Pieter Maris

List of Publications by Year
in descending order

99 papers	3,306 citations	126907 33 h-index	149698 56 g-index
100 all docs	100 docs citations	100 times ranked	951 citing authors

#	Article	IF	Citations
1	Ï€- andK-meson Bethe-Salpeter amplitudes. Physical Review C, 1997, 56, 3369-3383.	2.9	459
2	<i>Ab initio</i>no-core full configuration calculations of light nuclei. Physical Review C, 2009, 79, .	2.9	181
3	Hamiltonian light-front field theory in a basis function approach. Physical Review C, 2010, 81, .	2.9	131
4	Convergence in the no-core shell model with low-momentum two-nucleon interactions. Nuclear Physics A, 2008, 801, 21-42.	1.5	108
5	Few-nucleon systems with state-of-the-art chiral nucleon-nucleon forces. Physical Review C, 2016, 93, .	2.9	106
6	Collective Modes in Light Nuclei from First Principles. Physical Review Letters, 2013, 111, 252501.	7.8	103
7	Origin of the Anomalous Long Lifetime of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">C</mml:mi><mml:mprescripts /><mml:none /><mml:mn>14</mml:mn></mml:mmultiscripts></mml:math>. Physical Review Letters, 2011, 106, 202502.	7.8	95
8	Convergence properties of<i>ab initio</i>calculations of light nuclei in a harmonic oscillator basis. Physical Review C, 2012, 86, .	2.9	95
9	Heavy quarkonium in a holographic basis. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 758, 118-124.	4.1	92
10	Scaling of ab-initio nuclear physics calculations on multicore computer architectures. Procedia Computer Science, 2010, 1, 97-106.	2.0	80
11	QCD modeling of hadron physics. Nuclear Physics, Section B, Proceedings Supplements, 2006, 161, 136-152.	0.4	78
12	Quarkonium as a relativistic bound state on the light front. Physical Review D, 2017, 96, .	4.7	76
13	Benchmarks of the full configuration interaction, Monte Carlo shell model, and no-core full configuration methods. Physical Review C, 2012, 86, .	2.9	75
14	N3LO NN interaction adjusted to light nuclei in ab exitu approach. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 761, 87-91.	4.1	72
15	Few- and many-nucleon systems with semilocal coordinate-space regularized chiral two- and three-body forces. Physical Review C, 2019, 99, .	2.9	68
16	Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>p</mml:mi></mml:math>-shell nuclei using three-nucleon interactions evolved with the similarity renormalization group. Physical Review C, 2013, 87, .	2.9	67
17	<i>Ab initio</i>nuclear structure simulations: The speculative<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="normal">F</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>14</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>nucleus. Physical Review C, 2010, 81, .	2.9	62
18	Improving the scalability of a symmetric iterative eigensolver for multiâ€core platforms. Concurrency Computation Practice and Experience, 2014, 26, 2631-2651.	2.2	62

