

Steven R White

List of Publications by Year in descending order

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189
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189
times ranked

8288
citing authors

#	ARTICLE	IF	CITATIONS
1	Density matrix formulation for quantum renormalization groups. Physical Review Letters, 1992, 69, 2863-2866.	2.9	5,680
2	Density-matrix algorithms for quantum renormalization groups. Physical Review B, 1993, 48, 10345-10356.	1.1	2,508
3	Real-Time Evolution Using the Density Matrix Renormalization Group. Physical Review Letters, 2004, 93, 076401.	2.9	1,044
4	Spin-Liquid Ground State of the $\langle i \rangle S \langle i \rangle = 1/2$ Kagome Heisenberg Antiferromagnet. Science, 2011, 332, 1173-1176.	6.0	975
5	Conserving Approximations for Strongly Correlated Electron Systems: Bethe-Salpeter Equation and Dynamics for the Two-Dimensional Hubbard Model. Physical Review Letters, 1989, 62, 961-964.	2.9	825
6	Numerical study of the two-dimensional Hubbard model. Physical Review B, 1989, 40, 506-516.	1.1	782
7	Sign problem in the numerical simulation of many-electron systems. Physical Review B, 1990, 41, 9301-9307.	1.1	581
8	Numerical renormalization-group study of low-lying eigenstates of the antiferromagnetic $S=1$ Heisenberg chain. Physical Review B, 1993, 48, 3844-3852.	1.1	526
9	Dimerization and incommensurate spiral spin correlations in the zigzag spin chain: Analogies to the Kondo lattice. Physical Review B, 1996, 54, 9862-9869.	1.1	478
10	Density Matrix Renormalization Group Study of the Striped Phase in the $2D t^* J$ Model. Physical Review Letters, 1998, 80, 1272-1275.	2.9	443
11	Ab initio quantum chemistry using the density matrix renormalization group. Journal of Chemical Physics, 1999, 110, 4127-4130.	1.2	437
12	Solutions of the Two-Dimensional Hubbard Model: Benchmarks and Results from a Wide Range of Numerical Algorithms. Physical Review X, 2015, 5, .	2.8	398
13	Insulator, metal, or superconductor: The criteria. Physical Review B, 1993, 47, 7995-8007.	1.1	377
14	Resonating Valence Bond Theory of Coupled Heisenberg Chains. Physical Review Letters, 1994, 73, 886-889.	2.9	372
15	Stripe order in the underdoped region of the two-dimensional Hubbard model. Science, 2017, 358, 1155-1160.	6.0	368
16	One-dimensional Bose-Hubbard model with nearest-neighbor interaction. Physical Review B, 2000, 61, 12474-12489.	1.1	328
17	Studying Two-Dimensional Systems with the Density Matrix Renormalization Group. Annual Review of Condensed Matter Physics, 2012, 3, 111-128.	5.2	280
18	Conserving approximations for strongly fluctuating electron systems. II. Numerical results and parquet extension. Physical Review B, 1991, 43, 8044-8064.	1.1	270

