.	, 7.8	23
198	Practical distributed quantum information processing with LOCCNet. Npj Quantum Information, 2021, 7, .	6.7	13
199	Quantum software engineering. Pt. I: Quantum Circuit (Gate) Model based Computing – education Lectures and pedagogical workshop. Sistemnyj Analiz V Nauke I Obrazovanii, 2020, , 129-201.	0.0	0

#	Article	IF	CITATIONS
200	The Effect of Noise on the Performance of Variational Algorithms for Quantum Chemistry. , 2021, , .		5
201	Error mitigation with Clifford quantum-circuit data. Quantum - the Open Journal for Quantum Science, 0, 5, 592.	0.0	96
202	Composability of global phase invariant distance and its application to approximation error management. Journal of Physics Communications, 2021, 5, 115017.	1.2	2
203	Application of computational chemistry in chemical reactivity: a review. Journal of the Nigerian Society of Physical Sciences, 0, , .	0.0	4
204	Learning to Measure: Adaptive Informationally Complete Generalized Measurements for Quantum Algorithms. PRX Quantum, 2021, 2, .	9.2	37
205	Learning-Based Quantum Error Mitigation. PRX Quantum, 2021, 2, .	9.2	82
206	Quantum simulation of molecules without fermionic encoding of the wave function. New Journal of Physics, 2021, 23, 113037.	2.9	13
207	Noise-induced barren plateaus in variational quantum algorithms. Nature Communications, 2021, 12, 6961.	12.8	230
208	Computational Enzyme Design at Zymvol. Methods in Molecular Biology, 2022, 2397, 249-259.	0.9	0
209	Preparing Bethe Ansatz Eigenstates on a Quantum Computer. PRX Quantum, 2021, 2, .	9.2	17
210	Fault-Tolerant Quantum Simulations of Chemistry in First Quantization. PRX Quantum, 2021, 2, .	9.2	37
211	Deep variational quantum eigensolver for excited states and its application to quantum chemistry calculation of periodic materials. Physical Review Research, 2021, 3, .	3.6	14
212	Qubit readout error mitigation with bit-flip averaging. Science Advances, 2021, 7, eabi8009.	10.3	17
213	Direct Observation of Collective Electronuclear Modes about a Quantum Critical Point. Physical Review Letters, 2021, 127, 207202.	7.8	4
214	Spin-Boson Quantum Phase Transition in Multilevel Superconducting Qubits. Physical Review Letters, 2021, 127, 237702.	7.8	12
215	Molecular excited state calculations with adaptive wavefunctions on a quantum eigensolver emulation: reducing circuit depth and separating spin states. Physical Chemistry Chemical Physics, 2021, 23, 26438-26450.	2.8	10
216	VQE method: a short survey and recent developments. Materials Theory, 2022, 6, .	4.3	70
217	Exploiting fermion number in factorized decompositions of the electronic structure Hamiltonian. Physical Review A, 2022, 105, .	2.5	10

CITICAL	Depart
(I I A I I O N	KERUKI
CHANGE	

#	Article	IF	CITATIONS
218	On connectivity-dependent resource requirements for digital quantum simulation of d-level particles. , 2020, , .		2
219	Quantum-assisted simulator. Physical Review A, 2021, 104, .	2.5	31
220	Determination of the optimal distribution for loading cargo vehicles using the IBM Qiskit VQE algorithm. , 2021, , .		1
221	Fast Multiqubit Gates through Simultaneous Two-Qubit Gates. PRX Quantum, 2021, 2, .	9.2	17
222	Doubling the Size of Quantum Simulators by Entanglement Forging. PRX Quantum, 2022, 3, .	9.2	69
223	Quantum Computing and Simulations for Energy Applications: Review and Perspective. ACS Engineering Au, 2022, 2, 151-196.	5.1	26
224	The Cost of Improving the Precision of the Variational Quantum Eigensolver for Quantum Chemistry. Nanomaterials, 2022, 12, 243.	4.1	8
225	Robust quantum compilation and circuit optimisation via energy minimisation. Quantum - the Open Journal for Quantum Science, 0, 6, 628.	0.0	22
226	Analytical Energy Gradient for State-Averaged Orbital-Optimized Variational Quantum Eigensolvers and Its Application to a Photochemical Reaction. Journal of Chemical Theory and Computation, 2022, 18, 741-748.	5.3	13
227	Towards the simulation of large scale protein–ligand interactions on NISQ-era quantum computers. Chemical Science, 2022, 13, 3094-3108.	7.4	16
228	Quantum logic with spin qubits crossing the surface code threshold. Nature, 2022, 601, 343-347.	27.8	199
229	Full-dimensional Schrödinger wavefunction calculations using tensors and quantum computers: the Cartesian component-separated approach. Physical Chemistry Chemical Physics, 2022, 24, 4437-4454.	2.8	1
230	Cooper-pair condensates with nonclassical long-range order on quantum devices. Physical Review Research, 2022, 4, .	3.6	14
231	Best-Practice Aspects of Quantum-Computer Calculations: A Case Study of the Hydrogen Molecule. Molecules, 2022, 27, 597.	3.8	3
232	Preparing exact eigenstates of the open XXZ chain on a quantum computer. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 055301.	2.1	9
233	Relaxation of stationary states on a quantum computer yields a unique spectroscopic fingerprint of the computer's noise. Communications Physics, 2022, 5, .	5.3	7
234	Non-adiabatic quantum wavepacket dynamics simulation based on electronic structure calculations using the variational quantum eigensolver. Chemical Physics, 2022, 556, 111460.	1.9	4
235	New frontiers of quantum computing in chemical engineering. Korean Journal of Chemical Engineering, 2022, 39, 811-820.	2.7	20

#	Article		CITATIONS
236	Calculation of Gibbs partition function with imaginary time evolution on near-term quantum computers. Japanese Journal of Applied Physics, 0, , .		3
237	Heisenberg-Limited Ground-State Energy Estimation for Early Fault-Tolerant Quantum Computers. PRX Quantum, 2022, 3, .	9.2	40
238	Machine learning in the quantum realm: The state-of-the-art, challenges, and future vision. Expert Systems With Applications, 2022, 194, 116512.	7.6	48
239	Single shot i-Toffoli gate in dispersively coupled superconducting qubits. Applied Physics Letters, 2022, 120, .	3.3	12
240	Resolving correlated states of benzyne with an error-mitigated contracted quantum eigensolver. Physical Review A, 2022, 105, .	2.5	23
241	Quantum-classical hybrid algorithm for the simulation of all-electron correlation. Journal of Chemical Physics, 2021, 155, 244106.	3.0	17
242	Quantum computing critical exponents. Physical Review A, 2021, 104, .	2.5	8
243	Quantum Variational Optimization of Ramsey Interferometry and Atomic Clocks. Physical Review X, 2021, 11, .	8.9	30
244	Variational quantum eigensolver simulations with the multireference unitary coupled cluster ansatz: a case study of the <i>C</i> _{2<i>v</i>} quasi-reaction pathway of beryllium insertion into a H ₂ molecule. Physical Chemistry Chemical Physics, 2022, 24, 8439-8452.	2.8	11
245	Topological-Graph Dependencies and Scaling Properties of a Heuristic Qubit-Assignment Algorithm. IEEE Transactions on Quantum Engineering, 2022, 3, 1-14.	4.9	5
246	Quantum algorithms for electronic structures: basis sets and boundary conditions. Chemical Society Reviews, 2022, 51, 3263-3279.	38.1	10
247	A quantum computing view on unitary coupled cluster theory. Chemical Society Reviews, 2022, 51, 1659-1684.	38.1	83
248	Leveraging State Sparsity for More Efficient Quantum Simulations. ACM Transactions on Quantum Computing, 2022, 3, 1-17.	4.3	1
249	Efficient Measure for the Expressivity of Variational Quantum Algorithms. Physical Review Letters, 2022, 128, 080506.	7.8	35
250	ArQTiC: A Full-stack Software Package for Simulating Materials on Quantum Computers. ACM Transactions on Quantum Computing, 2022, 3, 1-17.	4.3	7
251	Noisy intermediate-scale quantum algorithms. Reviews of Modern Physics, 2022, 94, .	45.6	521
252	Simulating Energy Transfer in Molecular Systems with Digital Quantum Computers. Journal of Chemical Theory and Computation, 2022, 18, 1347-1358.	5.3	4
253	<scp>QForte</scp> : An Efficient State-Vector Emulator and Quantum Algorithms Library for Molecular Electronic Structure. Journal of Chemical Theory and Computation, 2022, 18, 1555-1568.	5.3	8

#	Article	IF	CITATIONS
254	Quantum Krylov subspace algorithms for ground- and excited-state energy estimation. Physical Review A, 2022, 105, .	2.5	26
255	Dual-state purification for practical quantum error mitigation. Physical Review A, 2022, 105, .	2.5	22
256	Accessing ground-state and excited-state energies in a many-body system after symmetry restoration using quantum computers. Physical Review C, 2022, 105, .	2.9	18
257	Variational Quantum-Neural Hybrid Eigensolver. Physical Review Letters, 2022, 128, 120502.	7.8	20
258	Analytical and experimental study of center-line miscalibrations in MÃ,Imer-SÃ,rensen gates. Physical Review A, 2022, 105, .	2.5	3
259	Deep Variational Quantum Eigensolver: A Divide-And-Conquer Method for Solving a Larger Problem with Smaller Size Quantum Computers. PRX Quantum, 2022, 3, .	9.2	28
260	Perspectives of quantum computing for chemical engineering. AICHE Journal, 2022, 68, .	3.6	11
261	Calculation of Core-Excited and Core-Ionized States Using Variational Quantum Deflation Method and Applications to Photocatalyst Modeling. ACS Omega, 2022, 7, 10840-10853.	3.5	2
262	Solving the Hubbard model using density matrix embedding theory and the variational quantum eigensolver. Physical Review B, 2022, 105, .	3.2	11
263	Quadratic Unitary Coupled-Cluster Singles and Doubles Scheme: Efficient Implementation, Benchmark Study, and Formulation of an Extended Version. Journal of Chemical Theory and Computation, 2022, 18, 2281-2291.	5.3	4
264	Autoregressive neural-network wavefunctions for ab initio quantum chemistry. Nature Machine Intelligence, 2022, 4, 351-358.	16.0	29
265	Simulating the Electronic Structure of Spin Defects on Quantum Computers. PRX Quantum, 2022, 3, .	9.2	18
266	Calculating transition amplitudes by variational quantum deflation. Physical Review Research, 2022, 4,	3.6	15
267	Optimized low-depth quantum circuits for molecular electronic structure using a separable-pair approximation. Physical Review A, 2022, 105, .	2.5	19
268	Quantum Version of the kâ€NN Classifier Based on a Quantum Sorting Algorithm. Annalen Der Physik, 2022, 534, .	2.4	4
269	Fault-tolerant resource estimate for quantum chemical simulations: Case study on Li-ion battery electrolyte molecules. Physical Review Research, 2022, 4, .	3.6	22
270	Quantum analytic descent. Physical Review Research, 2022, 4, .	3.6	15
272	Quantum algorithm for gravitational-wave matched filtering. Physical Review Research, 2022, 4, .	3.6	7