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19	Few-nucleon and many-nucleon systems with semilocal coordinate-space regularized chiral nucleon-nucleon forces. Physical Review C, 2018, 98, .	2.9	59
20	Lithium isotopes within the<i>ab initio</i>no-core full configuration approach. Physical Review C, 2012, 86, .	2.9	56
21	<i>AB INITIO</i> NUCLEAR STRUCTURE CALCULATIONS OF p-SHELL NUCLEI WITH JISP16. International Journal of Modern Physics E, 2013, 22, 1330016.	1.0	52
22	Light nuclei with semilocal momentum-space regularized chiral interactions up to third order. Physical Review C, 2021, 103, .	2.9	52
23	Low-energy neutron-deuteron reactions with N 3 LO chiral forces. European Physical Journal A, 2014, 50, 1.	2.5	45
24	Testing the density matrix expansion againstab initiocalculations of trapped neutron drops. Physical Review C, 2011, 84, .	2.9	44
25	<i>AbÂinitio</i>effective interactions for<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>s</mml:mi><mml:mi>d</mml:mi></mml:mrow></mml:ma valence nucleons. Physical Review C, 2015, 91, .	2.9	44
26	Accelerating nuclear configuration interaction calculations through a preconditioned block iterative eigensolver. Computer Physics Communications, 2018, 222, 1-13.	7.5	43
27	Scattering in time-dependent basis light-front quantization. Physical Review D, 2013, 88, .	4.7	40
28	Emergence of rotational bands inab initiono-core configuration interaction calculations of the Be isotopes. Physical Review C, 2015, 91, .	2.9	40
29	<i>Ab initio</i>no-core solutions for⁶Li. Journal of Physics G: Nuclear and Particle Physics, 2017, 44, 075103.	3.6	38
30	Emergence of rotational bands in ab initio no-core configuration interaction calculations of light nuclei. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2013, 719, 179-184.	4.1	36
31	Deep learning: Extrapolation tool for <i>ab initio</i> nuclear theory. Physical Review C, 2019, 99, .	2.9	36
32	<i>Ab initio</i> folding potentials for nucleon-nucleus scattering based on no-core shell-model one-body densities. Physical Review C, 2019, 99, .	2.9	36
33	Efficacy of the SU(3) scheme for ab initio large-scale calculations beyond the lightest nuclei. Computer Physics Communications, 2016, 207, 202-210.	7.5	34
34	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>B</mml:mi></mml:mrow><mml:mrow><mml:mi[illegible]</mml:m[illegible]></mml:m mesons and their properties on the light front. Physical Review D, 2018, 98, .	4.7	27
35	Heavy-light mesons on the light front. European Physical Journal C, 2020, 80, 1.	3.9	27
36	Halo nucleiHe6andHe8with the Coulomb-Sturmian basis. Physical Review C, 2014, 90, .	2.9	26

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37	Manifestation of Three-Body Forces in Three-Body Betheâ€"Salpeter and Light-Front Equations. Few-Body Systems, 2009, 46, 95-113.	1.5	24
38	Collective rotation from <i>ab initio</i> theory. International Journal of Modern Physics E, 2015, 24, 1541002.	1.0	24
39	Radiative transitions between <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mn>0</mml:mn><mml:mrow><mml:mo form="prefix">â^'</mml:mo><mml:mo form="prefix">+</mml:mo></mml:mrow></mml:msup></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mn>1</mml:mn><mml:mrow><mml:mo>â^'</mml:mo><mml:mo>â^'</mml:mo></mml:mrow></m heavy quarkonia on the light front. Physical Review D, 2018, 98, .	4.7	24
40	<i>Ab initio</i> leading order effective potentials for elastic nucleon-nucleus scattering. Physical Review C, 2020, 102, .	2.9	24
41	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">C</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>12</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>properties with evolved chiral three-nucleon interactions. Physical Review C, 2014, 90, .	2.9	23
42	Ab initio approach to the non-perturbative scalar Yukawa model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 748, 278-283.	4.1	22
43	Effective interactions in the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>s</mml:mi><mml:mi>d</mml:mi></mml:mrow></mml:ma shell. Physical Review C, 2019, 100, .	2.9	22
44	Î±-Clustering in atomic nuclei from first principles with statistical learning and the Hoyle state character. Nature Communications, 2022, 13, 2234.	12.8	22
45	Electron-scattering form factors for<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">Li</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>6</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>in the<i>ab initio</i>symmetry-guided framework. Physical Review C, 2015, 91, .	2.9	20
46	Generalized parton distributions in a light-front nonperturbative approach. Physical Review D, 2014, 89, .	4.7	19
47	Form factors and generalized parton distributions in basis light-front quantization. Physical Review C, 2016, 93, .	2.9	18
48	Ab initio translationally invariant nonlocal one-body densities from no-core shell-model theory. Physical Review C, 2018, 97, .	2.9	18
49	Natural orbital description of the halo nucleus 6He. Nuclear Science and Techniques/Hewuli, 2017, 28, 1.	3.4	17
50	Ab Initio Nuclear Structure Calculations of Light Nuclei. Journal of Physics: Conference Series, 2012, 402, 012031.	0.4	16
51	Basis Light-Front Quantization: Recent Progress and Future Prospects. Few-Body Systems, 2016, 57, 695-702.	1.5	15
52	Comparison of two Minkowski-space approaches to heavy quarkonia. European Physical Journal C, 2017, 77, 1.	3.9	15
53	Probing ab initio emergence of nuclear rotation. European Physical Journal A, 2020, 56, 1.	2.5	15
54	Statistical error propagation in<i>ab initio</i>no-core full configuration calculations of light nuclei. Physical Review C, 2015, 92, .	2.9	13