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19	Ne ∞ I Order in Square and Triangular Lattice Heisenberg Models. Physical Review Letters, 2007, 99, 127004.	2.9	263
20	Phase diagram of the two-dimensional negative-U Hubbard model. Physical Review Letters, 1989, 62, 1407-1410.	2.9	251
21	Real-space quantum renormalization groups. Physical Review Letters, 1992, 68, 3487-3490.	2.9	237
22	Correlations in a Two-Chain Hubbard Model. Physical Review Letters, 1994, 73, 882-885.	2.9	233
23	Finite-temperature density matrix renormalization using an enlarged Hilbert space. Physical Review B, 2005, 72, .	1.1	232
24	Dynamical correlation functions using the density matrix renormalization group. Physical Review B, 1999, 60, 335-343.	1.1	225
25	Density-matrix renormalization-group study of the polaron problem in the Holstein model. Physical Review B, 1998, 57, 6376-6385.	1.1	210
26	Superfluid density and the Drude weight of the Hubbard model. Physical Review Letters, 1992, 68, 2830-2833.	2.9	204
27	Energetics of Domain Walls in the 2D $t\text{-}J$ Model. Physical Review Letters, 1998, 81, 3227-3230.	2.9	192
28	Measuring orbital interaction using quantum information theory. Chemical Physics, 2006, 323, 519-531.	0.9	192
29	Attractive and repulsive pairing interaction vertices for the two-dimensional Hubbard model. Physical Review B, 1989, 39, 839-842.	1.1	190
30	Minimally entangled typical thermal state algorithms. New Journal of Physics, 2010, 12, 055026.	1.2	181
31	Density matrix renormalization group algorithms with a single center site. Physical Review B, 2005, 72, .	1.1	180
32	Numerical study of the two-dimensional Hubbard model for various band fillings. Physical Review B, 1990, 41, 2313-2320.	1.1	178
33	Towards the Solution of the Many-Electron Problem in Real Materials: Equation of State of the Hydrogen Chain with State-of-the-Art Many-Body Methods. Physical Review X, 2017, 7, .	2.8	171
34	Disorder-Induced Mimicry of a Spin Liquid in YbMgGaO . Physical Review Letters, 2017, 119, 157201.	2.9	170
35	Minimally Entangled Typical Quantum States at Finite Temperature. Physical Review Letters, 2009, 102, 190601.	2.9	167
36	Spin liquid phase of the $S=1$ model on the triangular lattice. Physical Review B, 2015, 92, .	1.1	164

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37	Spin Gaps in a Frustrated Heisenberg Model for CaV ₄ O ₉ . Physical Review Letters, 1996, 77, 3633-3636.	2.9	162
38	Competition between stripes and pairing in $t\hat{t}\hat{t}\hat{t}\hat{t}$ model. Physical Review B, 1999, 60, R753-R756.	1.1	161
39	Stripes in the two-dimensional $t\hat{t}\hat{t}\hat{t}\hat{t}$ model with infinite projected entangled-pair states. Physical Review B, 2011, 84, .	1.1	160
40	Spectral functions in one-dimensional quantum systems at finite temperature using the density matrix renormalization group. Physical Review B, 2009, 79, .	1.1	145
41	Hole and pair structures in the t - J model. Physical Review B, 1997, 55, 6504-6517.	1.1	142
42	Antiferromagnetic, charge-transfer, and pairing correlations in the three-band Hubbard model. Physical Review B, 1991, 44, 770-781.	1.1	141
43	Friedel oscillations and charge density waves in chains and ladders. Physical Review B, 2002, 65, .	1.1	138
44	Dynamical Spin Structure Factor for the Anisotropic Spin-1/2 Heisenberg Chain. Physical Review Letters, 2006, 96, 257202.	2.9	138
45	Molecular dynamics and spectra. II. Diatomic Raman. Journal of Chemical Physics, 1981, 75, 515-529.	1.2	130
46	Finite-element method for electronic structure. Physical Review B, 1989, 39, 5819-5833.	1.1	129
47	Time-step targeting methods for real-time dynamics using the density matrix renormalization group. Physical Review B, 2005, 72, .	1.1	127
48	Equivalence of the antiferromagnetic Heisenberg ladder to a single $S=1$ chain. Physical Review B, 1996, 53, 52-55.	1.1	125
49	Phase separation and stripe formation in the two-dimensional $t\hat{t}\hat{t}\hat{t}$ model: A comparison of numerical results. Physical Review B, 2000, 61, 6320-6326.	1.1	124
50	Spectral function for the $S=1$ Heisenberg antiferromagnetic chain. Physical Review B, 2008, 77, .	1.1	124
51	Absence of Superconductivity in the Pure Two-Dimensional Hubbard Model. Physical Review X, 2020, 10, .	2.8	123
52	Matrix product operators, matrix product states, and <i>ab initio</i> density matrix renormalization group algorithms. Journal of Chemical Physics, 2016, 145, 014102.	1.2	121
53	Quasiparticle dispersion in the cuprate superconductors and the two-dimensional Hubbard model. Physical Review B, 1994, 50, 7215-7218.	1.1	117
54	Exact Edge Singularities and Dynamical Correlations in Spin- $1/2$ Heisenberg Chains. Physical Review Letters, 2008, 100, 027206.	2.9	105

