

Matthias Troyer

List of Publications by Citations

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301
papers

22,067
citations

76
h-index

142
g-index

322
ext. papers

25,980
ext. citations

5.5
avg, IF

7.24
L-index

#	Paper	IF	Citations
301	Type-II Weyl semimetals. <i>Nature</i> , 2015 , 527, 495-8	50.4	1482
300	Continuous-time Monte Carlo methods for quantum impurity models. <i>Reviews of Modern Physics</i> , 2011 , 83, 349-404	40.5	944
299	Solving the quantum many-body problem with artificial neural networks. <i>Science</i> , 2017 , 355, 602-606	33.3	818
298	WannierTools: An open-source software package for novel topological materials. <i>Computer Physics Communications</i> , 2018 , 224, 405-416	4.2	761
297	Continuous-time solver for quantum impurity models. <i>Physical Review Letters</i> , 2006 , 97, 076405	7.4	744
296	Computational complexity and fundamental limitations to fermionic quantum Monte Carlo simulations. <i>Physical Review Letters</i> , 2005 , 94, 170201	7.4	561
295	The ALPS project release 1.3: Open-source software for strongly correlated systems. <i>Journal of Magnetism and Magnetic Materials</i> , 2007 , 310, 1187-1193	2.8	555
294	The ALPS project release 2.0: open source software for strongly correlated systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011 , 2011, P05001	1.9	426
293	Thermodynamics of spin $S=1/2$ antiferromagnetic uniform and alternating-exchange Heisenberg chains. <i>Physical Review B</i> , 2000 , 61, 9558-9606	3.3	419
292	Evidence for quantum annealing with more than one hundred qubits. <i>Nature Physics</i> , 2014 , 10, 218-224	16.2	412
291	Quantum computing. Defining and detecting quantum speedup. <i>Science</i> , 2014 , 345, 420-4	33.3	317
290	Thermodynamics and spin gap of the Heisenberg ladder calculated by the look-ahead Lanczos algorithm. <i>Physical Review B</i> , 1994 , 50, 13515-13527	3.3	299
289	Neural-network quantum state tomography. <i>Nature Physics</i> , 2018 , 14, 447-450	16.2	297
288	MoTe ₂ : A Type-II Weyl Topological Metal. <i>Physical Review Letters</i> , 2016 , 117, 056805	7.4	286
287	Topological Thouless pumping of ultracold fermions. <i>Nature Physics</i> , 2016 , 12, 296-300	16.2	273
286	Supersolid hard-core bosons on the triangular lattice. <i>Physical Review Letters</i> , 2005 , 95, 127205	7.4	265
285	Mott domains of bosons confined on optical lattices. <i>Physical Review Letters</i> , 2002 , 89, 117203	7.4	247

284	Z2Pack: Numerical implementation of hybrid Wannier centers for identifying topological materials. <i>Physical Review B</i> , 2017 , 95,	3.3	230
283	Elucidating reaction mechanisms on quantum computers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 7555-7560	11.5	229
282	Progress towards practical quantum variational algorithms. <i>Physical Review A</i> , 2015 , 92,	2.6	226
281	Competing states in the t-J model: uniform D-wave state versus stripe state. <i>Physical Review Letters</i> , 2014 , 113, 046402	7.4	225
280	Critical temperature and thermodynamics of attractive fermions at unitarity. <i>Physical Review Letters</i> , 2006 , 96, 160402	7.4	198
279	Interacting anyons in topological quantum liquids: the golden chain. <i>Physical Review Letters</i> , 2007 , 98, 160409	7.4	194
278	Optimized parallel tempering simulations of proteins. <i>Journal of Chemical Physics</i> , 2006 , 124, 174903	3.9	193
277	Li ₂ VO(Si,Ge)O ₄ , a prototype of a two-dimensional frustrated quantum heisenberg antiferromagnet. <i>Physical Review Letters</i> , 2000 , 85, 1318-21	7.4	190
276	Néel temperature of quasi-low-dimensional Heisenberg antiferromagnets. <i>Physical Review Letters</i> , 2005 , 94, 217201	7.4	185
275	Feedback-optimized parallel tempering Monte Carlo. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2006 , 2006, P03018-P03018	1.9	183
274	Continuous-time auxiliary-field Monte Carlo for quantum impurity models. <i>Europhysics Letters</i> , 2008 , 82, 57003	1.6	181
273	Supersolids versus phase separation in two-dimensional lattice bosons. <i>Physical Review Letters</i> , 2005 , 94, 207202	7.4	180
272	Quantum Monte Carlo simulations of confined bosonic atoms in optical lattices. <i>Physical Review A</i> , 2004 , 70,	2.6	175
271	Generalized directed loop method for quantum Monte Carlo simulations. <i>Physical Review E</i> , 2005 , 71, 036706	2.4	173
270	Spin freezing transition and non-Fermi-liquid self-energy in a three-orbital model. <i>Physical Review Letters</i> , 2008 , 101, 166405	7.4	171
269	Topologically protected quantum bits using Josephson junction arrays. <i>Nature</i> , 2002 , 415, 503-6	50.4	163
268	Suppression of the critical temperature for superfluidity near the Mott transition. <i>Nature Physics</i> , 2010 , 6, 998-1004	16.2	153
267	Gate-count estimates for performing quantum chemistry on small quantum computers. <i>Physical Review A</i> , 2014 , 90,	2.6	145