#	Article		CITATIONS
273	Quantum chemistry calculations using energy derivatives on quantum computers. Chemical Physics, 2022, 558, 111506.		7
274	Optimal qubit mapping with simultaneous gate absorption. , 2021, , .		11
275	Filtering states with total spin on a quantum computer. Physical Review A, 2021, 104, .	2.5	11
276	Quantum computing for classical problems: variational quantum eigensolver for activated processes. New Journal of Physics, 2021, 23, 123045.	2.9	5
277	Analytic gradients in variational quantum algorithms: Algebraic extensions of the parameter-shift rule to general unitary transformations. Physical Review A, 2021, 104, .	2.5	20
278	Atom-orbital qubit under nonadiabatic holonomic quantum control. Physical Review A, 2021, 104, .	2.5	9
279	Accelerated Quantum Monte Carlo with Mitigated Error on Noisy Quantum Computer. PRX Quantum, 2021, 2, .	9.2	15
280	Moleculeâ€Specific Uncertainty Quantification in Quantum Chemical Studies. Israel Journal of Chemistry, 2022, 62, .	2.3	16
281	Near- and long-term quantum algorithmic approaches for vibrational spectroscopy. Physical Review A, 2021, 104, .	2.5	17
282	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878.	47.7	240
282 283	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878. Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, .	47.7 1.6	240 5
282 283 285	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878. Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, . Assessing the Precision of Quantum Simulation of Many-Body Effects in Atomic Systems Using the Variational Quantum Eigensolver Algorithm. Quantum Reports, 2022, 4, 173-192.	47.7 1.6 1.3	240 5 0
282 283 285 286	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878. Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, . Assessing the Precision of Quantum Simulation of Many-Body Effects in Atomic Systems Using the Variational Quantum Eigensolver Algorithm. Quantum Reports, 2022, 4, 173-192. Gutzwiller wave function on a quantum computer using a discrete Hubbard-Stratonovich transformation. Physical Review B, 2022, 105, .	47.7 1.6 1.3 3.2	240 5 0 8
282 283 285 286 287	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878.Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, .Assessing the Precision of Quantum Simulation of Many-Body Effects in Atomic Systems Using the Variational Quantum Eigensolver Algorithm. Quantum Reports, 2022, 4, 173-192.Gutzwiller wave function on a quantum computer using a discrete Hubbard-Stratonovich transformation. Physical Review B, 2022, 105, .Evaluating the job shop scheduling problem on a D-wave quantum annealer. Scientific Reports, 2022, 12, 6539.	47.7 1.6 1.3 3.2 3.3	240 5 0 8 14
282 283 285 286 287 288	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878.Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, .Assessing the Precision of Quantum Simulation of Many-Body Effects in Atomic Systems Using the Variational Quantum Eigensolver Algorithm. Quantum Reports, 2022, 4, 173-192.Gutzwiller wave function on a quantum computer using a discrete Hubbard-Stratonovich transformation. Physical Review B, 2022, 105, .Evaluating the job shop scheduling problem on a D-wave quantum annealer. Scientific Reports, 2022, 12, 6539.Stroboscopic Hamiltonian engineering in the low-frequency regime with a one-dimensional quantum processor. Physical Review B, 2022, 105, .	47.7 1.6 1.3 3.2 3.3 3.2	240 5 0 8 14 3
282 283 285 286 287 288	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878. Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, . Assessing the Precision of Quantum Simulation of Many-Body Effects in Atomic Systems Using the Variational Quantum Eigensolver Algorithm. Quantum Reports, 2022, 4, 173-192. Gutzwiller wave function on a quantum computer using a discrete Hubbard-Stratonovich transformation. Physical Review B, 2022, 105, . Evaluating the job shop scheduling problem on a D-wave quantum annealer. Scientific Reports, 2022, 12, 6539. Stroboscopic Hamiltonian engineering in the low-frequency regime with a one-dimensional quantum processor. Physical Review B, 2022, 105, . Non-equilibrium dynamics of a dissipative two-site Hubbard model simulated on IBM quantum computers. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 245302.	47.7 1.6 1.3 3.2 3.3 3.2 2.1	240 5 0 8 14 3 6
282 283 285 286 286 287 288 289	Recent Progress and Future Prospects on All-Organic Polymer Dielectrics for Energy Storage Capacitors. Chemical Reviews, 2022, 122, 3820-3878. Quantum software testing: State of the art. Journal of Software: Evolution and Process, 2023, 35, . Assessing the Precision of Quantum Simulation of Many-Body Effects in Atomic Systems Using the Variational Quantum Eigensolver Algorithm. Quantum Reports, 2022, 4, 173-192. Gutzwiller wave function on a quantum computer using a discrete Hubbard-Stratonovich transformation. Physical Review B, 2022, 105, . Evaluating the job shop scheduling problem on a D-wave quantum annealer. Scientific Reports, 2022, 12, 6539. Stroboscopic Hamiltonian engineering in the low-frequency regime with a one-dimensional quantum processor. Physical Review B, 2022, 105, . Non-equilibrium dynamics of a dissipative two-site Hubbard model simulated on IBM quantum computers. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 245302. The XYZ <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msup><mml:mi.j< td=""> Journal for Quantum Science, 0, 6, 698.</mml:mi.j<></mml:msup></mml:math>	47.7 1.6 1.3 3.2 3.3 3.2 2.1 0.0	240 5 0 8 14 3 6 4

#	Article		CITATIONS
292	Real-Time Evolution for Ultracompact Hamiltonian Eigenstates on Quantum Hardware. PRX Quantum, 2022, 3, .		24
293	Unitary Selective Coupled-Cluster Method. Quantum - the Open Journal for Quantum Science, 0, 6, 703.	0.0	13
294	Quantum computational study of chloride attack on chloromethane for chemical accuracy and quantum noise effects with UCCSD and k-UpCCGSD ansatzes. Scientific Reports, 2022, 12, 7495.	3.3	1
295	High-performance superconducting quantum processors via laser annealing of transmon qubits. Science Advances, 2022, 8, eabi6690.	10.3	31
296	Quantum Gaussian process model of potential energy surface for a polyatomic molecule. Journal of Chemical Physics, 2022, 156, 184802.	3.0	3
297	Robust resource-efficient quantum variational ansatz through an evolutionary algorithm. Physical Review A, 2022, 105, .	2.5	15
298	Quantum algorithms for simulation of quantum chemistry problems by quantum computers: an appraisal. Foundations of Chemistry, 0, , 1.	1.1	1
299	Variational quantum eigensolver for SU(N) fermions. Journal of Physics A: Mathematical and Theoretical, 2022, 55, 265301.	2.1	2
300	Improving the accuracy of the variational quantum eigensolver for molecular systems by the explicitly-correlated perturbative [2] _{R12} - correction. Physical Chemistry Chemical Physics, 2022, 24, 13550-13564.	2.8	12
301	Orthogonal State Reduction Variational Eigensolver for the Excited-State Calculations on Quantum Computers. Journal of Chemical Theory and Computation, 2022, 18, 3737-3746.	5.3	8
302	Qubit-efficient encoding scheme for quantum simulations of electronic structure. Physical Review Research, 2022, 4, .	3.6	10
303	Quantum circuit architecture search for variational quantum algorithms. Npj Quantum Information, 2022, 8, .	6.7	31
304	Quantum computing and quantum artificial intelligence for renewable and sustainable energy: A emerging prospect towards climate neutrality. Renewable and Sustainable Energy Reviews, 2022, 165, 112493.	16.4	26
305	XQsim. , 2022, , .		4
306	Complementarity between success probability and coherence in Grover search algorithm. Europhysics Letters, 2022, 138, 48002.	2.0	5
307	Many-fermion simulation from the contracted quantum eigensolver without fermionic encoding of the wave function. Physical Review A, 2022, 105, .	2.5	9
308	Quantum simulation of the Lindblad equationÂusing a unitary decomposition of operators. Physical Review Research, 2022, 4, .	3.6	10
309	An overview of quantum error mitigation formulas. Chinese Physics B, 2022, 31, 090306.	1.4	9

#	Article	IF	CITATIONS
310	Coarse-grained intermolecular interactions on quantum processors. Physical Review A, 2022, 105, .	2.5	3
311	Universal quantum circuits for quantum chemistry. Quantum - the Open Journal for Quantum Science, 0, 6, 742.	0.0	13
312	Variational approaches to constructing the many-body nuclear ground state for quantum computing. Physical Review C, 2022, 105, .	2.9	17
313	Asymmetric Quantum Multicast Network Coding: Asymmetric Optimal Cloning over Quantum Networks. Applied Sciences (Switzerland), 2022, 12, 6163.	2.5	0
314	Accurate and Efficient Quantum Computations of Molecular Properties Using Daubechies Wavelet Molecular Orbitals: A Benchmark Study against Experimental Data. PRX Quantum, 2022, 3, .	9.2	4
315	Simulating time evolution with fully optimized single-qubit gates on parametrized quantum circuits. Physical Review A, 2022, 105, .	2.5	8
316	Toward practical quantum embedding simulation of realistic chemical systems on near-term quantum computers. Chemical Science, 2022, 13, 8953-8962.	7.4	23
317	Experimental Bayesian Calibration of Trapped-Ion Entangling Operations. PRX Quantum, 2022, 3, .	9.2	5
318	Quantum computation of nuclear observables involving linear combinations of unitary operators. Physical Review C, 2022, 105, .	2.9	7
319	Second-Quantized Fermionic Operators with Polylogarithmic Qubit and Gate Complexity. PRX Quantum, 2022, 3, .	9.2	5
320	Progress toward larger molecular simulation on a quantum computer: Simulating a system with up to 28 qubits accelerated by point-group symmetry. Physical Review A, 2022, 105, .	2.5	24
321	Using gradient-based algorithms to determine ground-state energies on a quantum computer. Physical Review A, 2022, 105, .	2.5	2
322	Solving nuclear structure problems with the adaptive variational quantum algorithm. Physical Review C, 2022, 105, .	2.9	14
323	Quantum neural networks force fields generation. Machine Learning: Science and Technology, 2022, 3, 035004.	5.0	5
324	Quantum computing in pharma: A multilayer embedding approach for near future applications. Journal of Computational Chemistry, 2023, 44, 406-421.	3.3	7
325	Exploring Accurate Potential Energy Surfaces via Integrating Variational Quantum Eigensolver with Machine Learning. Journal of Physical Chemistry Letters, 0, , 6420-6426.	4.6	3
326	Geometric quantum adiabatic methods for quantum chemistry. Physical Review Research, 2022, 4, .	3.6	1
327	Ancilla-free implementation of generalized measurements for qubits embedded in a qudit space. Physical Review Research, 2022, 4, .	3.6	14