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55	Topography of Spin Liquids on a Triangular Lattice. <i>Physical Review Letters</i> , 2018, 120, 207203.	2.9	104
56	Numerical renormalization group study of the one-dimensional Kondo insulator. <i>Physical Review Letters</i> , 1993, 71, 3866-3869.	2.9	103
57	Density Matrix Approach to Local Hilbert Space Reduction. <i>Physical Review Letters</i> , 1998, 80, 2661-2664.	2.9	103
58	Numerical canonical transformation approach to quantum many-body problems. <i>Journal of Chemical Physics</i> , 2002, 117, 7472-7482.	1.2	99
59	Comparison of Monte Carlo and diagrammatic calculations for the two-dimensional Hubbard model. <i>Physical Review B</i> , 1993, 47, 2742-2753.	1.1	98
60	The ground state of the two-leg Hubbard ladder a density-matrix renormalization group study. <i>Physica C: Superconductivity and Its Applications</i> , 1996, 270, 281-296.	0.6	96
61	Weak Plaquette Valence Bond Order in the $S=1/2$ Honeycomb J_1 - J_2 Heisenberg Model. <i>Physical Review Letters</i> , 2013, 110, 127205.	2.9	96
62	One-electron spectral weight of the doped two-dimensional Hubbard model. <i>Physical Review Letters</i> , 1994, 72, 705-708.	2.9	95
63	Electronic Properties of the Insulating Half-Filled Hubbard Model. <i>Physical Review Letters</i> , 1994, 73, 748-751.	2.9	92
64	Spectral function of spinless fermions on a one-dimensional lattice. <i>Physical Review B</i> , 2009, 79, .	1.1	90
65	Field-induced drift and trapping in percolation networks. <i>Journal of Physics A</i> , 1984, 17, 2995-3008.	1.6	89
66	Metal-insulator transition in the one-dimensional Holstein model at half filling. <i>Physical Review B</i> , 1999, 60, 7950-7955.	1.1	89
67	Full-CI quantum chemistry using the density matrix renormalization group. <i>International Journal of Quantum Chemistry</i> , 2000, 79, 331-342.	1.0	88
68	Strongly correlated electron systems and the density matrix renormalization group. <i>Physics Reports</i> , 1998, 301, 187-204.	10.3	84
69	Stripes on a 6-Leg Hubbard Ladder. <i>Physical Review Letters</i> , 2003, 91, 136403.	2.9	84
70	Molecular superfluid phase in systems of one-dimensional multicomponent fermionic cold atoms. <i>Physical Review A</i> , 2008, 77, .	1.0	83
71	Pure density functional for strong correlation and the thermodynamic limit from machine learning. <i>Physical Review B</i> , 2016, 94, .	1.1	83
72	Monte Carlo calculation of dynamical properties of the two-dimensional Hubbard model. <i>Physical Review Letters</i> , 1989, 63, 1523-1526.	2.9	82

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91	Effective particle-particle interaction in the two-dimensional Hubbard model. Physical Review B, 1993, 47, 6157-6160.	1.1	56
92	Pseudogap formation in the half-filled Hubbard model. Physical Review B, 1993, 47, 1160-1163.	1.1	55
93	Phases of the Infinite U Hubbard Model on Square Lattices. Physical Review Letters, 2012, 108, 126406.	2.9	55
94	Real-space parallel density matrix renormalization group. Physical Review B, 2013, 87, .	1.1	55
95	Ground-state properties of the doped three-leg ladder. Physical Review B, 1998, 57, 3031-3037.	1.1	51
96	Bethe-Salpeter eigenvalues and amplitudes for the half-filled two-dimensional Hubbard model. Physical Review B, 1993, 47, 14599-14602.	1.1	49
97	Comparison of different ladder models. Physical Review B, 1998, 58, 9492-9497.	1.1	48
98	Diamagnetism of doped two-leg ladders and probing the nature of their commensurate phases. Physical Review B, 2007, 76, .	1.1	47
99	Pairing Correlations on t - U Ladders. Physical Review Letters, 2000, 84, 4188-4191.	2.9	46
100	Plaquette versus ordinary d -wave pairing in the t - J Hubbard model on a width-4 cylinder. Physical Review B, 2020, 102, .	1.1	43
101	Ground-State Properties of the Hydrogen Chain: Dimerization, Insulator-to-Metal Transition, and Magnetic Phases. Physical Review X, 2020, 10, .	2.8	42
102	Density matrix renormalization group analysis of the Nagaoka polaron in the two-dimensional t - J model. Physical Review B, 2001, 64, .	1.1	40
103	Ground-state phase diagram of the t - J model. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	40
104	Ab initio infrared and Raman spectra. Journal of Chemical Physics, 1983, 78, 7077-7092.	1.2	39
105	Guaranteed Convergence of the Kohn-Sham Equations. Physical Review Letters, 2013, 111, 093003.	2.9	39
106	Kohn-Sham calculations with the exact functional. Physical Review B, 2014, 90, .	1.1	39
107	Compression of correlation matrices and an efficient method for forming matrix product states of fermionic Gaussian states. Physical Review B, 2015, 92, .	1.1	38
108	Ground states of the doped four-leg t - J ladder. Physical Review B, 1997, 55, R14701-R14704.	1.1	37