266	Properties of lightly doped t-J two-leg ladders. <i>Physical Review B</i> , 1996 , 53, 251-267	3.3	144
265	Robust Type-II Weyl Semimetal Phase in Transition Metal Diphosphides XP_2 (X=Mo, W). <i>Physical Review Letters</i> , 2016 , 117, 066402	7.4	131
264	Superfluidity of grain boundaries in solid 4He. <i>Physical Review Letters</i> , 2007 , 98, 135301	7.4	128
263	Breakdown of a topological phase: quantum phase transition in a loop gas model with tension. <i>Physical Review Letters</i> , 2007 , 98, 070602	7.4	128
262	Supersolid phase with cold polar molecules on a triangular lattice. <i>Physical Review Letters</i> , 2010 , 104, 125302	7.4	126
261	Optimizing the ensemble for equilibration in broad-histogram Monte Carlo simulations. <i>Physical Review E</i> , 2004 , 70, 046701	2.4	126
260	ProjectQ: an open source software framework for quantum computing. <i>Quantum - the Open Journal for Quantum Science</i> , 2 , 49		126
259	Quantitative determination of temperature in the approach to magnetic order of ultracold fermions in an optical lattice. <i>Physical Review Letters</i> , 2010 , 104, 180401	7.4	125
258	Stripes in the two-dimensional t-J model with infinite projected entangled-pair states. <i>Physical Review B</i> , 2011 , 84,	3.3	124
257	Pairing and excitation spectrum in doped t-J ladders. <i>Physical Review B</i> , 1994 , 49, 16078-16081	3.3	123
256	Low Temperature Behavior and Crossovers of the Square Lattice Quantum Heisenberg Antiferromagnet. <i>Physical Review Letters</i> , 1998 , 80, 2705-2708	7.4	121
255	Phase diagram of depleted Heisenberg model for CaV ₄ O ₉ . <i>Physical Review Letters</i> , 1996 , 76, 3822-3825	7.4	121
254	Deconfined criticality: generic first-order transition in the SU(2) symmetry case. <i>Physical Review Letters</i> , 2008 , 101, 050405	7.4	118
253	Quantum versus classical annealing of Ising spin glasses. <i>Science</i> , 2015 , 348, 215-7	33.3	117
252	Itinerant ferromagnetism of a repulsive atomic Fermi gas: a quantum monte carlo study. <i>Physical Review Letters</i> , 2010 , 105, 030405	7.4	113
251	Finite-temperature phase diagram of hard-core bosons in two dimensions. <i>Physical Review Letters</i> , 2002 , 88, 167208	7.4	112
250	Quantum algorithms for electronic structure calculations: Particle-hole Hamiltonian and optimized wave-function expansions. <i>Physical Review A</i> , 2018 , 98,	2.6	108
249	Topological charge pumping in a one-dimensional optical lattice. <i>Physical Review Letters</i> , 2013 , 111, 026802		103

248	Absence of a direct superfluid to mott insulator transition in disordered bose systems. <i>Physical Review Letters</i> , 2009 , 103, 140402	7.4	101
247	An efficient matrix product operator representation of the quantum chemical Hamiltonian. <i>Journal of Chemical Physics</i> , 2015 , 143, 244118	3.9	100
246	Thermodynamics of the One-Dimensional SU(4) Symmetric Spin-Orbital Model. <i>Physical Review Letters</i> , 1999 , 82, 835-838	7.4	100
245	Probing for quantum speedup in spin-glass problems with planted solutions. <i>Physical Review A</i> , 2015 , 92,	2.6	99
244	Solving strongly correlated electron models on a quantum computer. <i>Physical Review A</i> , 2015 , 92,	2.6	95
243	The ALPS Project: Open Source Software for Strongly Correlated Systems. <i>Journal of the Physical Society of Japan</i> , 2005 , 74, 30-35	1.5	95
242	Expansion of a quantum gas released from an optical lattice. <i>Physical Review Letters</i> , 2008 , 101, 155303	7.4	92
241	Thermodynamics of the 3D Hubbard model on approaching the NÉl transition. <i>Physical Review Letters</i> , 2011 , 106, 030401	7.4	90
240	Q# 2018 ,		89
239	Flat histogram methods for quantum systems: algorithms to overcome tunneling problems and calculate the free energy. <i>Physical Review Letters</i> , 2003 , 90, 120201	7.4	88
238	Phase diagram of the disordered Bose-Hubbard model. <i>Physical Review B</i> , 2009 , 80,	3.3	86
237	Diagrammatic Monte Carlo for correlated fermions. <i>Europhysics Letters</i> , 2010 , 90, 10004	1.6	85
236	Parallel Object Oriented Monte Carlo Simulations. <i>Lecture Notes in Computer Science</i> , 1998 , 191-198	0.9	85
235	Optimised simulated annealing for Ising spin glasses. <i>Computer Physics Communications</i> , 2015 , 192, 265-271	4.7	84
234	Exchange Interactions and Magnetic Properties of the Layered Vanadates CaV2O5, MgV2O5, CaV3O7, and CaV4O9. <i>Physical Review Letters</i> , 1999 , 83, 1387-1390	7.4	84
233	Local order and the gapped phase of the Hubbard model: A plaquette dynamical mean-field investigation. <i>Europhysics Letters</i> , 2008 , 84, 37009	1.6	83
232	Interacting classical dimers on the square lattice. <i>Physical Review Letters</i> , 2005 , 94, 235702	7.4	82
231	NÉl and Spin-Peierls ground states of two-dimensional SU(N) quantum antiferromagnets. <i>Physical Review Letters</i> , 2003 , 90, 117203	7.4	82