#	Article	IF	CITATIONS
328	Reducing Circuit Depth in Adaptive Variational Quantum Algorithms via Effective Hamiltonian Theories. Journal of Chemical Theory and Computation, 2022, 18, 4795-4805.	5.3	7
329	Hybrid quantum-classical algorithms in the noisy intermediate-scale quantum era and beyond. Physical Review A, 2022, 106, .	2.5	24
330	Quadratic Clifford expansion for efficient benchmarking and initialization of variational quantum algorithms. Physical Review Research, 2022, 4, .	3.6	8
331	Quantum computational quantitative trading: high-frequency statistical arbitrage algorithm. New Journal of Physics, 2022, 24, 073036.	2.9	4
332	Evaluation of vibrational energies and wave functions of CO2 on a quantum computer. AVS Quantum Science, 2022, 4, .	4.9	4
333	Designing algorithms for estimating ground state properties on early fault-tolerant quantum computers. , 0, 6, 65.		3
334	Quantum Orbital Minimization Method for Excited States Calculation on a Quantum Computer. Journal of Chemical Theory and Computation, 0, , .	5.3	1
335	Generalized quantum assisted simulator. Quantum Science and Technology, 2022, 7, 045019.	5.8	7
336	Generalized Quantum Subspace Expansion. Physical Review Letters, 2022, 129, .	7.8	20
337	Adiabatic state preparation of correlated wave functions with nonlinear scheduling functions and broken-symmetry wave functions. Communications Chemistry, 2022, 5, .	4.5	8
338	Variational quantum attacks threaten advanced encryption standard based symmetric cryptography. Science China Information Sciences, 2022, 65, .	4.3	10
339	Quantum embedding theories to simulate condensed systems on quantum computers. Nature Computational Science, 2022, 2, 424-432.	8.0	19
340	Schottky Construction of Bimetallicau-Cu Sosoloid@Tio2hollow Nanoboxes Embedded Optical Switch for Enhancing Photocatalytic and Selective Adsorption Activities Via One-Pot Deposition-Precipitation Strategy. SSRN Electronic Journal, 0, , .	0.4	0
341	Resource estimations for the Hamiltonian simulation in correlated electron materials. Physical Review A, 2022, 106, .	2.5	3
342	Neural Error Mitigation of Near-Term Quantum Simulations. Nature Machine Intelligence, 2022, 4, 618-624.	16.0	18
343	Stochastic gradient line Bayesian optimization for efficient noise-robust optimization of parameterized quantum circuits. Npj Quantum Information, 2022, 8, .	6.7	9
344	Measurement-based time evolution for quantum simulation of fermionic systems. Physical Review Research, 2022, 4, .	3.6	3
345	Towards a layered architecture for error mitigation in quantum computation. , 2022, , .		1

#	Article	IF	Citations
346	Characterization and Verification of Trotterized Digital Quantum Simulation Via Hamiltonian and Liouvillian Learning. PRX Quantum, 2022, 3, .	9.2	7
347	Advancing hybrid quantum–classical computation with real-time execution. Frontiers in Physics, 0, 10,	2.1	9
348	Qubit unitary coupled cluster with generalized single and paired double excitations ansatz for variational quantum eigensolver. International Journal of Quantum Chemistry, 0, , .	2.0	1
349	Variational quantum eigensolver techniques for simulating carbon monoxide oxidation. Communications Physics, 2022, 5, .	5.3	7
350	Differentiable quantum architecture search. Quantum Science and Technology, 2022, 7, 045023.	5.8	30
351	Entanglement transitivity problems. Npj Quantum Information, 2022, 8, .	6.7	0
352	Adaptive construction of shallower quantum circuits with quantum spin projection for fermionic systems. Physical Review Research, 2022, 4, .	3.6	10
353	Quantum simulations of molecular systems with intrinsic atomic orbitals. Physical Review A, 2022, 106, .	2.5	6
354	Recompilation-enhanced simulation of electron–phonon dynamics on IBM quantum computers. New Journal of Physics, 2022, 24, 093017.	2.9	5
355	The basics of quantum computing for chemists. International Journal of Quantum Chemistry, 2022, 122, .	2.0	6
356	Variational quantum eigensolver with reduced circuit complexity. Npj Quantum Information, 2022, 8, .	6.7	22
357	Excitations of Quantum Many-Body Systems via Purified Ensembles: A Unitary-Coupled-Cluster-Based Approach. Physical Review Letters, 2022, 129, .	7.8	4
358	Quantum Algorithm of the Divide-and-Conquer Unitary Coupled Cluster Method with a Variational Quantum Eigensolver. Journal of Chemical Theory and Computation, 2022, 18, 5360-5373.	5.3	3
359	Measurements as a roadblock to near-term practical quantum advantage in chemistry: Resource analysis. Physical Review Research, 2022, 4, .	3.6	37
360	Quantum state preparation and nonunitary evolution with diagonal operators. Physical Review A, 2022, 106, .	2.5	8
361	Quantum hardware calculations of periodic systems with partition-measurement symmetry verification: Simplified models of hydrogen chain and iron crystals. Physical Review Research, 2022, 4,	3.6	10
362	Quantum computational quantification of protein–ligand interactions. International Journal of Quantum Chemistry, 2022, 122, .	2.0	27
363	Efficient Parabolic Optimisation Algorithm for Adaptive VQE Implementations. SN Computer Science, 2022, 3, .	3.6	2

		CITATION R	EPORT	
#	Article		IF	CITATIONS
364	Representation Learning via Quantum Neural Tangent Kernels. PRX Quantum, 2022, 3, .		9.2	23
366	Simulating key properties of lithium-ion batteries with a fault-tolerant quantum compute Review A, 2022, 106, .	er. Physical	2.5	12
367	Quantum expectation-value estimation by computational basis sampling. Physical Review 2022, 4, .	v Research,	3.6	8
368	Variational quantum state eigensolver. Npj Quantum Information, 2022, 8, .		6.7	27
369	The Variational Quantum Eigensolver: A review of methods and best practices. Physics R 986, 1-128.	eports, 2022,	25.6	210
370	Effective nonlocal parity-dependent couplings in qubit chains. Physical Review Research,	2022, 4, .	3.6	2
371	Fundamental limits of quantum error mitigation. Npj Quantum Information, 2022, 8, .		6.7	43
372	Sampling rare conformational transitions with a quantum computer. Scientific Reports, 2	2022, 12, .	3.3	6
373	Molecular-excited-state calculations with the qubit-excitation-based adaptive variational eigensolver protocol. Physical Review A, 2022, 106, .	quantum	2.5	4
374	Quantum annealing with twisted fields. New Journal of Physics, 0, , .		2.9	0
375	Capabilities and limits of the unitary coupled-cluster approach with generalized two-bod operators. Journal of Chemical Physics, 2022, 157, 124110.	y cluster	3.0	5
376	Numerical simulations of noisy quantum circuits for computational chemistry. Materials 2022, 6, .	Theory,	4.3	0
377	Mitigating algorithmic errors in quantum optimization through energy extrapolation. Qu Science and Technology, 2023, 8, 015004.	antum	5.8	6
378	ACP-based unitary coupled cluster theory for quantum computers. Quantum Science an 2023, 8, 015006.	d Technology,	5.8	8
379	Observability of fidelity decay at the Lyapunov rate in few-qubit quantum simulations. Q Open Journal for Quantum Science, 0, 6, 799.	uantum - the	0.0	2
380	Quantum Gaussian filter for exploring ground-state properties. Physical Review A, 2022,	106,.	2.5	4
381	Perturbative Quantum Simulation. Physical Review Letters, 2022, 129, .		7.8	9
382	Variational Quantum Computation of Molecular Linear Response Properties on a Superc Quantum Processor. Journal of Physical Chemistry Letters, 2022, 13, 9114-9121.	onducting	4.6	11

#	Article	IF	CITATIONS
383	Molecular dynamics on quantum annealers. Scientific Reports, 2022, 12, .	3.3	4
384	Unbounded and lossless compression of multiparameter quantum information. Physical Review A, 2022, 106, .	2.5	3
385	Iterative quantum phase estimation with variationally prepared reference state. International Journal of Quantum Chemistry, 2023, 123, .	2.0	6
387	Quantum simulation of interacting fermions. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 226701.	0.5	0
388	Quantum Optics Parity Effect on Generalized NOON States and Its Implications for Quantum Metrology. Annalen Der Physik, 2022, 534, .	2.4	2
389	Dual exponential coupled cluster theory: Unitary adaptation, implementation in the variational quantum eigensolver framework and pilot applications. Journal of Chemical Physics, 2022, 157, .	3.0	5
390	Optimal quantum reservoir computing for the noisy intermediate-scale quantum era. Physical Review E, 2022, 106, .	2.1	4
391	Parameterized Twoâ€Qubit Gates for Enhanced Variational Quantum Eigensolver. Annalen Der Physik, 2022, 534, .	2.4	3
392	Variational quantum eigensolver ansatz for the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>J</mml:mi><mml:mn -model. Physical Review B, 2022, 106, .</mml:mn </mml:msub></mml:mrow></mml:math 	> 13:¢mml:n	nnos
393	Computational design of magnetic molecules and their environment using quantum chemistry, machine learning and multiscale simulations. Nature Reviews Chemistry, 2022, 6, 761-781.	30.2	21
394	Quantum computing algorithms: getting closer to critical problems in computational biology. Briefings in Bioinformatics, 2022, 23, .	6.5	10
395	Hardware Efficient Quantum Simulation of Non-Abelian Gauge Theories with Qudits on Rydberg Platforms. Physical Review Letters, 2022, 129, .	7.8	40
396	Analog Quantum Simulation of the Dynamics of Open Quantum Systems with Quantum Dots and Microelectronic Circuits. PRX Quantum, 2022, 3, .	9.2	6
397	Guaranteed-accuracy quantum annealing. Physical Review A, 2022, 106, .	2.5	0
398	Experimental and theoretical investigation of mild steel corrosion control in acidic solution by Ranunculus arvensis and Glycine max extracts as novel green inhibitors. Heliyon, 2022, 8, e10983.	3.2	5
399	Simulation of a laser-driven three-level system by a noisy quantum computer. AVS Quantum Science, 2022, 4, 043801.	4.9	0
400	Simulating Models of Challenging Correlated Molecules and Materials on the Sycamore Quantum Processor. PRX Quantum, 2022, 3, .	9.2	20
401	Unimon qubit. Nature Communications, 2022, 13, .	12.8	14