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109	Stripe orientation in an anisotropic $t\text{-}J$ model. Physical Review B, 2001, 64, .	1.1	35
110	Quasiparticle gap in a two-dimensional Kosterlitz-Thouless superconductor. Physical Review B, 1992, 45, 7544-7546.	1.1	32
111	Formation of gaps in the two-dimensional half-filled Hubbard model. Physical Review B, 1992, 46, 5678-5685.	1.1	31
112	Unexpected z -Direction Ising Antiferromagnetic Order in a Frustrated Spin-1 $t\text{-}J$ Model. Physical Review Letters, 2017, 118, 057201.	2.9	31
113	Stripes, Antiferromagnetism, and the Pseudogap in the Doped Hubbard Model at Finite Temperature. Physical Review X, 2021, 11, .	2.8	31
114	Spin-Liquid versus Dimerized Ground States in a Frustrated Heisenberg Antiferromagnet. Physical Review Letters, 2004, 93, 177004.	2.9	30
115	Checkerboard patterns in the $t\text{-}J$ model. Physical Review B, 2004, 70, .	1.1	30
116	Stripe structures in the $t\text{-}t'$ - J model. Physica C: Superconductivity and Its Applications, 2012, 481, 146-152.	0.6	30
117	Doping asymmetry and striping in a three-orbital $t\text{-}t'$ - J model. Physical Review B, 2015, 92, .	1.1	30
118	Dimer-hole-RVB state of the two-leg $t\text{-}J$ ladder: A recurrent variational ansatz. Physical Review B, 1998, 57, 11666-11673.	1.1	28
119	Stripes in a three-chain Hubbard ladder: A comparison of density-matrix renormalization group and constrained-path Monte Carlo results. Physical Review B, 2000, 61, 3251-3254.	1.1	28
120	Stripe as an effective one-dimensional band of composite excitations. Physical Review B, 2002, 65, .	1.1	28
121	One-dimensional mimicking of electronic structure: The case for exponentials. Physical Review B, 2015, 91, .	1.1	28
122	Sliced Basis Density Matrix Renormalization Group for Electronic Structure. Physical Review Letters, 2017, 119, 046401.	2.9	28
123	Bosonic model of hole pairs. Physical Review B, 2001, 63, .	1.1	27
124	Charge dynamics in half-filled Hubbard chains with finite on-site interaction. Physical Review B, 2012, 85, .	1.1	27
125	Comment on "Stripes and $t\text{-}J$ Model". Physical Review Letters, 2000, 84, 3021-3021.	2.9	26
126	Evolution of the spin gap upon doping a 2-leg ladder. Physical Review B, 2000, 62, R14633-R14636.	1.1	26