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55	Frame dependence of form factors in light-front dynamics. Physical Review D, 2018, 97, .	4.7	13
56	Benchmark calculation of no-core Monte Carlo shell model in light nuclei. , 2011, , .		11
57	An Out-of-Core Dataflow Middleware to Reduce the Cost of Large Scale Iterative Solvers. , 2012, , .		11
58	Properties of⁴He and⁶Li with improved chiral EFT interactions. EPJ Web of Conferences, 2016, 113, 04015.	0.3	11
59	A High Performance Block Eigensolver for Nuclear Configuration Interaction Calculations. IEEE Transactions on Parallel and Distributed Systems, 2017, 28, 1550-1563.	5.6	11
60	Ultrarelativistic quark-nucleus scattering in a light-front Hamiltonian approach. Physical Review D, 2020, 101, .	4.7	11
61	Trends and Progress in Nuclear and Hadron Physics: A Straight or Winding Road. Few-Body Systems, 2017, 58, 1.	1.5	9
62	Ground-state properties of light <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>4</mml:mn><mml:mi>n</mml:mi></mml:mrow></mml:r self-conjugate nuclei in <i>ab initio</i> no-core Monte Carlo shell model calculations with nonlocal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>N</mml:mi><mml:mi>N</mml:mi></mml:mrow></mml:m interactions. Physical Review C, 2021, 104, .	2.9	9
63	Natural orbitals for the<i>ab initio</i>no-core configuration interaction approach. Physical Review C, 2022, 105, .	2.9	9
64	Ab initiono-core properties ofLi7andBe7with the JISP16 and chiralNNLOoptinteractions. Physical Review C, 2017, 95, .	2.9	8
65	Improved description of light nuclei through chiral effective field theory at leading order. Physical Review C, 2020, 102, .	2.9	8
66	Quadrupole moments and proton-neutron structure in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>p</mml:mi></mml:math> -shell mirror nuclei. Physical Review C, 2021, 104, .	2.9	8
67	Hadron Spectra, Decays and Scattering Properties Within Basis Light Front Quantization. Few-Body Systems, 2018, 59, 1.	1.5	7
68	Frame dependence of transition form factors in light-front dynamics. Physical Review D, 2019, 100, .	4.7	6
69	Description of Continuum Spectrum States of Light Nuclei in the Shell Model. Physics of Particles and Nuclei, 2019, 50, 537-543.	0.7	6
70	Accelerating an iterative eigensolver for nuclear structure configuration interaction calculations on GPUs using OpenACC. Journal of Computational Science, 2022, 59, 101554.	2.9	6
71	Robust <i>ab initio</i> prediction of nuclear electric quadrupole observables by scaling to the charge radius. Physical Review C, 2022, 105, .	2.9	6
72	Electron Anomalous Magnetic Moment in Basis Light-Front Quantization Approach. Few-Body Systems, 2012, 52, 339-344.	1.5	5

