Thomas Papenbrock

List of Publications by Year
in descending order

145	7,224	44069 48	58581 82
papers	citations	h-index	g-index

147	147	147	2832
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Nuclear Charge Radii of the Nickel Isotopes <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Ni</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>58</mml:mn><mml:mo>â^’</mml:mo><mml:mn>68</mml:mn><mml:mo>,</mml:mo><mml:mn>70</mml:mn> Physical Review Letters, 2022, 128, 022502.	7.8	27
2	Universal trend of charge radii of even-even Caâ€“Zn nuclei. Physical Review C, 2022, 105, .	2.9	13
3	Nuclear charge radii of Na isotopes: Interplay of atomic and nuclear theory. Physical Review C, 2022, 105, .	2.9	6
4	Effective field theory of pairing rotations. Physical Review C, 2022, 105, .	2.9	3
5	Angular-momentum projection in coupled-cluster theory: Structure of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Mg</mml:mi><mml:mprescripts /><mml:none /><mml:mn>24</mml:mn></mml:mmultiscripts></mml:math>. Physical Review C, 2022, 105, .	2.9	21
6	Coupled-Cluster Calculations of Neutrinoless Double-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î²</mml:mi></mml:mrow></mml:math> Decay in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Ca</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>48</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></	7.8	32
7	Mass measurements of 99â€“101In challenge ab initio nuclear theory of the nuclide 100Sn. Nature Physics, 2021, 17, 1099-1103.	16.7	21
8	Charge radii of exotic potassium isotopes challenge nuclear theory and the magic character of Nâ€‰=â€‰32. Nature Physics, 2021, 17, 439-443.	16.7	79
9	Proton inelastic scattering reveals deformation in 8He. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2021, 822, 136710.	4.1	14
10	Effective shell-model interaction for nuclei â€œsoutheastâ€•of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Sn</mml:mi><mml:mprescripts /><mml:none /><mml:mn>100</mml:mn></mml:mmultiscripts></mml:math>. Physical Review C, 2021, 104,	2.9	7
11	Accurate bulk properties of nuclei from <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:mo>=</mml:mo><mml:mn>2</mml:mn> to <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>âˆž</mml:mi></mml:math> from potentials with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="normal">Î”</mml:mi></mml:math>-isobars. Physical Review C, 2020, 102, .	2.9	65
12	Effective field theory for deformed odd-mass nuclei. Physical Review C, 2020, 102, .	2.9	7
13	Charge radii of exotic neon and magnesium isotopes. Physical Review C, 2020, 102, .	2.9	52
14	Two-Neutron Halo is Unveiled in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi mathvariant="normal">F</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>29</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2020, 124, 222504.	7.8	57
15	Preparation of excited states for nuclear dynamics on a quantum computer. Physical Review C, 2020, 102, .	2.9	32
16	Simulations of subatomic many-body physics on a quantum frequency processor. Physical Review A, 2019, 100, .	2.5	87
17	Low-energy bound states, resonances, and scattering of light ions. Physical Review C, 2019, 100, .	2.9	11
18	A doubly magic nucleus that has two faces. Nature, 2019, 569, 49-50.	27.8	2