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127	Rung-rung current correlations on a 2-leg ladder. Physical Review B, 2001, 64, .	1.1	24
128	Fermion simulations in systems with negative weights. Physical Review B, 1988, 37, 5024-5031.	1.1	23
129	Phase separation in ladders. Physical Review B, 2000, 61, 13424-13430.	1.1	23
130	Enhanced pairing in the checkerboard Hubbard ladder. Physical Review B, 2011, 83, .	1.1	23
131	Diagonal ladders: A class of models for strongly coupled electron systems. Physical Review B, 1999, 59, 7973-7989.	1.1	22
132	Numerical Results for the Hubbard Model: Implications for the High Tc Pairing Mechanism. Foundations of Physics, 2001, 31, 27-39.	0.6	22
133	Hybrid grid/basis set discretizations of the Schrödinger equation. Journal of Chemical Physics, 2017, 147, 244102.	1.2	22
134	Methods for Time Dependence in DMRG. AIP Conference Proceedings, 2006, , .	0.3	21
135	Resonant magnetic mode in superconducting two-leg ladders. Physical Review B, 2004, 69, .	1.1	20
136	Density matrix renormalization group algorithms for Y-junctions. Physical Review B, 2006, 74, .	1.1	19
137	Gastrostomy tube placement is safe in advanced amyotrophic lateral sclerosis. Neurological Research, 2017, 39, 16-22.	0.6	19
138	Comment on "Kagome Lattice Antiferromagnet Stripped to Its Basics". Physical Review Letters, 2000, 85, 3330-3330.	2.9	18
139	NUMERICAL STABILITY AND THE SIGN PROBLEM IN THE DETERMINANT QUANTUM MONTE CARLO METHOD. International Journal of Modern Physics C, 2005, 16, 1319-1327.	0.8	16
140	Representation and design of wavelets using unitary circuits. Physical Review A, 2018, 97, .	1.0	16
141	Renormalization-group approach for electronic structure. Physical Review Letters, 1986, 56, 412-415.	2.9	15
142	Space Group Symmetry Fractionalization in a Chiral Kagome Heisenberg Antiferromagnet. Physical Review Letters, 2016, 116, 197203.	2.9	15
143	Comb tensor networks. Physical Review B, 2019, 99, .	1.1	15
144	Numerical renormalization group for finite Hubbard lattices. Physical Review B, 1992, 45, 5752-5755.	1.1	13

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145	Numerical study of the spectral weight function for the half-filled two-dimensional Hubbard model. <i>Physical Review B</i> , 1992, 46, 8691-8693.	1.1	13
146	Doped two-leg ladder with ring exchange: Exact diagonalization and density matrix renormalization group computations. <i>Physical Review B</i> , 2005, 72, .	1.1	13
147	Quantum phases of the frustrated XY models on the honeycomb lattice. <i>Modern Physics Letters B</i> , 2014, 28, 1430016.	1.0	12
148	Discontinuous Galerkin discretization for quantum simulation of chemistry. <i>New Journal of Physics</i> , 2020, 22, 093015.	1.2	12
149	Physical pictures of the pairing interaction in the Hubbard model. <i>Journal of Superconductivity and Novel Magnetism</i> , 1994, 7, 571-575.	0.5	11
150	Ground-state properties of the two-chain Hubbard ladder. <i>The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties</i> , 1996, 74, 485-496.	0.6	11
151	Spin-fluctuation mediated interaction in the two-dimensional Hubbard model. <i>Physica C: Superconductivity and Its Applications</i> , 1995, 246, 85-94.	0.6	10
152	Cooper-pair transport through a Hubbard chain sandwiched between two superconductors: Density matrix renormalization group calculations. <i>Physical Review B</i> , 2007, 75, .	1.1	10
153	Electronic quasiparticles in the quantum dimer model: Density matrix renormalization group results. <i>Physical Review B</i> , 2016, 94, .	1.1	10
154	Transition between hole pairs and four-hole clusters in four-leg ladders. <i>Physical Review B</i> , 2002, 65, .	1.1	9
155	Binding of Holons and Spinons in the One-Dimensional Anisotropic t^2J Model. <i>Physical Review Letters</i> , 2007, 98, 266401.	2.9	9
156	Density matrix renormalization group calculations for doped Hubbard ladders. <i>Journal of Low Temperature Physics</i> , 1995, 99, 593-598.	0.6	8
157	TRIONIC AND QUARTETTING PHASES IN ONE-DIMENSIONAL MULTICOMPONENT ULTRACOLD FERMIONS. <i>International Journal of Modern Physics E</i> , 2008, 17, 2110-2117.	0.4	8
158	Bypassing the Energy Functional in Density Functional Theory: Direct Calculation of Electronic Energies from Conditional Probability Densities. <i>Physical Review Letters</i> , 2020, 125, 266401.	2.9	8
159	t^2J model in one dimension using extremely correlated Fermi-liquid theory and time-dependent density matrix renormalization group. <i>Physical Review B</i> , 2018, 98, .	1.1	7
160	Spinon-holon interactions in an anisotropic t^2J chain: A comprehensive study. <i>Physical Review B</i> , 2007, 76, .	1.1	6
161	Matrix product state recursion methods for computing spectral functions of strongly correlated quantum systems. <i>Physical Review B</i> , 2021, 103, .	1.1	6
162	Full CI quantum chemistry using the density matrix renormalization group. <i>International Journal of Quantum Chemistry</i> , 2000, 79, 331-342.	1.0	6