230	Accessing the dynamics of large many-particle systems using the stochastic series expansion. <i>Physical Review E</i> , 2001 , 64, 066701	2.4	80
229	Hybrid Quantum-Classical Approach to Correlated Materials. <i>Physical Review X</i> , 2016 , 6,	9.1	80
228	Simultaneous dimerization and SU(4) symmetry breaking of 4-color fermions on the square lattice. <i>Physical Review Letters</i> , 2011 , 107, 215301	7.4	77
227	The FermiHubbard model at unitarity. <i>New Journal of Physics</i> , 2006 , 8, 153-153	2.9	76
226	Topological Phases in InAs _{1-x} Sb _{x} : From Novel Topological Semimetal to Majorana Wire. <i>Physical Review Letters</i> , 2016 , 117, 076403	7.4	76
225	Fermionic quantum critical point of spinless fermions on a honeycomb lattice. <i>New Journal of Physics</i> , 2014 , 16, 103008	2.9	75
224	Implementing global Abelian symmetries in projected entangled-pair state algorithms. <i>Physical Review B</i> , 2011 , 83,	3.3	75
223	A Short Introduction to Fibonacci Anyon Models. <i>Progress of Theoretical Physics Supplement</i> , 2008 , 176, 384-407		75
222	d-Wave resonating valence bond states of fermionic atoms in optical lattices. <i>Physical Review Letters</i> , 2006 , 96, 250402	7.4	74
221	Deconfined criticality, runaway flow in the two-component scalar electrodynamics and weak first-order superfluid-solid transitions. <i>Annals of Physics</i> , 2006 , 321, 1602-1621	2.5	73
220	Universal conductance of nanowires near the superconductor-metal quantum transition. <i>Physical Review Letters</i> , 2004 , 92, 237003	7.4	73
219	Two-step restoration of SU(2) symmetry in a frustrated ring-exchange magnet. <i>Physical Review Letters</i> , 2005 , 95, 137206	7.4	72
218	Critical temperature curve in BEC-BCS crossover. <i>Physical Review Letters</i> , 2008 , 101, 090402	7.4	71
217	Complete-graph tensor network states: a new fermionic wave function ansatz for molecules. <i>New Journal of Physics</i> , 2010 , 12, 103008	2.9	70
216	Phase diagram of Bose-Fermi mixtures in one-dimensional optical lattices. <i>Physical Review Letters</i> , 2006 , 96, 190402	7.4	70
215	Phase diagram and critical exponents of a dissipative Ising spin chain in a transverse magnetic field. <i>Physical Review Letters</i> , 2005 , 94, 047201	7.4	70
214	Singlet stripe phases in the planar t-J model. <i>Physical Review B</i> , 1995 , 51, 16456-16459	3.3	70
213	Collective states of interacting anyons, edge states, and the nucleation of topological liquids. <i>Physical Review Letters</i> , 2009 , 103, 070401	7.4	68

212	Nearly critical ground state of LaCuO _{2.5} . <i>Physical Review B</i> , 1997 , 55, R6117-R6120	3.3	67
211	Susceptibility and low-temperature thermodynamics of spin-1/2 Heisenberg ladders. <i>Physical Review B</i> , 1996 , 54, R3714-R3717	3.3	67
210	Three-sublattice order in the SU(3) Heisenberg model on the square and triangular lattice. <i>Physical Review B</i> , 2012 , 85,	3.3	65
209	Reexamining classical and quantum models for the D-Wave One processor. <i>European Physical Journal: Special Topics</i> , 2015 , 224, 111-129	2.3	64
208	Phase diagram of H ₄ e adsorbed on graphite. <i>Physical Review B</i> , 2008 , 78,	3.3	64
207	Matrix product state applications for the ALPS project. <i>Computer Physics Communications</i> , 2014 , 185, 3430-3440	4.2	62
206	Improving quantum algorithms for quantum chemistry. <i>Quantum Information and Computation</i> , 2015 , 15, 1-21	0.9	62
205	Local stress and superfluid properties of solid 4He. <i>Physical Review Letters</i> , 2008 , 101, 097202	7.4	60
204	Proposal for direct measurement of topological invariants in optical lattices. <i>Physical Review Letters</i> , 2013 , 110, 166802	7.4	59
203	A software methodology for compiling quantum programs. <i>Quantum Science and Technology</i> , 2018 , 3, 020501	5.5	58
202	Critical Exponents of the Quantum Phase Transition in a Planar Antiferromagnet. <i>Journal of the Physical Society of Japan</i> , 1997 , 66, 2957-2960	1.5	58
201	Broken time-reversal symmetry in strongly correlated ladder structures. <i>Physical Review Letters</i> , 2003 , 90, 186401	7.4	58
200	Collective states of interacting Fibonacci anyons. <i>Physical Review Letters</i> , 2008 , 101, 050401	7.4	57
199	Dynamical mean field solution of the Bose-Hubbard model. <i>Physical Review Letters</i> , 2010 , 105, 096402	7.4	56
198	Nonstoquastic Hamiltonians and quantum annealing of an Ising spin glass. <i>Physical Review B</i> , 2017 , 95,	3.3	54
197	Topology-driven quantum phase transitions in time-reversal-invariant anyonic quantum liquids. <i>Nature Physics</i> , 2009 , 5, 834-839	16.2	54
196	Phase Diagram of the $\nu=5/2$ Fractional Quantum Hall Effect: Effects of Landau-Level Mixing and Nonzero Width. <i>Physical Review X</i> , 2015 , 5,	9.1	53
195	Phase Diagram of Pyrochlore Iridates: All-in-All-out Magnetic Ordering and Non-Fermi-Liquid Properties. <i>Physical Review Letters</i> , 2015 , 115, 156401	7.4	52