#	Article	IF	CITATIONS
402	Adiabatic quantum algorithm for artificial graphene. Physical Review A, 2022, 106, .	2.5	3
403	Localized Quantum Chemistry on Quantum Computers. Journal of Chemical Theory and Computation, 2022, 18, 7205-7217.	5.3	7
404	Embracing iterations in Quantum software: a vision. , 2022, , .		3
405	Simulating spectroscopy experiments with a superconducting quantum computer. Physical Review Research, 2022, 4, .	3.6	3
406	Diverse soliton solutions to the Fokas system via the Cole-Hopf transformation. Optik, 2023, 272, 170250.	2.9	14
407	Quantum-Compute Algorithm for Exact Laser-Driven Electron Dynamics in Molecules. Journal of Chemical Theory and Computation, 2022, 18, 7082-7092.	5.3	3
408	Extending the reach of quantum computing for materials science with machine learning potentials. AIP Advances, 2022, 12, 115321.	1.3	1
409	Resource Letter CP-3: Computational physics. American Journal of Physics, 2023, 91, 7-27.	0.7	0
410	Towards solving the BCS Hamiltonian gap in near-term quantum computers. Results in Physics, 2023, 44, 106131.	4.1	2
411	Research progress of integrated photonic quantum simulation. Wuli Xuebao/Acta Physica Sinica, 2022, 71, 244207.	0.5	0
412	Evaluation of Parameterized Quantum Circuits With Cross-Resonance Pulse-Driven Entanglers. IEEE Transactions on Quantum Engineering, 2022, 3, 1-13.	4.9	8
413	Developing electron dynamics into a tool for 21st century chemistry simulations. Chemical Modelling, 2022, , 91-152.	0.4	1
414	Numerical Simulations of Noisy Quantum Circuits for Computational Chemistry. , 2022, , .		0
415	Solving Partial Differential Equations using a Quantum Computer. , 2022, , .		1
416	Multiclass classification using quantum convolutional neural networks with hybrid quantum-classical learning. Frontiers in Physics, 0, 10, .	2.1	7
417	Error-mitigated deep-circuit quantum simulation of open systems: Steady state and relaxation rate problems. Physical Review Research, 2022, 4, .	3.6	0
418	é‡å计算化å¦çš"æŒ'æ~和机é‡. Scientia Sinica Chimica, 2022, , .	0.4	0
419	Power of the Sine Hamiltonian Operator for Estimating the Eigenstate Energies on Quantum Computers. Journal of Chemical Theory and Computation, 2022, 18, 7586-7602.	5.3	1

		CITATION R	EPORT	
#	Article		IF	CITATIONS
420	Quantum natural gradient generalized to noisy and nonunitary circuits. Physical Review A, 20	22, 106, .	2.5	9
421	Two-dimensional Hubbard model at finite temperature: Weak, strong, and long correlation re Physical Review Research, 2022, 4, .	gimes.	3.6	10
422	Markov chain Monte Carlo enhanced variational quantum algorithms. Quantum Science and Technology, 2023, 8, 015019.		5.8	3
423	Green–Kubo formula for electrical conductivity of a driven \$\$0\$\$–\$\$pi\$\$ qubit. Theoreti Mathematical Physics(Russian Federation), 2022, 213, 1727-1737.	cal and	0.9	0
425	Stable Many-Body Resonances in Open Quantum Systems. Symmetry, 2022, 14, 2562.		2.2	1
426	Mapping renormalized coupled cluster methods to quantum computers through a compact u representation of nonunitary operators. Physical Review Research, 2022, 4, .	initary	3.6	4
427	Towards simulating time evolution of specific quantum many-body system by lower counts of quantum gates. Europhysics Letters, 0, , .	F	2.0	0
428	Information preservation of two qubits in a structured environment. New Journal of Physics, 2 24, 123001.	2022,	2.9	1
429	Tuning and Enhancing Quantum Coherence Time Scales in Molecules via Light-Matter Hybridi Journal of Physical Chemistry Letters, 2022, 13, 11503-11511.	zation.	4.6	4
431	Modular Approach to Creating Functionalized Surface Arrays of Molecular Qubits. Advanced Materials, 2023, 35, .		21.0	7
432	Q ² Chemistry: A quantum computation platform for quantum chemist 52, 2.	try. , 2022,		4
433	Improved Algorithms of Quantum Imaginary Time Evolution for Ground and Excited States of Molecular Systems. Journal of Chemical Theory and Computation, 2023, 19, 503-513.		5.3	7
434	<i>N</i> -Electron Valence Perturbation Theory with Reference Wave Functions from Quantur Computing: Application to the Relative Stability of Hydroxide Anion and Hydroxyl Radical. Jou Physical Chemistry A, 2023, 127, 817-827.	n rnal of	2.5	9
435	Symmetric Trotterization in digital quantum simulation of quantum spin dynamics. Journal of Korean Physical Society, 2023, 82, 479-485.	the	0.7	1
436	Continuous Monitoring for Noisy Intermediate-Scale Quantum Processors. Physical Review Ap 2023, 19, .	oplied,	3.8	0
437	Overlapped grouping measurement: A unified framework for measuring quantum states. Qua Open Journal for Quantum Science, 0, 7, 896.	ntum - the	0.0	12
438	Periodic plane-wave electronic structure calculations on quantum computers. Materials Theor 2023, 7, .	у,	4.3	1
439	Efficient fully-coherent quantum signal processing algorithms for real-time dynamics simulation Journal of Chemical Physics, 2023, 158, .	on.	3.0	8

#	Article		CITATIONS
440	Comparative study of adaptive variational quantum eigensolvers for multi-orbital impurity models. Communications Physics, 2023, 6, .	5.3	6
441	Symmetry breaking/symmetry preserving circuits and symmetry restoration on quantum computers. European Physical Journal A, 2023, 59, .	2.5	7
442	Calculating the ground-state energy of benzene under spatial deformations with noisy quantum computing. Physical Review A, 2023, 107, .	2.5	6
443	Fock-Space Schrieffer–Wolff Transformation: Classically-Assisted Rank-Reduced Quantum Phase Estimation Algorithm. Applied Sciences (Switzerland), 2023, 13, 539.	2.5	1
444	Strategiebildung im Quantencomputing – ein holistischer Ansatz für die chemische Industrie. , 2022, , 143-155.		0
445	Reference-State Error Mitigation: A Strategy for High Accuracy Quantum Computation of Chemistry. Journal of Chemical Theory and Computation, 2023, 19, 783-789.	5.3	8
446	Pauli String Partitioning Algorithm with the Ising Model for Simultaneous Measurements. Journal of Physical Chemistry A, 2023, 127, 1068-1080.	2.5	3
447	Exponential data encoding for quantum supervised learning. Physical Review A, 2023, 107, .	2.5	7
448	Improving the Accuracy of Variational Quantum Eigensolvers with Fewer Qubits Using Orbital Optimization. Journal of Chemical Theory and Computation, 2023, 19, 790-798.	5.3	3
449	Continuous-flow photochemistry as an automated platform integrated with closed-loop AI/ML approaches. Chem Catalysis, 2023, 3, 100488.	6.1	0
450	Pulse based Variational Quantum Optimal Control for hybrid quantum computing. Quantum - the Open Journal for Quantum Science, 0, 7, 908.	0.0	7
451	Quantum self-consistent equation-of-motion method for computing molecular excitation energies, ionization potentials, and electron affinities on a quantum computer. Chemical Science, 2023, 14, 2405-2418.	7.4	15
452	Excited state calculations using variational quantum eigensolver with spin-restricted ansÃæze and automatically-adjusted constraints. Npj Computational Materials, 2023, 9, .	8.7	6
453	Schottky construction of bimetallic Au-Cu alloy@TiO2 hollow nanoboxes embedded optical switch for enhancing photocatalytic and selective adsorption activities via one-pot deposition-precipitation strategy. Journal of Alloys and Compounds, 2023, 943, 168978.	5.5	6
454	Application-Oriented Performance Benchmarks for Quantum Computing. IEEE Transactions on Quantum Engineering, 2023, 4, 1-32.	4.9	20
455	Multiscale quantum algorithms for quantum chemistry. Chemical Science, 2023, 14, 3190-3205.	7.4	6
456	Artificial neural network encoding of molecular wavefunctions for quantum computing. , 2023, 2, 634-650.		1
457	Automatic Implementation and Evaluation of Error-Correcting Codes for Quantum Computing: An Open-Source Framework for Quantum Error Correction. , 2023, , .		0