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163	Li-Induced Spin and Charge Excitations in a Spin Ladder. <i>Physical Review Letters</i> , 2002, 88, 257201.	2.9	5
164	Boson decay and the dynamical structure factor for the XXZ chain at finite magnetic field. <i>Physica B: Condensed Matter</i> , 2008, 403, 1520-1522.	1.3	5
165	Hubbard-model description of the high-energy spin-weight distribution in La ₂ CuO ₄ . <i>Physical Review B</i> , 2012, 86, .	1.1	5
166	Density-matrix-renormalization-group study of a one-dimensional diatomic molecule beyond the Born-Oppenheimer approximation. <i>Physical Review A</i> , 2019, 99, .	1.0	5
167	Tell-tale topology. <i>Nature Physics</i> , 2012, 8, 863-864.	6.5	4
168	Hybrid gausslet/Gaussian basis sets. <i>Journal of Chemical Physics</i> , 2021, 155, 184107.	1.2	4
169	Conditional probability density functional theory. <i>Physical Review B</i> , 2022, 105, .	1.1	4
170	Numerical simulations: some results for the 2- and 3-D Hubbard models and a 2-D electron phonon model. <i>Physica Scripta</i> , 1989, T27, 101-106.	1.2	3
171	The Density Matrix Renormalization Group. , 1999, , 27-66.		3
172	n-Leg ladders: dx ² -y ² pairing and striped domain walls. <i>Physica C: Superconductivity and Its Applications</i> , 2000, 341-348, 367-370.	0.6	3
173	Constructing Hubbard models for the hydrogen chain using sliced-basis density matrix renormalization group. <i>Physical Review B</i> , 2022, 105, .	1.1	3
174	The interplay of the Kondo effect and RKKY interactions in the one-dimensional Kondo insulator. <i>Physica B: Condensed Matter</i> , 1994, 199-200, 454-456.	1.3	2
175	Charge stripe in an antiferromagnet: 1d band of composite excitations. <i>Physica B: Condensed Matter</i> , 2002, 312-313, 566-568.	1.3	2
176	Insulating states of correlated electrons. <i>Journal of Low Temperature Physics</i> , 1995, 99, 487-498.	0.6	1
177	Effect of the W term for at-U-W Hubbard ladder. <i>Physical Review B</i> , 2000, 61, 15526-15529.	1.1	1
178	Recent Developments in the DMRG applied to Quantum Chemistry. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	1
179	Spin-spectral-weight distribution and energy range of the parent compound La ₂ CuO ₄ . <i>Europhysics Letters</i> , 2012, 98, 67004.	0.7	1
180	Full-CI quantum chemistry using the density matrix renormalization group. , 2000, 79, 331.		1

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181	Full-CI quantum chemistry using the density matrix renormalization group. , 2000, 79, 331.		1
182	Notes on the density matrix renormalization group; Applications to ladder systems. , 1997, , 88-108.		0
183	Methods for electron-phonon systems. , 1999, , 337-344.		0
184	Electronic structure using DMRG. , 1999, , 237-246.		0
185	Dmrg Studies of Stripes and Pairing in the t-J Model. , 2001, , 141-150.		0