194	Operator locality in the quantum simulation of fermionic models. <i>Physical Review A</i> , 2017 , 95,	2.6	51
193	Topological Phase Transitions in the Repulsively Interacting Haldane-Hubbard Model. <i>Physical Review Letters</i> , 2016 , 116, 225305	7.4	50
192	Understanding Quantum Tunneling through Quantum Monte Carlo Simulations. <i>Physical Review Letters</i> , 2016 , 117, 180402	7.4	50
191	Discerning incompressible and compressible phases of cold atoms in optical lattices. <i>Physical Review Letters</i> , 2009 , 102, 135302	7.4	49
190	Performance analysis of continuous-time solvers for quantum impurity models. <i>Physical Review B</i> , 2007 , 76,	3.3	49
189	Ferromagnetism of the one-dimensional Kondo-lattice model: A quantum Monte Carlo study. <i>Physical Review B</i> , 1993 , 47, 2886-2889	3.3	48
188	Multiorbital Kondo physics of Co in Cu hosts. <i>Physical Review B</i> , 2012 , 85,	3.3	47
187	Quantum Algorithm for Spectral Measurement with a Lower Gate Count. <i>Physical Review Letters</i> , 2018 , 121, 010501	7.4	47
186	Mixture of bosonic and spin-polarized fermionic atoms in an optical lattice. <i>Physical Review A</i> , 2008 , 77,	2.6	46
185	Updated core libraries of the ALPS project. <i>Computer Physics Communications</i> , 2017 , 213, 235-251	4.2	43
184	Training a quantum optimizer. <i>Physical Review A</i> , 2016 , 94,	2.6	43
183	Néel temperature and thermodynamics of the half-filled three-dimensional Hubbard model by diagrammatic determinant Monte Carlo. <i>Physical Review B</i> , 2013 , 87,	3.3	42
182	The Two-Dimensional $S=1$ Quantum Heisenberg Antiferromagnet at Finite Temperatures. <i>Journal of the Physical Society of Japan</i> , 1998 , 67, 1130-1133	1.5	42
181	Split Orthogonal Group: A Guiding Principle for Sign-Problem-Free Fermionic Simulations. <i>Physical Review Letters</i> , 2015 , 115, 250601	7.4	40
180	Symmetry breaking regime in the nonlinear Hartree equation. <i>Journal of Mathematical Physics</i> , 2002 , 43, 3879-3891	1.2	40
179	Fidelity Susceptibility Made Simple: A Unified Quantum Monte Carlo Approach. <i>Physical Review X</i> , 2015 , 5,	9.1	38
178	Dynamical mean-field theory for bosons. <i>New Journal of Physics</i> , 2011 , 13, 075013	2.9	38
177	Temperature changes when adiabatically ramping up an optical lattice. <i>New Journal of Physics</i> , 2008 , 10, 065001	2.9	38

176	Renyi entanglement entropy of interacting fermions calculated using the continuous-time quantum Monte Carlo method. <i>Physical Review Letters</i> , 2014 , 113, 110401	7.4	37
175	Simulation of anyons with tensor network algorithms. <i>Physical Review B</i> , 2010 , 82,	3.3	37
174	Two-dimensional quantum liquids from interacting non-Abelian anyons. <i>New Journal of Physics</i> , 2011 , 13, 045014	2.9	37
173	The Beliaev technique for a weakly interacting Bose gas. <i>New Journal of Physics</i> , 2010 , 12, 043010	2.9	36
172	Anyonic quantum spin chains: Spin-1 generalizations and topological stability. <i>Physical Review B</i> , 2013 , 87,	3.3	35
171	Mutual information in classical spin models. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011 , 2011, P10011	1.9	35
170	Very high resolution mapping of coral reef state using airborne bathymetric LiDAR surface-intensity and drone imagery. <i>International Journal of Remote Sensing</i> , 2018 , 39, 5676-5688	3.1	34
169	Orbital Contributions to the Electron g Factor in Semiconductor Nanowires. <i>Physical Review Letters</i> , 2017 , 119, 037701	7.4	34
168	Pair correlations in doped Hubbard ladders. <i>Physical Review B</i> , 2015 , 92,	3.3	34
167	Continuous-time quantum Monte Carlo impurity solvers. <i>Computer Physics Communications</i> , 2011 , 182, 1078-1082	4.2	34
166	Dimer-Quadrupolar Quantum Phase Transition in the Quasi-One-Dimensional Heisenberg Model with Biquadratic Interaction. <i>Journal of the Physical Society of Japan</i> , 2007 , 76, 013703	1.5	34
165	Quantum spin chains in a magnetic field. <i>Physical Review B</i> , 1999 , 59, 1162-1167	3.3	34
164	Double transfer through Dirac points in a tunable honeycomb optical lattice. <i>European Physical Journal: Special Topics</i> , 2013 , 217, 121-133	2.3	33
163	Spectral properties of the three-dimensional Hubbard model. <i>Physical Review B</i> , 2011 , 83,	3.3	33
162	Ferromagnetism of a repulsive atomic Fermi gas in an optical lattice: a quantum Monte Carlo study. <i>Physical Review Letters</i> , 2014 , 112, 015301	7.4	32
161	Probing the stability of the spin-liquid phases in the Kitaev-Heisenberg model using tensor network algorithms. <i>Physical Review B</i> , 2014 , 90,	3.3	32
160	Heavy Tails in the Distribution of Time to Solution for Classical and Quantum Annealing. <i>Physical Review Letters</i> , 2015 , 115, 230501	7.4	31
159	Thermodynamics and magnetic properties of the anisotropic 3D Hubbard model. <i>Physical Review Letters</i> , 2014 , 112, 115301	7.4	31