ARTICLE IF CITATIONS # Exploring the scaling limitations of the variational quantum eigensolver with the bond dissociation 458 2.0 2 of hydride diatomic molecules. International Journal of Quantum Chemistry, 2023, 123, . Quantum Computing 40 Years Later., 2023, , 193-244. Towards practical and massively parallel quantum computing emulation for quantum chemistry. Npj 460 6.7 7 Quantum Information, 2023, 9, . Variational quantum simulation of the quantum critical regime. Chinese Physics B, O, , . Gradient-Descent Quantum Process Tomography by Learning Kraus Operators. Physical Review Letters, 462 7.8 4 2023, 130, . More simple, efficient and accurate food research promoted by intermolecular interaction approaches: A review. Food Chemistry, 2023, 416, 135726. 8.2 Software architecture for quantum computing systems â€" A systematic review. Journal of Systems and 464 4.5 5 Software, 2023, 201, 111682. Low-Depth Hamiltonian Simulation by an Adaptive Product Formula. Physical Review Letters, 2023, 130, . 7.8 466 Theoretical Calculations on Metal Catalysts Toward Waterâ€Gas Shift Reaction: a Review. Chemistry - A 467 3.3 3 European Journal, 2023, 29, . TensorCircuit: a Quantum Software Framework for the NISQ Era. Quantum - the Open Journal for Quantum Science, 0, 7, 912. Recent advances of computational studies on bioethanol to light olefin reactions using zeolite and 469 2 3.8 metal oxide catalysts. Chemical Engineering Science, 2023, 270, 118532. Noise-resistant quantum state compression readout. Science China: Physics, Mechanics and 5.1 Astronomy, 2023, 66, . Virtual distillation with noise dilution. Physical Review A, 2023, 107, . 471 2.5 2 Array-Antenna Power-Pattern Analysis Through Quantum Computing. IEEE Transactions on Antennas 5.1 and Propagation, 2023, 71, 3251-3259. Quantum Simulations of Fermionic Hamiltonians with Efficient Encoding and Ansatz Schemes. Journal 473 5.3 6 of Chemical Theory and Computation, 2023, 19, 1487-1498. 474 State-Independent Nonadiabatic Geometric Quantum Gates. Physical Review Applied, 2023, 19, . Improving the performance of fermionic neural networks with the <scp>Slater</scp> exponential 475 2.0 0 <i>Ansatz</i>. International Journal of Quantum Chemistry, 0, , . Accurate non-covalent interaction energies on noisy intermediate-scale quantum computers 476 <i>via</i> second-order symmetry-adapted perturbation theory. Chemical Science, 2023, 14, 3587-3599.

#	Article	IF	CITATIONS
477	Experimental multiparameter quantum metrology in adaptive regime. Physical Review Research, 2023, 5, .	3.6	7
478	Efficient Construction of Involutory Linear Combinations of Anticommuting Pauli Generators for Large-Scale Iterative Qubit Coupled Cluster Calculations. Journal of Chemical Theory and Computation, 2023, 19, 1722-1733.	5.3	1
479	Large-Scale Simulation of Quantum Computational Chemistry on a New Sunway Supercomputer. , 2022, , .		8
480	Enquiring Electronic Structure Using Quantum Computers: Hands on Qiskit. Journal of Physics: Conference Series, 2023, 2448, 012014.	0.4	1
481	Excited-state molecular dynamics simulation based on variational quantum algorithms. Chemical Physics Letters, 2023, 816, 140404.	2.6	1
482	Restoring broken symmetries using quantum search "oraclesâ€: Physical Review C, 2023, 107, .	2.9	4
483	Open source variational quantum eigensolver extension of the quantum learning machine for quantum chemistry. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2023, 13, .	14.6	1
484	Perceval: A Software Platform for Discrete Variable Photonic Quantum Computing. Quantum - the Open Journal for Quantum Science, 0, 7, 931.	0.0	9
485	Realizing symmetry-protected topological phases in a spin-1/2 chain with next-nearest-neighbor hopping on superconducting qubits. Physical Review A, 2023, 107, .	2.5	3
486	Quantum computation for periodic solids in second quantization. Physical Review Research, 2023, 5, .	3.6	7
487	Analytical Formulation of the Second-Order Derivative of Energy for the Orbital-Optimized Variational Quantum Eigensolver: Application to Polarizability. Journal of Chemical Theory and Computation, 2023, 19, 1998-2009.	5.3	2
488	Toward density functional theory on quantum computers?. SciPost Physics, 2023, 14, .	4.9	2
489	Synthesizing efficient circuits for Hamiltonian simulation. Npj Quantum Information, 2023, 9, .	6.7	4
490	The resistance of quantum entanglement to temperature in the Kugel-Khomskii model. SciPost Physics Core, 2023, 6, .	2.8	0
491	A NEW FRACTAL MODIFIED BENJAMIN–BONA–MAHONY EQUATION: ITS GENERALIZED VARIATIONAL PRINCI AND ABUNDANT EXACT SOLUTIONS. Fractals, 2023, 31, .	PLE 3.7	11
492	Extension of the Trotterized Unitary Coupled Cluster to Triple Excitations. Journal of Physical Chemistry A, 2023, 127, 3543-3550.	2.5	3
493	Challenges in the Use of Quantum Computing Hardware-Efficient AnsÃæe in Electronic Structure Theory. Journal of Physical Chemistry A, 2023, 127, 3437-3448.	2.5	5
494	Automated Quantum Circuit Design With Nested Monte Carlo Tree Search. IEEE Transactions on Quantum Engineering, 2023, 4, 1-20.	4.9	2

#	Article	IF	CITATIONS
495	Development of Accurate Electron Correlation Calculation Method Using Annealing Machine and Machine Learning. Journal of Computer Chemistry Japan, 2022, 21, 96-98.	0.1	0
496	Barren plateaus in quantum tensor network optimization. Quantum - the Open Journal for Quantum Science, 0, 7, 974.	0.0	8
497	Non-Hermitian ground-state-searching algorithm enhanced by a variational toolbox. Physical Review A, 2023, 107, .	2.5	0
498	Optimized numerical gradient and Hessian estimation for variational quantum algorithms. Physical Review A, 2023, 107, .	2.5	1
499	Sampling Complexity of Open Quantum Systems. PRX Quantum, 2023, 4, .	9.2	0
501	State Preparation of Antisymmetrized Geminal Power on a Quantum Computer without Number Projection. Journal of Physical Chemistry A, 2023, 127, 4005-4014.	2.5	4
502	Coupled-cluster downfolding techniques: A review of existing applications in classical and quantum computing for chemical systems. Advances in Quantum Chemistry, 2023, , .	0.8	1
503	Enhanced Am/Eu separation ability of disulfonated diamide N-heterocyclic ligands by adjusting N-, O-donor affinity: A theoretical comparative study. Separation and Purification Technology, 2023, 319, 124030.	7.9	4
505	Quantum battery based on dipole-dipole interaction and external driving field. Physical Review E, 2023, 107, .	2.1	0
506	Perspective on superconducting qubit quantum computing. European Physical Journal A, 2023, 59, .	2.5	2
507	Quantum Simulation for High-Energy Physics. PRX Quantum, 2023, 4, .	9.2	34
508	Quantum Computing for Molecular Biology**. ChemBioChem, 2023, 24, .	2.6	8
509	Hybrid quantum-classical machine learning for generative chemistry and drug design. Scientific Reports, 2023, 13,ath xmlns:mml="http://www.w3.org/1998/Math/MathML"	3.3	1
510	display= inline > <mmi:mrow><mmi:mi>SU</mmi:mi><mmi:mo stretchy="false">(<mmi:mi>d</mmi:mi><mmi:mo) 0.784314="" 1="" 10="" 227<br="" 50="" etqq1="" overlock="" rgbt="" tf="" tj="">Superconducting Transmon Qudit for <mmi:math <="" td="" xmlns:mml="http://www.w3.org/1998/Math/MathML"><td>Td (streto 8.9</td><td>hy="false">) 5</td></mmi:math></mmi:mo)></mmi:mo </mmi:mrow>	Td (streto 8.9	hy="false">) 5
511	display – "infine"> community definition is community and a second s Science, 0, 7, 1018.	0.0	7
512	Computing the Many-Body Green's Function with Adaptive Variational Quantum Dynamics. Journal of Chemical Theory and Computation, 2023, 19, 3313-3323.	5.3	1
513	Computational Analysis of Chemical Reactions Using a Variational Quantum Eigensolver Algorithm without Specifying Spin Multiplicity. ACS Omega, 2023, 8, 19917-19925.	3.5	0
514	Quantum information processing with superconducting circuits: A perspective. , 2024, , 246-267.		0

#	Article	IF	Citations
515	Quantum Computing in the Next-Generation Computational Biology Landscape: From Protein Folding to Molecular Dynamics. Molecular Biotechnology, 2024, 66, 163-178.	2.4	5
516	Concurrent quantum eigensolver for multiple low-energy eigenstates. Physical Review A, 2023, 107, .	2.5	1
517	Classically optimized Hamiltonian simulation. Physical Review Research, 2023, 5, .	3.6	12
518	A quantum computing implementation of nuclearelectronic orbital (NEO) theory: Toward an exact pre-Born–Oppenheimer formulation of molecular quantum systems. Journal of Chemical Physics, 2023, 158, .	3.0	4
519	Implementing Jastrow-Gutzwiller operators on a quantum computer using the cascaded variational quantum eigensolver algorithm. Physical Review A, 2023, 107, .	2.5	2
520	Performance of Grover's search algorithm with diagonalizable collective noises. Quantum Information Processing, 2023, 22, .	2.2	Ο
521	Correlated Reference-Assisted Variational Quantum Eigensolver. Journal of Physical Chemistry A, 2023, 127, 5222-5230.	2.5	4
522	Conceptualizing the Essence of Protein–Ligand Interaction at Undergraduate Level: Reinforcing Computational Skills. Journal of Chemical Education, 0, , .	2.3	0
523	Active learning on a programmable photonic quantum processor. Quantum Science and Technology, 2023, 8, 035030.	5.8	3
524	Avoiding symmetry roadblocks and minimizing the measurement overhead of adaptive variational quantum eigensolvers. Quantum - the Open Journal for Quantum Science, 0, 7, 1040.	0.0	6
525	Quantum computing and materials science: A practical guide to applying quantum annealing to the configurational analysis of materials. Journal of Applied Physics, 2023, 133, .	2.5	0
526	Efficient Quantum Imaginary Time Evolution by Drifting Real-Time Evolution: An Approach with Low Gate and Measurement Complexity. Journal of Chemical Theory and Computation, 0, , .	5.3	2
527	TenCirChem: An Efficient Quantum Computational Chemistry Package for the NISQ Era. Journal of Chemical Theory and Computation, 2023, 19, 3966-3981.	5.3	3
528	Experimental quantum natural gradient optimization in photonics. Optics Letters, 2023, 48, 3745.	3.3	2
529	OneQ: A Compilation Framework for Photonic One-Way Quantum Computation. , 2023, , .		0
530	Sensing functions of oxidized forms of carbon, silicon, and silicon-carbon nanocages towards the amantadine drug: DFT assessments. Diamond and Related Materials, 2023, 137, 110137.	3.9	2
531	Orders of magnitude increased accuracy for quantum many-body problems on quantum computers via an exact transcorrelated method. Physical Review Research, 2023, 5, .	3.6	11
532	Performance analysis of multi-shot shadow estimation. Quantum - the Open Journal for Quantum Science, 0, 7, 1044.	0.0	2