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19	Discrepancy between experimental and theoretical Î²-decay rates resolved from first principles. Nature Physics, 2019, 15, 428-431.	16.7	195
20	Extrapolation of nuclear structure observables with artificial neural networks. Physical Review C, 2019, 100, .	2.9	32
21	Coherent elastic neutrino-nucleus scattering on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Ar</mml:mi><mml:mprescripts /><mml:none /><mml:mn>40</mml:mn></mml:mmultiscripts></mml:math> from first principles. Physical Review C, 2019, 100, .	2.9	37
22	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="normal">Î”</mml:mi></mml:math> isobars and nuclear saturation. Physical Review C, 2018, 97, .	2.9	66
23	Structure of the Lightest Tin Isotopes. Physical Review Letters, 2018, 120, 152503.	7.8	157
24	Large-scale exact diagonalizations reveal low-momentum scales of nuclei. Physical Review C, 2018, 97, .	2.9	35
25	Shell-model coupled-cluster method for open-shell nuclei. Physical Review C, 2018, 98, .	2.9	21
26	Pion-less effective field theory for atomic nuclei and lattice nuclei. Physical Review C, 2018, 98, .	2.9	47
27	Cloud Quantum Computing of an Atomic Nucleus. Physical Review Letters, 2018, 120, 210501.	7.8	269
28	Computing the dipole polarizability of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Ca</mml:mi><mml:mprescripts /><mml:none /><mml:mn>48</mml:mn></mml:mmultiscripts></mml:math> with increased precision. Physical Review C, 2018, 98, .	2.9	23
29	Corrections to nucleon capture cross sections computed in truncated Hilbert spaces. Physical Review C, 2017, 95, .	2.9	6
30	Optical potential from first principles. Physical Review C, 2017, 95, .	2.9	71
31	Electric Dipole Polarizability of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Ca</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>48</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math> and Implications for the Neutron Skin. Physical Review Letters, 2017, 118, 252501.	7.8	130
32	Electric dipole polarizability: from few- to many-body systems. EPJ Web of Conferences, 2016, 113, 04007.	0.3	1
33	Effective field theory for deformed atomic nuclei. Physica Scripta, 2016, 91, 053004.	2.5	8
34	Electric dipole polarizability from first principles calculations. Physical Review C, 2016, 94, .	2.9	35
35	Effective field theory for vibrations in odd-mass nuclei. Physical Review C, 2016, 94, .	2.9	12
36	Emergent properties of nuclei fromab initiocoupled-cluster calculations. Physica Scripta, 2016, 91, 063006.	2.5	59

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37	Infrared extrapolations of quadrupole moments and transitions. Physical Review C, 2016, 93, .	2.9	21
38	Effective field theory in the harmonic oscillator basis. Physical Review C, 2016, 93, .	2.9	20
39	Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>Ni</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>78</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>from First Principles Computations. Physical Review Letters, 2016, 117, 172501.	7.8	108
40	Unexpectedly large charge radii of neutron-rich calcium isotopes. Nature Physics, 2016, 12, 594-598.	16.7	257
41	Neutron and weak-charge distributions of the 48CaÂnucleus. Nature Physics, 2016, 12, 186-190.	16.7	268
42	Effective theory for the nonrigid rotor in an electromagnetic field: Toward accurate and precise calculations ofE2transitions in deformed nuclei. Physical Review C, 2015, 92, .	2.9	18
43	Effective field theory for nuclear vibrations with quantified uncertainties. Physical Review C, 2015, 92, .	2.9	39
44	Accurate nuclear radii and binding energies from a chiral interaction. Physical Review C, 2015, 91, .	2.9	354
45	Infrared length scale and extrapolations for the no-core shell model. Physical Review C, 2015, 91, .	2.9	57
46	Effective field theory of emergent symmetry breaking in deformed atomic nuclei. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 105103.	3.6	11
47	Infrared extrapolations for atomic nuclei. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 034032.	3.6	34
48	Effects of Three-Nucleon Forces and Two-Body Currents on Gamow-Teller Strengths. Physical Review Letters, 2014, 113, 262504.	7.8	51
49	Giant and pigmy dipole resonances in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">He</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>4</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>,<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">O</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>16</mml:mn></mml:m	2.9	52
50	Ultraviolet extrapolations in finite oscillator bases. Physical Review C, 2014, 90, .	2.9	41
51	Systematic expansion for infrared oscillator basis extrapolations. Physical Review C, 2014, 89, .	2.9	52
52	Coupled-cluster calculations of nucleonic matter. Physical Review C, 2014, 89, .	2.9	162
53	Coupling the Lorentz Integral Transform (LIT) and the Coupled Cluster (CC) Methods: A Way Towards Continuum Spectra of â€œNot-So-Few-Bodyâ€•Systems. Few-Body Systems, 2014, 55, 907-911.	1.5	4
54	Effective field theory for finite systems with spontaneously broken symmetry. Physical Review C, 2014, 89, .	2.9	31