158	Density functional theory for atomic Fermi gases. <i>Nature Physics</i> , 2012 , 8, 601-605	16.2	31
157	Universal Critical Temperature for Kosterlitz-Thouless Transitions in Bilayer Quantum Magnets. <i>Physical Review Letters</i> , 1998 , 81, 5418-5421	7.4	31
156	Spin-Orbit Protection of Induced Superconductivity in Majorana Nanowires. <i>Physical Review Letters</i> , 2019 , 122, 187702	7.4	30
155	Assessing the accuracy of projected entangled-pair states on infinite lattices. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009 , 2009, P09006	1.9	30
154	Spontaneous emission and thermalization of cold bosons in optical lattices. <i>Physical Review A</i> , 2014 , 89,	2.6	29
153	Estimating errors reliably in Monte Carlo simulations of the Ehrenfest model. <i>American Journal of Physics</i> , 2010 , 78, 150-157	0.7	29
152	Efficient continuous-time quantum Monte Carlo method for the ground state of correlated fermions. <i>Physical Review B</i> , 2015 , 91,	3.3	28
151	Bosonic superfluid-insulator transition in continuous space. <i>Physical Review Letters</i> , 2012 , 108, 155301	7.4	28
150	Local spin operators for fermion simulations. <i>Physical Review A</i> , 2016 , 94,	2.6	28
149	Downfolding of many-body Hamiltonians using active-space models: Extension of the sub-system embedding sub-algebras approach to unitary coupled cluster formalisms. <i>Journal of Chemical Physics</i> , 2019 , 151, 014107	3.9	27
148	Spin orthogonality catastrophe in two-dimensional antiferromagnets and superconductors. <i>Physical Review Letters</i> , 2001 , 86, 2617-20	7.4	27
147	Quantum Monte Carlo Simulation of the Trellis Lattice Heisenberg Model for SrCu ₂ O ₃ and CaV ₂ O ₅ . <i>Journal of the Physical Society of Japan</i> , 1998 , 67, 3918-3923	1.5	27
146	Scaling analysis and instantons for thermally assisted tunneling and quantum Monte Carlo simulations. <i>Physical Review A</i> , 2017 , 95,	2.6	26
145	A Provenance-Based Infrastructure to Support the Life Cycle of Executable Papers. <i>Procedia Computer Science</i> , 2011 , 4, 648-657	1.6	26
144	Binding of a ³ He impurity to a screw dislocation in solid ⁴ He. <i>Physical Review Letters</i> , 2008 , 101, 155302	7.4	26
143	Real time evolution at finite temperatures with operator space matrix product states. <i>New Journal of Physics</i> , 2014 , 16, 073007	2.9	25
142	Microscopic models of interacting Yang-Lee anyons. <i>New Journal of Physics</i> , 2011 , 13, 045006	2.9	25
141	Quantum phase transition in a Heisenberg antiferromagnet on a square lattice with strong plaquette interactions. <i>Physical Review B</i> , 2008 , 78,	3.3	25

140	Simulations of ultracold bosonic atoms in optical lattices with anharmonic traps. <i>Physical Review A</i> , 2006 , 73,	2.6	25
139	Quantum Spin Chains with Site Dissipation. <i>Journal of the Physical Society of Japan</i> , 2005 , 74, 67-70	1.5	25
138	Spin gap and superconductivity in the one-dimensional t-J model with Coulomb repulsion. <i>Physical Review B</i> , 1993 , 48, 4002-4013	3.3	25
137	Supersymmetric multicritical point in a model of lattice fermions. <i>Physical Review B</i> , 2013 , 87,	3.3	24
136	Susceptibilities of Sr(Cu _{1-x} Zn _x) ₂ O ₃ Studied by Quantum Monte Carlo Simulation. <i>Journal of the Physical Society of Japan</i> , 1997 , 66, 2580-2583	1.5	24
135	Elementary Excitations of the Symmetric Spin-Orbital Model: The XY Limit. <i>Physical Review Letters</i> , 1999 , 82, 3697-3700	7.4	24
134	First-order topological phase transition of the Haldane-Hubbard model. <i>Physical Review B</i> , 2016 , 94,	3.3	23
133	Dynamics at and near conformal quantum critical points. <i>Physical Review B</i> , 2011 , 83,	3.3	23
132	Multigrid algorithms for tensor network states. <i>Physical Review Letters</i> , 2012 , 109, 020604	7.4	23
131	Mechanisms for spin supersolidity in S=12 spin-dimer antiferromagnets. <i>Physical Review B</i> , 2008 , 78,	3.3	22
130	Effect of the three-site hopping term on the t-J model. <i>Physical Review B</i> , 1995 , 52, 629-636	3.3	22
129	Experimental signatures of the inverted phase in InAs/GaSb coupled quantum wells. <i>Physical Review B</i> , 2016 , 94,	3.3	22
128	Efficient continuous-time quantum Monte Carlo algorithm for fermionic lattice models. <i>Physical Review B</i> , 2015 , 91,	3.3	21
127	The Quantum Future of Computation. <i>Computer</i> , 2016 , 49, 21-30	1.6	21
126	Smooth gauge and Wannier functions for topological band structures in arbitrary dimensions. <i>Physical Review B</i> , 2016 , 93,	3.3	21
125	Dynamics of the Wang-Landau algorithm and complexity of rare events for the three-dimensional bimodal Ising spin glass. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2004 , 2004, P07008	1.9	21
124	Entanglement spectroscopy on a quantum computer. <i>Physical Review B</i> , 2017 , 96,	3.3	20
123	Accuracy of downfolding based on the constrained random-phase approximation. <i>Physical Review B</i> , 2015 , 91,	3.3	20