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73	Non-perturbative Calculation of the Positronium Mass Spectrum in Basis Light-Front Quantization. Few-Body Systems, 2015, 56, 489-494.	1.5	5
74	Non-perturbative Calculation of the Scalar Yukawa Theory in Four-Body Truncation. Few-Body Systems, 2015, 56, 495-501.	1.5	5
75	Performance analysis of distributed symmetric sparse matrix vector multiplication algorithm for multiâ€core architectures. Concurrency Computation Practice and Experience, 2015, 27, 5019-5036.	2.2	4
76	Nuclear spin features relevant to ab initio nucleon-nucleus elastic scattering. Physical Review C, 2021, 103, .	2.9	4
77	Perspectives on Nuclear Structure and Scattering with the AbÂInitio No-Core Shell Model. , 2018, , .		3
78	Ab initio calculations of p-shell nuclei up to N²LO in chiral Effective Field Theory. Journal of Physics: Conference Series, 2019, 1291, 012005.	0.4	3
79	Minkowski-space solutions of the Schwinger-Dyson equation for the fermion propagator with the rainbow-ladder truncation. , 2020, , .		3
80	On the light-front wave functions of quarkonia. , 2020, , .		3
81	Light nuclei in ab initio approach with realistic inverse scattering NN-interaction. Bulletin of the Russian Academy of Sciences: Physics, 2011, 75, 463-467.	0.6	2
82	Benchmark of the No-Core Monte Carlo Shell Model in Light Nuclei. Few-Body Systems, 2013, 54, 1371-1375.	1.5	2
83	Leveraging GPUs in Ab Initio Nuclear Physics Calculations. , 2013, , .		2
84	Ab initio no core full configuration approach for light nuclei. International Journal of Modern Physics E, 2014, 23, 1461004.	1.0	2
85	Challenges in Developing MPI Fault-Tolerant Fortran Applications. , 2018, , .		2
86	Semileptonic decay of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>B</mml:mi></mml:mrow><mml:mrow><mml:mi>c</mml:mi></mml:m to <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Î·</mml:mi></mml:mrow><mml:mrow><mml:mi>c</mml:mi></mml:m and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display=". Physical Review D, 2021, 104, .	4.7	2
87	<i>AB INITIO</i> NO CORE METHODS: APPLICATIONS TO LIGHT NUCLEI. International Journal of Modern Physics E, 2008, 17, 109-121.	1.0	1
88	Ab-initio Hamiltonian approach to light nuclei and to quantum field theory. Pramana - Journal of Physics, 2010, 75, 39-49.	1.8	1
89	Phase-equivalent transformation which does not affect bound state properties and its manifestation in many-body systems. Bulletin of the Russian Academy of Sciences: Physics, 2012, 76, 496-501.	0.6	1
90	Microscopic Shell Model Calculations for sd-Shell Nuclei. , 2017, , .		1

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91	Elements of the ab initio No Core Shell Model. AIP Conference Proceedings, 2008, , .	0.4	0
92	Further development of realistic JISP16 NN interaction. Bulletin of the Russian Academy of Sciences: Physics, 2010, 74, 538-541.	0.6	0
93	Nonperturbative Quantum Field Evolution. Few-Body Systems, 2014, 55, 555-560.	1.5	0
94	<i>AB INITIO</i> AND <i>AB EXITU</i> NO CORE SHELL MODEL. , 2008, , .		0
95	SYMMETRY-ADAPTED NO-CORE SHELL MODEL FOR LIGHT NUCLEI. , 2013, , .		0
96	Ab initio no core full configuration approach for light nuclei. , 2014, , .		0
97	Nonlocal Structure of the Leading Order ab initio Effective Potentials for Proton Elastic Scattering from Light Nuclei. Few-Body Systems, 2022, 63, 1.	1.5	0
98	Evaluation of the Communication Motif for a Distributed Eigensolver using the SST Network Simulation Tool. , 2020, , .		0
99	Accelerating Quantum Many-Body Configuration Interaction withÂDirectives. Lecture Notes in Computer Science, 2022, , 112-132.	1.3	0