#	Article	IF	CITATIONS
533	Complete Active Space Methods for NISQ Devices: The Importance of Canonical Orbital Optimization for Accuracy and Noise Resilience. Journal of Chemical Theory and Computation, 2023, 19, 2863-2872.	5.3	1
534	Quantum imaginary-time control for accelerating the ground-state preparation. Physical Review Research, 2023, 5, .	3.6	0
535	Complexity of Implementing Trotter Steps. PRX Quantum, 2023, 4, .	9.2	4
536	Corrections beyond coupled cluster singles and doubles through selected generalized rank-two operators: digital quantum simulation of strongly correlated systems. Journal of Chemical Sciences, 2023, 135, .	1.5	3
537	Hybrid Quantum Neural Network for Drug Response Prediction. Cancers, 2023, 15, 2705.	3.7	14
538	Speeding Up Learning Quantum States Through Group Equivariant Convolutional Quantum AnsĀæe. PRX Quantum, 2023, 4, .	9.2	4
539	Quantum gradient evaluation through quantum non-demolition measurements. European Physical Journal D, 2023, 77, .	1.3	0
540	Symmetry-adapted encodings for qubit number reduction by point-group and other Boolean symmetries. Quantum Science and Technology, 2023, 8, 035026.	5.8	0
541	Unlocking the Potential of Quantum Machine Learning to Advance Drug Discovery. Electronics (Switzerland), 2023, 12, 2402.	3.1	5
542	Exploiting subspace constraints and ab initio variational methods for quantum chemistry. New Journal of Physics, 2023, 25, 073019.	2.9	1
543	Leakage Reduces Device Coherence Demands for Pulse-Level Molecular Simulations. Physical Review Applied, 2023, 19, .	3.8	1
544	Quantum computing on nucleic acid research: Approaching towards next-generation computing. Molecular Therapy - Nucleic Acids, 2023, 33, 53-56.	5.1	3
545	Quantum simulation costs for Suzuki-Trotter decomposition of quantum many-body lattice models. Physical Review Research, 2023, 5, .	3.6	2
546	Quantum algorithms for generator coordinate methods. Physical Review Research, 2023, 5, .	3.6	1
547	A Hybrid Quantum-Classical Algorithm for Multichannel Quantum Scattering of Atoms and Molecules. Journal of Physical Chemistry Letters, 2023, 14, 6224-6233.	4.6	0
548	Improved Resourceâ€Tunable Nearâ€Term Quantum Algorithms for Transition Probabilities, with Applications in Physics and Variational Quantum Linear Algebra. Advanced Quantum Technologies, 2023, 6, .	3.9	1
549	Development of a compact <i>Ansatz</i> via operator commutativity screening: Digital quantum simulation of molecular systems. Journal of Chemical Physics, 2023, 159, .	3.0	3
550	Quantum Computing atÂlQM. Computational Methods in Applied Sciences (Springer), 2023, , 373-393.	0.3	0

#	Article	IF	CITATIONS
551	Quantum simulation of battery materials using ionic pseudopotentials. Quantum - the Open Journal for Quantum Science, 0, 7, 1049.	0.0	2
552	Mitigating quantum errors via truncated Neumann series. Science China Information Sciences, 2023, 66, .	4.3	2
553	Qubit Condensation for Assessing Efficacy of Molecular Simulation on Quantum Computers. Journal of Physical Chemistry A, 2023, 127, 6032-6039.	2.5	1
554	Open quantum system violates generalized Pauli constraints on quantum device. Communications Physics, 2023, 6, .	5.3	0
555	Say NO to Optimization: A Nonorthogonal Quantum Eigensolver. PRX Quantum, 2023, 4, .	9.2	2
556	Partitioning Quantum Chemistry Simulations with Clifford Circuits. Journal of Chemical Theory and Computation, 0, , .	5.3	1
557	Real-Time Krylov Theory for Quantum Computing Algorithms. Quantum - the Open Journal for Quantum Science, 0, 7, 1066.	0.0	2
558	Exact electronic states with shallow quantum circuits from global optimisation. Npj Quantum Information, 2023, 9, .	6.7	6
559	Towards understanding and controlling ultrafast dynamics in molecular photomagnets. Coordination Chemistry Reviews, 2023, 494, 215346.	18.8	2
560	Accelerating variational quantum eigensolver convergence using parameter transfer. Electronic		0
	Structure, 2023, 5, 035002.	2.8	Ŭ
561	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417.	2.8 5.3	0
561 562	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417. Nuclear shell-model simulation in digital quantum computers. Scientific Reports, 2023, 13, .	2.8 5.3 3.3	0
561 562 563	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417. Nuclear shell-model simulation in digital quantum computers. Scientific Reports, 2023, 13, . Overlap-ADAPT-VQE: practical quantum chemistry on quantum computers via overlap-guided compact AnsAtzee. Communications Physics, 2023, 6, .	2.8 5.3 3.3 5.3	0 5 4
561 562 563 564	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417. Nuclear shell-model simulation in digital quantum computers. Scientific Reports, 2023, 13, . Overlap-ADAPT-VQE: practical quantum chemistry on quantum computers via overlap-guided compact AnsAtze. Communications Physics, 2023, 6, . Quantum-assisted Monte Carlo algorithms for fermions. Quantum - the Open Journal for Quantum Science, 0, 7, 1072.	2.8 5.3 3.3 5.3 0.0	0 5 4 2
561 562 563 564	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417. Nuclear shell-model simulation in digital quantum computers. Scientific Reports, 2023, 13, . Overlap-ADAPT-VQE: practical quantum chemistry on quantum computers via overlap-guided compact AnsAtze. Communications Physics, 2023, 6, . Quantum-assisted Monte Carlo algorithms for fermions. Quantum - the Open Journal for Quantum Science, 0, 7, 1072. Fermionic Correlation Functions from Randomized Measurements in Programmable Atomic Quantum Devices. Physical Review Letters, 2023, 131, .	2.8 5.3 3.3 5.3 0.0 7.8	0 5 4 2 1
561 562 563 564 565	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417. Nuclear shell-model simulation in digital quantum computers. Scientific Reports, 2023, 13, . Overlap-ADAPT-VQE: practical quantum chemistry on quantum computers via overlap-guided compact AnsAttee. Communications Physics, 2023, 6, . Quantum-assisted Monte Carlo algorithms for fermions. Quantum - the Open Journal for Quantum Science, 0, 7, 1072. Fermionic Correlation Functions from Randomized Measurements in Programmable Atomic Quantum Devices. Physical Review Letters, 2023, 131, . Making Trotterization Adaptive and Energy-Self-Correcting for NISQ Devices and Beyond. PRX Quantum, 2023, 4, .	2.8 5.3 3.3 5.3 0.0 7.8 9.2	0 5 4 2 1
 561 562 563 564 565 566 	Structure, 2023, 5, 035002. Quantum Circuit Matrix Product State Ansatz for Large-Scale Simulations of Molecules. Journal of Chemical Theory and Computation, 2023, 19, 5407-5417. Nuclear shell-model simulation in digital quantum computers. Scientific Reports, 2023, 13, . Overlap-ADAPT-VQE: practical quantum chemistry on quantum computers via overlap-guided compact AnsAtze. Communications Physics, 2023, 6, . Quantum-assisted Monte Carlo algorithms for fermions. Quantum - the Open Journal for Quantum Science, 0, 7, 1072. Fermionic Correlation Functions from Randomized Measurements in Programmable Atomic Quantum Devices. Physical Review Letters, 2023, 131, . Making Trotterization Adaptive and Energy-Self-Correcting for NISQ Devices and Beyond. PRX Quantum, 2023, 4, . A hybrid quantum-classical neural network for learning transferable visual representation. Quantum Science and Technology, 0,	2.8 5.3 3.3 5.3 0.0 7.8 9.2 5.8	0 5 4 2 1 6 0

#	Article	IF	CITATIONS
569	Quantum simulation of conical intersections using trapped ions. Nature Chemistry, 2023, 15, 1509-1514.	13.6	2
570	Direct observation of geometric-phase interference in dynamics around a conical intersection. Nature Chemistry, 2023, 15, 1503-1508.	13.6	6
571	Near-Term Efficient Quantum Algorithms for Entanglement Analysis. Physical Review Applied, 2023, 20, .	3.8	0
572	Learning ground states of gapped quantum Hamiltonians with Kernel Methods. Quantum - the Open Journal for Quantum Science, 0, 7, 1096.	0.0	2
573	Boosting quantum amplitude exponentially in variational quantum algorithms. Quantum Science and Technology, 2024, 9, 01LT01.	5.8	1
574	Orbital expansion variational quantum eigensolver. Quantum Science and Technology, 2023, 8, 045030.	5.8	0
575	Accurate and efficient calculations of Hellmann–Feynman forces for quantum computation. Journal of Chemical Physics, 2023, 159, .	3.0	1
576	Second response theory: a theoretical formalism for the propagation of quantum superpositions. Electronic Structure, 2023, 5, 045001.	2.8	0
577	MPS-VQE: A variational quantum computational chemistry simulator with matrix product states. Computer Physics Communications, 2024, 294, 108897.	7.5	0
578	Bridging physical intuition and hardware efficiency for correlated electronic states: the local unitary cluster Jastrow ansatz for electronic structure. Chemical Science, 2023, 14, 11213-11227.	7.4	0
579	SchrĶdinger-Heisenberg Variational Quantum Algorithms. Physical Review Letters, 2023, 131, .	7.8	3
580	Quantum computing of fluid dynamics using the hydrodynamic SchrĶdinger equation. Physical Review Research, 2023, 5, .	3.6	6
581	Encoding-independent optimization problem formulation for quantum computing. , 0, 2, .		3
582	Synthesis of Hidden Subgroup Quantum Algorithms and Quantum Chemical Dynamics. Journal of Chemical Theory and Computation, 2023, 19, 6082-6092.	5.3	0
583	Quantum computing with and for many-body physics. European Physical Journal A, 2023, 59, .	2.5	1
584	Quantum algorithms for optimal effective theory of many-body systems. Physical Review A, 2023, 108, .	2.5	0
585	Experimental proposal to probe the extended Pauli principle. Physical Review A, 2023, 108, .	2.5	0
586	A superconducting quantum processor architecture design method for improving performance and reducing frequency collisions. Results in Physics, 2023, 53, 106944.	4.1	0