122	Bosonic model of hole pairs. <i>Physical Review B</i> , 2001 , 63,	3.3	20
121	Thermodynamic Properties of the One-Dimensional Kondo Insulators Studied by the Density Matrix Renormalization Group Method. <i>Journal of the Physical Society of Japan</i> , 1998 , 67, 1086-1089	1.5	20
120	Thermodynamics of the $t\bar{J}$ Ladder: A Stable Finite-Temperature Density Matrix Renormalization Group Calculation. <i>Physical Review Letters</i> , 1999 , 82, 3855-3858	7.4	20
119	Stochastic series expansion simulation of the $t\bar{J}$ model. <i>Physical Review B</i> , 2016 , 93,	3.3	19
118	Thermodynamics of random ferromagnetic-antiferromagnetic spin-1/2 chains. <i>Physical Review B</i> , 1999 , 60, 3388-3399	3.3	19
117	Enigmatic 12/5 fractional quantum Hall effect. <i>Physical Review B</i> , 2016 , 94,	3.3	19
116	High resolution topobathymetry using a Pleiades-1 triplet: Moorea Island in 3D. <i>Remote Sensing of Environment</i> , 2018 , 208, 109-119	13.2	18
115	Efficient simulation of resistively shunted Josephson junctions. <i>Physical Review Letters</i> , 2005 , 95, 060201	7.4	18
114	From local to global ground states in Ising spin glasses. <i>Physical Review B</i> , 2015 , 91,	3.3	17
113	Negative sign problem in continuous-time quantum Monte Carlo: Optimal choice of single-particle basis for impurity problems. <i>Physical Review B</i> , 2015 , 92,	3.3	17
112	Hybridization expansion Monte Carlo simulation of multi-orbital quantum impurity problems: matrix product formalism and improved sampling. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2014 , 2014, P06012	1.9	17
111	Nonlocal quantum fluctuations and fermionic superfluidity in the imbalanced attractive Hubbard model. <i>Physical Review Letters</i> , 2014 , 113, 185301	7.4	17
110	Quantum spin ladders of non-Abelian anyons. <i>Physical Review B</i> , 2011 , 83,	3.3	17
109	Overcoming the slowing down of flat-histogram Monte Carlo simulations: cluster updates and optimized broad-histogram ensembles. <i>Physical Review E</i> , 2005 , 72, 046704	2.4	17
108	Quantum computing enhanced computational catalysis. <i>Physical Review Research</i> , 2021 , 3,	3.9	17
107	Topological phase transition in the Hofstadter-Hubbard model. <i>Physical Review B</i> , 2014 , 90,	3.3	16
106	Translation invariance, topology, and protection of criticality in chains of interacting anyons. <i>Physical Review B</i> , 2012 , 86,	3.3	16
105	Engineering exotic phases for topologically protected quantum computation by emulating quantum dimer models. <i>Physical Review B</i> , 2008 , 78,	3.3	16

104	Histogram methods for quantum systems: from reweighting to Wang-Landau sampling. <i>Brazilian Journal of Physics</i> , 2004 , 34, 377	1.2	16
103	Melting of bosonic stripes. <i>Physical Review Letters</i> , 2004 , 93, 067003	7.4	16
102	Strong-disorder renormalization for interacting non-Abelian anyon systems in two dimensions. <i>Physical Review B</i> , 2012 , 85,	3.3	15
101	Measuring the equation of state of trapped ultracold bosonic systems in an optical lattice with in situ density imaging. <i>Physical Review A</i> , 2010 , 82,	2.6	15
100	Non-local Updates for Quantum Monte Carlo Simulations. <i>AIP Conference Proceedings</i> , 2003 ,	0	15
99	Static and Dynamic Holes in a Quantum Critical Antiferromagnet. <i>Progress of Theoretical Physics Supplement</i> , 2002 , 145, 326-331		15
98	Automated construction of symmetrized Wannier-like tight-binding models from ab initio calculations. <i>Physical Review Materials</i> , 2018 , 2,	3.2	15
97	Fulde-Ferrell-Larkin-Ovchinnikov pairing as leading instability on the square lattice. <i>Physical Review B</i> , 2016 , 94,	3.3	14
96	From the Cooper problem to canted supersolids in Bose-Fermi mixtures. <i>Physical Review Letters</i> , 2012 , 109, 206401	7.4	14
95	Galois conjugates of topological phases. <i>Physical Review B</i> , 2012 , 85,	3.3	14
94	Temperature Dependent Correlation Length for the S=1/2 Quantum Heisenberg Antiferromagnet on the Square Lattice. <i>Physical Review Letters</i> , 1997 , 79, 1583-1583	7.4	14
93	A Classical Picture of the Role of Vacancies and Interstitials in Helium-4. <i>Journal of Low Temperature Physics</i> , 2008 , 152, 156-163	1.3	14
92	Optimized ensemble Monte Carlo simulations of dense Lennard-Jones fluids. <i>Journal of Chemical Physics</i> , 2005 , 123, 204501	3.9	14
91	Quantum Monte Carlo tunneling from quantum chemistry to quantum annealing. <i>Physical Review B</i> , 2017 , 96,	3.3	13
90	Optimizing spin-orbit splittings in InSb Majorana nanowires. <i>Physical Review B</i> , 2016 , 93,	3.3	13
89	p-Wave superfluidity by spin-nematic Fermi surface deformation. <i>Physical Review Letters</i> , 2014 , 113, 195301	7.4	13
88	Bosons in Optical Lattices [From the Mott Transition to the Tonks-Darrieau Gas. <i>Journal of the Physical Society of Japan</i> , 2005 , 74, 10-15	1.5	13
87	Quantum programming languages. <i>Nature Reviews Physics</i> , 2020 , 2, 709-722	23.6	13