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55	Coupled-cluster computations of atomic nuclei. Reports on Progress in Physics, 2014, 77, 096302.	20.1	368
56	Computational nuclear quantum many-body problem: The UNEDF project. Computer Physics Communications, 2013, 184, 2235-2250.	7.5	52
57	Rotational constants of multi-phonon bands in an effective theory for deformed nuclei. Physical Review C, 2013, 87, .	2.9	9
58	Universal properties of infrared oscillator basis extrapolations. Physical Review C, 2013, 87, .	2.9	79
59	Optimized Chiral Nucleon-Nucleon Interaction at Next-to-Next-to-Leading Order. Physical Review Letters, 2013, 110, 192502.	7.8	267
60	First Principles Description of the Giant Dipole Resonance in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="bold">O</mml:mi><mml:mprescripts /><mml:none /><mml:mn>16</mml:mn></mml:mmultiscripts></mml:math>. Physical Review Letters, 2013, 111, 122502.	7.8	59
61	LIVING AT THE EDGE OF STABILITY: THE ROLE OF CONTINUUM AND THREE-NUCLEON FORCES. , 2013, , .		0
62	Occupation-number-based energy functional for nuclear masses. Physical Review C, 2012, 85, .	2.9	5
63	Continuum Effects and Three-Nucleon Forces in Neutron-Rich Oxygen Isotopes. Physical Review Letters, 2012, 108, 242501.	7.8	193
64	Condensates of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-Wave Pairs Are Exact Solutions for Rotating Two-Component Bose Gases. Physical Review Letters, 2012, 108, 075304.	7.8	6
65	Corrections to nuclear energies and radii in finite oscillator spaces. Physical Review C, 2012, 86, .	2.9	107
66	Evolution of Shell Structure in Neutron-Rich Calcium Isotopes. Physical Review Letters, 2012, 109, 032502.	7.8	231
67	Time-dependent coupled-cluster method for atomic nuclei. Physical Review C, 2012, 86, .	2.9	32
68	Effective theory for deformed nuclei. Nuclear Physics A, 2011, 852, 36-60.	1.5	31
69	Exploring the anomaly in the interaction cross section and matter radius of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>23</mml:mn></mml:msup></mml:math>O. Physical Review C, 2011, 84, .	2.9	52
70	Chaos in fermionic many-body systems and the metal-insulator transition. Physical Review E, 2011, 83, 031130.	2.1	7
71	Toward open-shell nuclei with coupled-cluster theory. Physical Review C, 2011, 83, .	2.9	53
72	Computation of spectroscopic factors with the coupled-cluster method. Physical Review C, 2010, 82, .	2.9	18

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73	Ab initioComputation of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="bold">F</mml:mi><mml:mprescripts /><mml:none /><mml:mn>17</mml:mn></mml:mmultiscripts></mml:math>Proton Halo State and Resonances in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>A</mml:mi><mml:mo>=</mml:mo><mml:mn>17</mml:mn></mml:math>Nuclei. Physical Review Letters, 2010, 104, 182501.	7.8	60
74	Orbital Dependent Nucleonic Pairing in the Lightest Known Isotopes of Tin. Physical Review Letters, 2010, 105, 162502.	7.8	98
75	Ab initiocoupled-cluster approach to nuclear structure with modern nucleon-nucleon interactions. Physical Review C, 2010, 82, .	2.9	183
76	Ab initiocomputation of neutron-rich oxygen isotopes. Physical Review C, 2009, 80, .	2.9	54
77	Solution of the Center-Of-Mass Problem in Nuclear Structure Calculations. Physical Review Letters, 2009, 103, 062503.	7.8	78
78	Helium halo nuclei from low-momentum interactions. European Physical Journal A, 2009, 42, 553.	2.5	29
79	Computational aspects of nuclear coupled-cluster theory. Computational Science & Discovery, 2008, 1, 015008.	1.5	1
80	PREPONDERANCE OF GROUND STATES WITH POSITIVE PARITY. International Journal of Modern Physics E, 2008, 17, 286-291.	1.0	0
81	Energy functional for the three-level Lipkin model. Physical Review C, 2008, 78, .	2.9	8
82	Abundance of ground states with positive parity. Physical Review C, 2008, 78, .	2.9	10
83	Medium-Mass Nuclei from Chiral Nucleon-Nucleon Interactions. Physical Review Letters, 2008, 101, 092502.	7.8	147
84	Comment on â€œAbÂinitioStudy ofCa40with an Importance-Truncated No-Core Shell Modelâ€• Physical Review Letters, 2008, 101, 119201; author reply 119202.	7.8	14
85	Bouncing ball orbits and symmetry breaking effects in a three-dimensional chaotic billiard. Physical Review E, 2008, 77, 046221.	2.1	5
86	AB-INITIO COUPLED CLUSTER THEORY FOR OPEN QUANTUM SYSTEMS. , 2008, , .		0
87	COUPLED-CLUSTER APPROACH TO AN AB-INITIO DESCRIPTION OF NUCLEI. , 2008, , .		0
88	Benchmark calculations forH3,He4,O16, andCa40withab initiocoupled-cluster theory. Physical Review C, 2007, 76, .	2.9	83
89	Density-functional theory for the pairing Hamiltonian. Physical Review C, 2007, 75, .	2.9	11
90	Coupled-cluster theory for three-body Hamiltonians. Physical Review C, 2007, 76, .	2.9	147