		CITATION R	EPORT	
#	Article		IF	CITATIONS
587	Bonsai Algorithm: Grow Your Own Fermion-to-Qubit Mappings. PRX Quantum, 2023, 4	ł, .	9.2	3
588	Kernel function based quantum algorithms for finite temperature quantum simulation. Review B, 2023, 108, .	Physical	3.2	2
589	Neural optimization for quantum architectures: graph embedding problems with Dista Networks. , 2023, , .	nce Encoder		0
590	Experimental and mechanism exploration on the separation of methanol-containing az compounds from biodiesel by phosphate esters ionic liquids. Fuel, 2024, 355, 129450.	eotropic	6.4	2
591	Critical behavior of the Ising model by preparing the thermal state on a quantum comp Review A, 2023, 108, .	uter. Physical	2.5	1
592	Fermionic quantum processing with programmable neutral atom arrays. Proceedings o Academy of Sciences of the United States of America, 2023, 120, .	f the National	7.1	7
593	Calculation of the moscovium groundâ€state energy by quantum algorithms. Internati Quantum Chemistry, 2024, 124, .	onal Journal of	2.0	1
594	Basic Research Perspective on Quantum Information Science for the Aerospace Comm Journal, 0, , 1-15.	unity. AIAA	2.6	1
595	Hamiltonian simulation in the Pauli basis of multi-qubit clusters for condensed matter Discrete and Continuous Models and Applied Computational Science, 2023, 31, 247-2	physics. 59.	0.3	0
596	Ever more optimized simulations of fermionic systems on a quantum computer. , 2023			1
597	Future Potential of Quantum Computing and Simulations in Biological Science. Molecu Biotechnology, 0, , .	ılar	2.4	2
598	Training variational quantum algorithms with random gate activation. Physical Review 5, .	Research, 2023,	3.6	1
599	Speed limits and locality in many-body quantum dynamics. Reports on Progress in Phys 116001.	sics, 2023, 86,	20.1	5
600	Control of Correlation Using Confinement in Case of Quantum System. Annalen Der Pl	nysik, 2023, 535, .	2.4	0
601	Hardware-Efficient Entangled Measurements for Variational Quantum Algorithms. Phys Applied, 2023, 20, .	sical Review	3.8	1
602	An introduction to computational complexity and statistical learning theory applied to models. Journal of Physics: Conference Series, 2023, 2586, 012155.	nuclear	0.4	0
603	Using Differential Evolution to avoid local minima in Variational Quantum Algorithms. S Reports, 2023, 13, .	Scientific	3.3	0
604	Modularized and scalable compilation for double quantum dot quantum computing. Q and Technology, 2024, 9, 015004.	uantum Science	5.8	0

		CITATION RE	PORT	
#	Article		IF	CITATIONS
605	Randomized adaptive quantum state preparation. Physical Review Research, 2023, 5, .		3.6	0
606	Magical moiré patterns in twisted bilayer graphene: A review on recent advances in g twistronics. Chemical Physics Impact, 2023, 7, 100325.	graphene	3.5	0
607	Quantum Encoding and Analysis on Continuous Time Stochastic Process with Financia Quantum - the Open Journal for Quantum Science, 0, 7, 1127.	l Applications.	0.0	1
608	Quantum simulation of bosons with the contracted quantum eigensolver. New Journal 2023, 25, 103005.	of Physics,	2.9	2
609	Integrate and scale: A source of spectrally separable photon pairs. Optica, 0, , .		9.3	0
610	Problem-Dependent Power of Quantum Neural Networks on Multiclass Classification. Letters, 2023, 131, .	Physical Review	7.8	4
611	Quantum Eigenvector Continuation for Chemistry Applications. Electronic Structure, C	l, , .	2.8	0
612	On the possibility of using quantum annealers to solve problems of computational mat Laser Physics Letters, 2023, 20, 115205.	terials science.	1.4	1
613	Optimization strategies in WAHTOR algorithm for quantum computing empirical ansat study. Electronic Structure, 0, , .	z: a comparative	2.8	0
614	Quantum algorithms for grid-based variational time evolution. Quantum - the Open Jou Quantum Science, 0, 7, 1139.	ırnal for	0.0	4
616	Quantum Advantage Applied $\hat{a} \in$ "Research on Probability of Success. , 2023, , .			0
617	Optimal scheduling in probabilistic imaginary-time evolution on a quantum computer. Research, 2023, 5, .	Physical Review	3.6	2
618	Polymer dielectrics for high-temperature energy storage: Constructing carrier traps. Pro Materials Science, 2023, 140, 101208.	ogress in	32.8	8
620	Generic eigenstate preparation via measurement-based purification. Physical Review A,	2023, 108, .	2.5	0
621	Virtual quantum error detection. Physical Review A, 2023, 108, .		2.5	1
622	Multi-state quantum simulations via model-space quantum imaginary time evolution. N Information, 2023, 9, .	lpj Quantum	6.7	3
623	A semi-agnostic ansatz with variable structure for variational quantum algorithms. Qua Machine Intelligence, 2023, 5, .	intum	4.8	2
624	Quantum computation of π → π* and <i>n</i> → π* excited states of aromatic hete Physics, 0, , .	erocycles. Molecular	1.7	0

#	Article	IF	Citations
625	Physics-based molecular modeling of biosurfactants. Current Opinion in Colloid and Interface Science, 2023, 68, 101760.	7.4	1
626	Accurate harmonic vibrational frequencies for diatomic molecules via quantum computing. Physical Review Research, 2023, 5, .	3.6	1
627	Technology Landscape for Making Climate and Environmental Science "Actionableâ€, , 2023, , 55-82.		0
628	Basis Set Generation and Optimization in the NISQ Era with Quiqbox.jl. Journal of Chemical Theory and Computation, 2023, 19, 8032-8052.	5.3	0
629	Tensor-network-assisted variational quantum algorithm. Physical Review A, 2023, 108, .	2.5	1
630	Can shallow quantum circuits scramble local noise into global white noise?. Journal of Physics A: Mathematical and Theoretical, 2024, 57, 015306.	2.1	0
631	Business Renaissance: Opportunities and Challenges at the Dawn of the Quantum Computing Era. Businesses, 2023, 3, 585-605.	1.8	5
632	Measurement-free fault-tolerant logical-zero-state encoding of the distance-three nine-qubit surface code in a one-dimensional qubit array. Physical Review Research, 2023, 5, .	3.6	1
633	How to Sum and Exponentiate Hamiltonians in ZXW Calculus. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 394, 236-261.	0.8	1
634	Quantum Flow Algorithms for Simulating Many-Body Systems on Quantum Computers. Physical Review Letters, 2023, 131, .	7.8	5
635	Noise-Assisted Digital Quantum Simulation of Open Systems Using Partial Probabilistic Error Cancellation. PRX Quantum, 2023, 4, .	9.2	4
636	Universal Sampling Lower Bounds for Quantum Error Mitigation. Physical Review Letters, 2023, 131, .	7.8	7
637	Quantum simulation of colour in perturbative quantum chromodynamics. SciPost Physics, 2023, 15, .	4.9	0
638	Jellyfish: A modular code for wave functionâ€based electron dynamics simulations and visualizations on traditional and quantum compute architectures. Wiley Interdisciplinary Reviews: Computational Molecular Science, 2024, 14, .	14.6	0
639	Towards real-world implementations of quantum machine learning. , 0, 7, 77.		0
640	Deep Neural Network Assisted Quantum Chemistry Calculations on Quantum Computers. ACS Omega, 2023, 8, 48211-48220.	3.5	1
641	Quantum Neural Network Inspired Hardware Adaptable Ansatz for Efficient Quantum Simulation of Chemical Systems. Journal of Chemical Theory and Computation, 2023, 19, 8587-8597.	5.3	1
642	Study on the synthesis mechanism of pyrazoles via [3+2] cycloaddition reaction of diazocarbonyl compounds with enones without leaving groups. Journal of Physical Organic Chemistry, 2024, 37, .	1.9	0

#	Article	IF	Citations
643	Prediction of the neutron drip line in oxygen isotopes using quantum computation. Physical Review C, 2023, 108, .	2.9	1
644	Classically optimized variational quantum eigensolver with applications to topological phases. Physical Review Research, 2023, 5, .	3.6	0
645	Tensor Train Optimization of Parameterized Quantum Circuits. JETP Letters, 2023, 118, 938-945.	1.4	0
646	Synergetic quantum error mitigation by randomized compiling and zero-noise extrapolation for the variational quantum eigensolver. Quantum - the Open Journal for Quantum Science, 0, 7, 1184.	0.0	1
647	Synergistic pretraining of parametrized quantum circuits via tensor networks. Nature Communications, 2023, 14, .	12.8	3
648	Utilizing molecular geometry, pKa, NMR, and IR data to assess the accuracy of quantum mechanics-derived thermodynamic parameters in evaluating antioxidant activity. Results in Chemistry, 2024, 7, 101263.	2.0	0
649	Quantum circuits to measure scalar spin chirality. Physical Review Research, 2023, 5, .	3.6	1
650	SnCQA: A hardware-efficient equivariant quantum convolutional circuit architecture. , 2023, , .		1
651	Benchmarking Adaptive Quantum Circuit Optimization Algorithms for Quantum Chemistry. , 2023, , .		0
652	Entropic property of randomized QAOA circuits. Laser Physics Letters, 2024, 21, 015204.	1.4	0
653	The electron density: a fidelity witness for quantum computation. Chemical Science, 2024, 15, 2257-2265.	7.4	0
654	General quantum algorithms for Hamiltonian simulation with applications to a non-Abelian lattice gauge theory. Quantum - the Open Journal for Quantum Science, 0, 7, 1213.	0.0	1
655	Al Advancements: Comparison of Innovative Techniques. Al, 2024, 5, 38-54.	3.8	0
656	Adsorption of methylene blue by an antibacterial bio-sorbents from ligninsulfonate and tannin. Journal of Environmental Chemical Engineering, 2024, 12, 111807.	6.7	0
657	Quantum algorithms for the computation of quantum thermal averages at work. Physical Review D, 2023, 108, .	4.7	1
658	Applications of noisy quantum computing and quantum error mitigation to "adamantaneland†A benchmarking study for quantum chemistry. Physical Chemistry Chemical Physics, 0, , .	2.8	0
659	Towards provably efficient quantum algorithms for large-scale machine-learning models. Nature Communications, 2024, 15, .	12.8	0
660	Harvesting Chemical Understanding with Machine Learning and Quantum Computers. ACS Physical Chemistry Au, 2024, 4, 135-142.	4.0	0