86	Magnetic susceptibility of cerium: An LDA+DMFT study. <i>Physical Review B</i> , 2012 , 85,	3.3	12
85	Bond disorder induced criticality of the three-color Ashkin-Teller model. <i>Physical Review Letters</i> , 2012 , 109, 155701	7.4	12
84	Local interactions and non-abelian quantum loop gases. <i>Physical Review Letters</i> , 2008 , 101, 230401	7.4	12
83	Bridging Workflow and Data Provenance Using Strong Links. <i>Lecture Notes in Computer Science</i> , 2010 , 397-415	0.9	12
82	Minimizing nonadiabaticities in optical-lattice loading. <i>Physical Review A</i> , 2015 , 91,	2.6	11
81	Diagrammatic quantum Monte Carlo solution of the two-dimensional cooperon-fermion model. <i>Physical Review B</i> , 2011 , 83,	3.3	11
80	Computational Complexity and Simulation of Rare Events of Ising Spin Glasses. <i>Lecture Notes in Computer Science</i> , 2004 , 36-47	0.9	11
79	Quantum Monte Carlo loop algorithm for the tJ model. <i>Physical Review B</i> , 1998 , 58, 4304-4319	3.3	11
78	High Performance Emulation of Quantum Circuits 2016 ,		11
77	Topological origin of the fermion sign problem. <i>Physical Review B</i> , 2016 , 93,	3.3	10
76	Effect of thermal fluctuations in topological p-wave superconductors. <i>Physical Review B</i> , 2013 , 87,	3.3	10
75	One-dimensional itinerant interacting non-Abelian anyons. <i>Physical Review B</i> , 2013 , 87,	3.3	10
74	Quantum Monte Carlo study of a two-species bosonic Hubbard model. <i>Physical Review B</i> , 2008 , 77,	3.3	10
73	Systematic errors in Gaussian quantum Monte Carlo and a systematic study of the symmetry projection method. <i>Physical Review B</i> , 2008 , 77,	3.3	10
72	Cluster Monte Carlo Algorithms for Dissipative Quantum Systems. <i>Progress of Theoretical Physics Supplement</i> , 2005 , 160, 395-417		10
71	Superfluidity and density order in a bilayer extended Hubbard model. <i>Physical Review B</i> , 2015 , 91,	3.3	9
70	Fibonacci topological order from quantum nets. <i>Physical Review Letters</i> , 2013 , 110, 260408	7.4	9
69	Subband engineering even-denominator quantum Hall states. <i>Physical Review B</i> , 2010 , 82,	3.3	9

68	Fractionalization of itinerant anyons in one-dimensional chains. <i>Physical Review Letters</i> , 2012 , 108, 2072014	7.4	9
67	The d-wave resonance valence bond state. <i>Journal of Physics and Chemistry of Solids</i> , 1995 , 56, 1663-1667	3.9	9
66	Uncertain fate of fair sampling in quantum annealing. <i>Physical Review A</i> , 2019 , 100,	2.6	8
65	Fidelity Susceptibility Perspective on the Kondo Effect and Impurity Quantum Phase Transitions. <i>Physical Review Letters</i> , 2015 , 115, 236601	7.4	8
64	Optimized broad-histogram ensembles for the simulation of quantum systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007 , 2007, P12005-P12005	1.9	8
63	Simulation results for an interacting pair of resistively shunted Josephson junctions. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2005 , 2005, P12003-P12003	1.9	8
62	Transition between hole pairs and four-hole clusters in four-leg t-J ladders. <i>Physical Review B</i> , 2002 , 65,	3.3	8
61	Spin-spin correlation lengths of bilayer antiferromagnets. <i>Europhysics Letters</i> , 1998 , 42, 559-564	1.6	8
60	Efficient Quantum Walk Circuits for Metropolis-Hastings Algorithm. <i>Quantum - the Open Journal for Quantum Science</i> , 4 , 287		8
59	Ferromagnetism of the repulsive atomic Fermi gas: three-body recombination and domain formation. <i>European Physical Journal B</i> , 2016 , 89, 1	1.2	8
58	The effect of quenched bond disorder on first-order phase transitions. <i>Annals of Physics</i> , 2015 , 357, 66-78	7.5	7
57	Seeing Hofstadter's butterfly in atomic Fermi gases. <i>Physical Review A</i> , 2014 , 89,	2.6	7
56	Critical temperature of interacting Bose gases in periodic potentials. <i>Physical Review Letters</i> , 2014 , 112, 170402	7.4	7
55	Optimized broad-histogram simulations for strong first-order phase transitions: droplet transitions in the large-Q Potts model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010 , 2010, P01020	1.9	7
54	Thermal canting of spin-bond order. <i>Physical Review B</i> , 2009 , 79,	3.3	7
53	Trapped ultracold bosons in periodically modulated lattices. <i>Physical Review A</i> , 2011 , 84,	2.6	7
52	Simulating social-ecological systems: the Island Digital Ecosystem Avatars (IDEA) consortium. <i>GigaScience</i> , 2016 , 5, 14	7.6	7
51	Multiferroic Magnetic Spirals Induced by Random Magnetic Exchanges. <i>Physical Review X</i> , 2018 , 8,	9.1	6

50	Thermalization of strongly interacting bosons after spontaneous emissions in optical lattices. <i>EPJ Quantum Technology</i> , 2015 , 2,	6.9	6
49	Ramping fermions in optical lattices across a Feshbach resonance. <i>Physical Review A</i> , 2006 , 74,	2.6	6
48	Assessment of Quantum Annealing for the Construction of Satisfiability Filters. <i>SciPost Physics</i> , 2017 , 2,	6.1	6
47	Band Structure Extraction at Hybrid Narrow-Gap Semiconductor-Metal Interfaces. <i>Advanced Science</i> , 2021 , 8, 2003087	13.6	6
46	Quantum Monte Carlo annealing with multi-spin dynamics. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2017 , 2017, 053105	1.9	5
45	Influence of the trap shape on the detection of the superfluid-Mott-insulator transition. <i>Physical Review A</i> , 2008 , 78,	2.6	5
44	Publisher's Note: Local Stress and Superfluid Properties of Solid He4 [Phys. Rev. Lett. 101, 097202 (2008)]. <i>Physical Review Letters</i> , 2008 , 101,	7.4	5
43	Coral Reef Monitoring by Scuba Divers Using Underwater Photogrammetry and Geodetic Surveying. <i>Remote Sensing</i> , 2020 , 12, 3036	5	5
42	Are Generic Parallel Algorithms Feasible for Quantum Lattice Models?. <i>Lecture Notes in Computer Science</i> , 1999 , 164-169	0.9	5
41	Impact of strain on the electronic properties of InAs/GaSb quantum well systems. <i>Physical Review B</i> , 2017 , 95,	3.3	4
40	Effective models of doped quantum ladders of non-Abelian anyons. <i>Physical Review B</i> , 2016 , 93,	3.3	4
39	A bespoke single-band Hubbard model material. <i>Physical Review B</i> , 2016 , 93,	3.3	4
38	Infinite matrix product states versus infinite projected entangled-pair states on the cylinder: A comparative study. <i>Physical Review B</i> , 2017 , 96,	3.3	4
37	Identifying quantum topological phases through statistical correlation. <i>Physical Review B</i> , 2011 , 83,	3.3	4
36	Quantum Monte Carlo Simulation of Confined Bosonic Atoms in Optical Lattices. <i>Advances in Solid State Physics</i> , 2004 , 265-276		4
35	Equilibrium and Dynamical Properties of the Boson Hubbard Model in One Dimension. <i>Journal of Low Temperature Physics</i> , 2005 , 140, 313-332	1.3	4
34	Toward Quantum Computing for High-Energy Excited States in Molecular Systems: Quantum Phase Estimations of Core-Level States. <i>Journal of Chemical Theory and Computation</i> , 2021 , 17, 201-210	6.4	4
33	Automated design of pulse sequences for magnetic resonance fingerprinting using physics-inspired optimization. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	4