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91	Complex coupled-cluster approach to an ab-initio description of open quantum systems. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2007, 656, 169-173.	4.1	80
92	Colloquium: Random matrices and chaos in nuclear spectra. Reviews of Modern Physics, 2007, 79, 997-1013.	45.6	97
93	Level repulsion in constrained Gaussian random-matrix ensembles. Journal of Physics A, 2006, 39, 9709-9726.	1.6	6
94	COUPLED-CLUSTER THEORY FOR NUCLEI. , 2006, , .		0
95	Density-functional theory for fermions close to the unitary regime. Physical Review A, 2006, 74, .	2.5	28
96	Two-body random ensemble in nuclei. Physical Review C, 2006, 73, .	2.9	27
97	TWO-BODY RANDOM ENSEMBLE FOR NUCLEI. International Journal of Modern Physics E, 2006, 15, 1885-1895.	1.0	1
98	COUPLED-CLUSTER THEORY FOR NUCLEI. International Journal of Modern Physics B, 2006, 20, 5338-5345.	2.0	4
99	COUPLED CLUSTER APPROACHES TO NUCLEI, GROUND STATES AND EXCITED STATES. , 2005, , .		0
100	Nuclear Structure Calculations with Coupled Cluster Methods from Quantum Chemistry. Nuclear Physics A, 2005, 752, 299-308.	1.5	16
101	Origin of chaos in the spherical nuclear shell model: Role of symmetries. Nuclear Physics A, 2005, 757, 422-438.	1.5	20
102	Wave function factorization of shell-model ground states. European Physical Journal A, 2005, 25, 507-508.	2.5	0
103	Ab initio coupled cluster calculations for nuclei using methods of quantum chemistry. European Physical Journal A, 2005, 25, 485-488.	2.5	3
104	Density matrix renormalization group and wavefunction factorization for nuclei. Journal of Physics G: Nuclear and Particle Physics, 2005, 31, S1377-S1383.	3.6	22
105	Bridging quantum chemistry and nuclear structure theory: Coupled-cluster calculations for closed- and open-shell nuclei. AIP Conference Proceedings, 2005, , .	0.4	3
106	Geometric aspects of the shell model. AIP Conference Proceedings, 2005, , .	0.4	1
107	Density-functional theory for fermions in the unitary regime. Physical Review A, 2005, 72, .	2.5	53
108	Coupled-cluster calculations for ground and excited states of closed- and open-shell nuclei using methods of quantum chemistry. Journal of Physics G: Nuclear and Particle Physics, 2005, 31, S1291-S1299.	3.6	8