#	Article	IF	CITATIONS
661	Variational Quantum Eigensolver Boosted by Adiabatic Connection. Journal of Physical Chemistry A, 2024, 128, 687-698.	2.5	0
662	Arbitrary Ground State Observables from Quantum Computed Moments. , 2023, , .		ο
663	Benchmarking the Variational Quantum Eigensolver using different quantum hardware. , 2023, , .		1
664	Quantum computing for chemistry and physics applications from a Monte Carlo perspective. Journal of Chemical Physics, 2024, 160, .	3.0	1
665	Toward Chemical Accuracy with Shallow Quantum Circuits: A Clifford-Based Hamiltonian Engineering Approach. Journal of Chemical Theory and Computation, 2024, 20, 695-707.	5.3	0
666	A full circuit-based quantum algorithm for excited-states in quantum chemistry. Quantum - the Open Journal for Quantum Science, 0, 8, 1219.	0.0	0
667	Multilevel variational spectroscopy using a programmable quantum simulator. Physical Review Research, 2024, 6, .	3.6	1
668	Efficient quantum simulation of open quantum system dynamics on noisy quantum computers. Physica Scripta, 2024, 99, 035101.	2.5	Ο
669	Optical transmission of microwave control signal towards large-scale superconducting quantum computing. Optics Express, 2024, 32, 3989.	3.4	0
670	Systematic study on the dependence of the warm-start quantum approximate optimization algorithm on approximate solutions. Scientific Reports, 2024, 14, .	3.3	Ο
671	Verifying Quantum Advantage Experiments with Multiple Amplitude Tensor Network Contraction. Physical Review Letters, 2024, 132, .	7.8	0
672	From Heisenberg to Hubbard: An initial state for the shallow quantum simulation of correlated electrons. Physical Review B, 2024, 109, .	3.2	Ο
673	Computing electronic correlation energies using linear depth quantum circuits. Quantum Science and Technology, 2024, 9, 025003.	5.8	1
674	Machine learning assisted construction of a shallow depth dynamic ansatz for noisy quantum hardware. Chemical Science, 2024, 15, 3279-3289.	7.4	1
675	Control of the <mml:math <br="" display="inline" xmlns:mml="http://www.w3.org/1998/Math/MathML">overflow="scroll"><mml:mi>Z</mml:mi><mml:mi>Z</mml:mi></mml:math> coupling between Kerr cat qubits via transmon couplers. Physical Review Applied, 2024, 21, .	3.8	2
676	Compressed Gate Characterization for Quantum Devices with Time-Correlated Noise. PRX Quantum, 2024, 5, .	9.2	Ο
677	Quantum simulation of small molecules for multiple applications. Chemical Physics, 2024, 580, 112195.	1.9	0
678	Almost optimal measurement scheduling of molecular Hamiltonian via finite projective plane. Physical Review Research, 2024, 6, .	3.6	1

#	Article	IF	CITATIONS
679	Systematic literature review: Quantum machine learning and its applications. Computer Science Review, 2024, 51, 100619.	15.3	1
680	Perturbative variational quantum algorithms for material simulations. Electronic Structure, 2024, 6, 015007.	2.8	0
681	Robustness of optimized numerical estimation schemes for noisy variational quantum algorithms. Physical Review A, 2024, 109, .	2.5	0
682	Quantifying the effect of gate errors on variational quantum eigensolvers for quantum chemistry. Npj Quantum Information, 2024, 10, .	6.7	1
683	Variational quantum eigenvalue solver algorithm utilizing bridge-inspired quantum circuits and a gradient filter module. Computer Physics Communications, 2024, 298, 109117.	7.5	0
684	Probabilistic tensor optimization of quantum circuits for the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mtext>max</mml:mtext><mml:mtext>â^`problem. Physical Review A, 2024, 109, .</mml:mtext></mml:math 	ex⊉∡5≺mml	:mi>k
685	Quantum hardware calculations of the activation and dissociation of nitrogen on iron clusters and surfaces. Physical Chemistry Chemical Physics, 2024, 26, 5895-5906.	2.8	0
686	Average-Case Speedup for Product Formulas. Communications in Mathematical Physics, 2024, 405, .	2.2	0
687	Undergraduate Research in Quantum Computing: Lessons Learned from Developing Student Researchers. , 0, , .		0
688	Quantum Error Mitigated Classical Shadows. PRX Quantum, 2024, 5, .	9.2	0
689	Sparse Random Hamiltonians Are Quantumly Easy. Physical Review X, 2024, 14, .	8.9	0
690	Scalable approach to quantum simulation via projection-based embedding. Physical Review A, 2024, 109,	2.5	0
691	Physics-Constrained Hardware-Efficient Ansatz on Quantum Computers That Is Universal, Systematically Improvable, and Size-Consistent. Journal of Chemical Theory and Computation, 2024, 20, 1912-1922.	5.3	0
692	Role of TMEDA in Iron-Catalyzed C(sp ²)–C(sp ³) Cross-Coupling Reactions: A Mechanistic Study Using DFT Calculations. Organometallics, 2024, 43, 449-456.	2.3	0
693	Resource-Efficient Quantum Circuits for Molecular Simulations: A Case Study of Umbrella Inversion in Ammonia. , 2024, , .		0
694	Adaptive variational ground state preparation for spin-1 models on qubit-based architectures. Physical Review B, 2024, 109, .	3.2	0
695	Shallow unitary decompositions of quantum Fredkin and Toffoli gates for connectivity-aware equivalent circuit averaging. , 2024, 1, .		0
696	Does Conformation Affect the Analytical Response? A Structural and Infrared Spectral Evaluation of Phenethylamines (2C-H, 25H-NBOH, and 25I-NBOMe) Using In Silico Methodology. , 2024, 3, 78-92.		0

#	Article	IF	Citations
697	Solving the Lipkin model using quantum computers with two qubits only with a hybrid quantum-classical technique based on the generator coordinate method. Physical Review C, 2024, 109,	2.9	0
698	Controlling the charge-transfer dynamics of two-level systems around avoided crossings. Journal of Chemical Physics, 2024, 160, .	3.0	0
699	Demonstrating Bayesian quantum phase estimation with quantum error detection. Physical Review Research, 2024, 6, .	3.6	0
700	Quantum computing library for quantum chemistry applications. Journal of Physics: Conference Series, 2024, 2701, 012032.	0.4	0
701	Large-scale quantum approximate optimization on nonplanar graphs with machine learning noise mitigation. Physical Review Research, 2024, 6, .	3.6	0
702	Verification of Bell nonlocality by violating quantum monogamy relations. Cell Reports Physical Science, 2024, 5, 101840.	5.6	0
703	Fault-Tolerant Quantum Algorithm for Symmetry-Adapted Perturbation Theory. PRX Quantum, 2024, 5, .	9.2	0
704	Phase modulation by quantum gates of two microwave pulses in the framework of spin-boson model. Journal of Applied Physics, 2024, 135, .	2.5	0
705	Drug design on quantum computers. Nature Physics, 2024, 20, 549-557.	16.7	0
706	Expressive quantum supervised machine learning using Kerr-nonlinear parametric oscillators. Quantum Machine Intelligence, 2024, 6, .	4.8	0
707	A Vision for the Future of Multiscale Modeling. ACS Physical Chemistry Au, 0, , .	4.0	0
708	Experimental demonstration of a high-fidelity virtual two-qubit gate. Physical Review Research, 2024, 6, .	3.6	0
709	Efficient Exploration of Phenol Derivatives Using QUBO Solvers with Group Contribution-Based Approaches. Industrial & Engineering Chemistry Research, 2024, 63, 4248-4256.	3.7	0
710	Hybrid Quantum Image Classification and Federated Learning for Hepatic Steatosis Diagnosis. Diagnostics, 2024, 14, 558.	2.6	0
711	Cascaded variational quantum eigensolver algorithm. Physical Review Research, 2024, 6, .	3.6	0
712	Implementation of the Projective Quantum Eigensolver on a Quantum Computer. Journal of Physical Chemistry A, 2024, 128, 2220-2235.	2.5	0
713	TETRIS-ADAPT-VQE: An adaptive algorithm that yields shallower, denser circuit <i>AnsÃæe</i> . Physical Review Research, 2024, 6, .	3.6	0
714	The future of the oncological treatment. , 2024, , 267-275.		0

#	Article	IF	CITATIONS
715	Optimizing Shot Assignment in Variational Quantum Eigensolver Measurement. Journal of Chemical Theory and Computation, 2024, 20, 2390-2403.	5.3	0
716	Ultrafast hybrid fermion-to-qubit mapping. Physical Review B, 2024, 109, .	3.2	0
717	Demonstration of a parity-time-symmetry-breaking phase transition using superconducting and trapped-ion qutrits. Physical Review A, 2024, 109, .	2.5	0
719	Noise-independent route toward the genesis of a COMPACT ansatz for molecular energetics: A dynamic approach. Journal of Chemical Physics, 2024, 160, .	3.0	0
720	Ab initio guided atomistic modelling of nanomaterials on exascale high-performance computing platforms. Nano Futures, 2024, 8, 012501.	2.2	0
721	Quantum error mitigation via quantum-noise-effect circuit groups. Scientific Reports, 2024, 14, .	3.3	0
722	Quantum Anomaly Detection with a Spin Processor in Diamond. Advanced Quantum Technologies, 0, , .	3.9	0
723	Simulating chemical reaction dynamics on quantum computer. Journal of Chemical Physics, 2024, 160, .	3.0	0
724	Pipeline quantum processor architecture for silicon spin qubits. Npj Quantum Information, 2024, 10, .	6.7	0
725	Physico-Chemical Characterization of a New Hybrid Material (NH4)2(C6H18N2)[H2P2Mo5O23]·H2O: Quantum Chemical and Comparative Studies with Homologous (C6H18N2)2[H2P2Mo5O23]·H2O. Chemistry Africa, 0, , .	2.4	0
726	Overhead-constrained circuit knitting for variational quantum dynamics. Quantum - the Open Journal for Quantum Science, 0, 8, 1296.	0.0	0