32	High-temperature series expansion for spin-1/2 Heisenberg models. <i>Computer Physics Communications</i> , 2017 , 212, 180-188	4.2	3
31	Dipolar dynamics for interacting ultracold fermions in a trapped optical lattice. <i>Physical Review A</i> , 2012 , 86,	2.6	3
30	Distinguishing phases with ansatz wave functions. <i>Physical Review B</i> , 2010 , 81,	3.3	3
29	Publisher's Note: Two-dimensional epitaxial superconductor-semiconductor heterostructures: A platform for topological superconducting networks [Phys. Rev. B 93, 155402 (2016)]. <i>Physical Review B</i> , 2016 , 93,	3.3	2
28	Publisher's Note: Collective States of Interacting Anyons, Edge States, and the Nucleation of Topological Liquids [Phys. Rev. Lett. 103, 070401 (2009)]. <i>Physical Review Letters</i> , 2009 , 103,	7.4	2
27	Quantum Monte Carlo Simulations 2009 ,		2
26	Continuous-time quantum impurity solvers. <i>Physics Procedia</i> , 2010 , 6, 31-34		2
25	Self-consistent simulation of quantum wires defined by local oxidation of Ga(Al)As heterostructures. <i>Physical Review B</i> , 2007 , 76,	3.3	2
24	A Renormalization Approach to Simulations of Quantum Effects in Nanoscale Magnetic Systems. <i>Multiscale Modeling and Simulation</i> , 2005 , 4, 237-249	1.8	2
23	Embedding Overhead Scaling of Optimization Problems in Quantum Annealing. <i>PRX Quantum</i> , 2021 , 2,	6.1	2
22	Assertion-based optimization of Quantum programs 2020 , 4, 1-20		2
21	Distributed quantum computing with QMPI 2021 ,		2
20	Advantages of a modular high-level quantum programming framework. <i>Microprocessors and Microsystems</i> , 2019 , 66, 81-89	2.4	1
19	Density functional theory versus quantum Monte Carlo simulations of Fermi gases in the optical-lattice arena. <i>European Physical Journal B</i> , 2018 , 91, 1	1.2	1
18	Topological phases: An expedition off lattice. <i>Annals of Physics</i> , 2011 , 326, 2108-2137	2.5	1
17	The role of defects in Supersolid Helium-4. <i>Physics Procedia</i> , 2010 , 7, 80-84		1
16	Self-Consistent potential calculation for locally oxidized Ga[Al]As heterostructures. <i>Journal of Computer-Aided Materials Design</i> , 2007 , 14, 91-96		1
15	Absence of a structural glass phase in a monatomic model liquid predicted to undergo an ideal glass transition. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007 , 2007, P09011-P09011	1.9	1

- 14 Effective charging energy of the single-electron box. *Journal of Statistical Mechanics: Theory and Experiment*, **2005**, 2005, P01003 1.9 1
- 13 A massively parallel particle-in-cell code for the simulation of field-emitter based electron sources. *Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, **2006**, 558, 154-158 1.2 1
- 12 Dynamical properties and the phase diagram of the projected SO(5)-symmetric model of high-Tc superconductors. *Journal of Physics and Chemistry of Solids*, **2002**, 63, 1365-1370 3.9 1
- 11 VLI DA Library for High Precision Integer and Polynomial Arithmetic. *Lecture Notes in Computer Science*, **2013**, 267-278 0.9 1
- 10 Thermodynamics of the Hubbard model on stacked honeycomb and square lattices. *European Physical Journal B*, **2016**, 89, 1 1.2 1
- 9 Fermionic and Continuous Time Quantum Monte Carlo. *Springer Series in Solid-state Sciences*, **2013**, 293-319 3.9 1
- 8 Comment on "Exact bosonization for an interacting fermi gas in arbitrary dimensions". *Physical Review Letters*, **2010**, 105, 159701; author reply 159702 7.4
- 7 ENCORE: An extended contractor renormalization algorithm. *Physical Review E*, **2009**, 79, 046712 2.4
- 6 Object-Oriented C++ Class Library for Many Body Physics on Finite Lattices and a First Application to High-Temperature Superconductivity **2003**, 307-326
- 5 A Nonmagnetic Impurity in a Quantum Critical Spin System. *Progress of Theoretical Physics Supplement*, **2002**, 145, 349-352
- 4 Why do we need numerical methods for constrained fermion systems?. *Journal of Low Temperature Physics*, **1995**, 99, 505-507 1.3
- 3 Plaquette resonating-valence-bond ground state of CaV4O9. *European Physical Journal D*, **1996**, 46, 1903-1904
- 2 Universality in Two-Dimensional Quantum Heisenberg Antiferromagnets **2001**, 193-202
- 1 Destruction of Superfluid and Long Range Order by Impurities in Two Dimensional Systems **2002**, 119-130