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109	Ab-InitioCoupled-Cluster Study ofO16. Physical Review Letters, 2005, 94, 212501.	7.8	100
110	Ab initio coupled cluster calculations for nuclei using methods of quantum chemistry. , 2005, , 485-488.		0
111	Wave function factorization of shell-model ground states. , 2005, , 507-508.		0
112	Distribution of Spectral Widths and Preponderance of Spin-0 Ground States in Nuclei. Physical Review Letters, 2004, 93, 132503.	7.8	38
113	Solution of large scale nuclear structure problems by wave function factorization. Physical Review C, 2004, 69, .	2.9	22
114	Distribution of exchange energy in a bond-alternatingS=1quantum spin chain. Physical Review B, 2004, 69, .	3.2	18
115	Nuclear shell model frontiers. AIP Conference Proceedings, 2004, , .	0.4	0
116	Coupled Cluster Calculations of Ground and Excited States of Nuclei. Physical Review Letters, 2004, 92, 132501.	7.8	119
117	APPLICATION OF GROUND-STATE FACTORIZATION TO NUCLEAR STRUCTURE PROBLEMS. , 2004, , .		0
118	Density matrix renormalization group study of critical behavior of thespinâˆ’12alternating Heisenberg chain. Physical Review B, 2003, 68, .	3.2	29
119	Factorization of shell-model ground states. Physical Review C, 2003, 67, .	2.9	25
120	Ground-state properties of hard-core bosons in one-dimensional harmonic traps. Physical Review A, 2003, 67, .	2.5	66
121	Rate equations for sympathetic cooling of trapped bosons or fermions. Physical Review A, 2002, 65, .	2.5	8
122	Universal solutions for interacting bosons in one-dimensional harmonic traps. Physical Review A, 2002, 65, .	2.5	7
123	Experimental Test of a Trace Formula for a Chaotic Three-Dimensional Microwave Cavity. Physical Review Letters, 2002, 89, 064101.	7.8	44
124	Odd-even binding effect from random two-body interactions. Physical Review B, 2002, 65, .	3.2	30
125	Phases in weakly interacting finite Bose systems. Physical Review A, 2002, 65, .	2.5	7
126	Sympathetic cooling and growth of a Bose-Einstein condensate. Physical Review A, 2002, 66, .	2.5	6

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127	Exact solutions for interacting boson systems under rotation. Journal of Physics A, 2001, 34, 603-608.	1.6	11
128	Invariant manifolds and collective coordinates. Journal of Physics A, 2001, 34, 7423-7430.	1.6	2
129	Rotational spectra of weakly interacting Bose-Einstein condensates. Physical Review A, 2001, 63, .	2.5	46
130	A classical two-body Hamiltonian model and its mean field approximation. Nuclear Physics A, 2000, 665, 285-290.	1.5	0
131	Spin structure of many-body systems with two-body random interactions. Physical Review C, 2000, 63, .	2.9	31
132	Lyapunov exponents and Kolmogorov-Sinai entropy for a high-dimensional convex billiard. Physical Review E, 2000, 61, 1337-1341.	2.1	9
133	Collective and chaotic motion in self-bound many-body systems. Physical Review C, 2000, 61, .	2.9	8
134	Wave Function Structure in Two-Body Random Matrix Ensembles. Physical Review Letters, 2000, 84, 4553-4556.	7.8	41
135	Numerical study of a three-dimensional generalized stadium billiard. Physical Review E, 2000, 61, 4626-4628.	2.1	18
136	Quantization of a Billiard Model for Interacting Particles. Physical Review Letters, 2000, 84, 262-265.	7.8	17
137	Spectral correlations in the crossover transition from a superposition of harmonic oscillators to the Gaussian unitary ensemble. Physical Review E, 1999, 59, 330-336.	2.1	2
138	Yrast Line for Weakly Interacting Trapped Bosons. Physical Review Letters, 1999, 83, 5412-5414.	7.8	112
139	Pairing in low-density Fermi gases. Physical Review C, 1999, 59, 2052-2055.	2.9	89
140	On the special role of symmetric periodic orbits in a chaotic system. Physica D: Nonlinear Phenomena, 1999, 131, 254-264.	2.8	6
141	Nonergodic behavior of interacting bosons in harmonic traps. Physical Review A, 1998, 58, 4854-4861.	2.5	7
142	Bremsstrahlung inÎ±Decay. Physical Review Letters, 1998, 80, 4141-4144.	7.8	39
143	Scars of Invariant Manifolds in Interacting Few-Body Systems. Physical Review Letters, 1998, 80, 3057-3060.	7.8	12
144	A particle-number expansion beyond self-consistent field theory. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 218, 229-234.	2.1	7

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145	Two-loop results from improved one loop computations. Zeitschrift FÃ¼r Physik C-Particles and Fields, 1995, 65, 519-535.	1.5	53