

# Niels R Walet

## List of Publications by Year in descending order

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123  
papers

2,209  
citations

331670

21  
h-index

254184

43  
g-index

125  
all docs

125  
docs citations

125  
times ranked

1426  
citing authors

#	ARTICLE	IF	CITATIONS
1	Dichotomy of the Hydrogen Atom in Superintense, High-Frequency Laser Fields. <i>Physical Review Letters</i> , 1988, 61, 939-942.	7.8	317
2	Electrostatic effects, band distortions, and superconductivity in twisted graphene bilayers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 13174-13179.	7.1	222
3	Charge-polarized interfacial superlattices in marginally twisted hexagonal boron nitride. <i>Nature Communications</i> , 2021, 12, 347.	12.8	132
4	Radiative distortion of the hydrogen atom in superintense, high-frequency fields of linear polarization. <i>Physical Review A</i> , 1990, 41, 477-494.	2.5	130
5	Continuum models for twisted bilayer graphene: Effect of lattice deformation and hopping parameters. <i>Physical Review B</i> , 2019, 99, .	3.2	116
6	Electronic band structure and pinning of Fermi energy to Van Hove singularities in twisted bilayer graphene: A self-consistent approach. <i>Physical Review B</i> , 2019, 100, .	3.2	79
7	Pairing in many-fermion systems: an exact renormalisation group treatment. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2005, 605, 287-294.	4.1	61
8	Twists and the Electronic Structure of Graphitic Materials. <i>Nano Letters</i> , 2019, 19, 8683-8689.	9.1	52
9	Color superconductivity in finite systems. <i>Physical Review D</i> , 2002, 65, .	4.7	43
10	Classical theory of collective motion in the large amplitude, small velocity regime. <i>Annals of Physics</i> , 1991, 208, 90-148.	2.8	42
11	Translationally invariant treatment of pair correlations in nuclei: I. Spin and isospin dependent correlations. <i>Nuclear Physics A</i> , 1996, 609, 218-236.	1.5	34
12	Quantising the B = 2 and B = 3 skyrmion systems. <i>Nuclear Physics A</i> , 1996, 606, 429-458.	1.5	32
13	Gender differences in conceptual understanding of Newtonian mechanics: a UK cross-institution comparison. <i>European Journal of Physics</i> , 2013, 34, 421-434.	0.6	32
14	Self-consistent theory of large-amplitude collective motion: applications to approximate quantization of nonseparable systems and to nuclear physics. <i>Physics Reports</i> , 2000, 335, 93-274.	25.6	31
15	The emergence of one-dimensional channels in marginal-angle twisted bilayer graphene. <i>2D Materials</i> , 2020, 7, 015023.	4.4	30
16	Reaction paths and generalized valley approximation. <i>Journal of Chemical Physics</i> , 1989, 91, 2848-2858.	3.0	27
17	Effective interactions in a graphene layer induced by the proximity to a ferromagnet. <i>2D Materials</i> , 2018, 5, 014004.	4.4	24
18	Ground-state correlations and restoration of broken symmetry to nuclear mean field theory. <i>Nuclear Physics A</i> , 1991, 535, 1-22.	1.5	23



#	ARTICLE	IF	CITATIONS
37	Renormalization group, dimer-dimer scattering, and three-body forces. <i>Physical Review A</i> , 2010, 81, .	2.5	14
38	Majorana zero modes in a two-dimensional $p$ -wave superconductor. <i>Physical Review B</i> , 2017, 96, .	3.2	14
39	The role of attitudinal factors in mathematical on-line assessments: a study of undergraduate STEM students. <i>Assessment and Evaluation in Higher Education</i> , 2018, 43, 710-726.	5.6	14
40	Theory of large-amplitude collective motion applied to the structure of Si <sup>28</sup> . <i>Physical Review C</i> , 1991, 43, 2254-2267.	2.9	13
41	Calculation of the properties of the rotational bands of Gd <sup>155,157</sup> . <i>Physical Review C</i> , 1994, 50, 245-256.	2.9	13
42	Diabatic and adiabatic collective motion in a model pairing system. <i>Physical Review C</i> , 1998, 57, 1192-1203.	2.9	13
43	Convergence of a renormalization-group approach to dimer-dimer scattering. <i>Physical Review A</i> , 2011, 83, .	2.5	13
44	Description of light nuclei in pionless effective field theory using the stochastic variational method. <i>Physical Review C</i> , 2016, 94, .	2.9	13
45	Tunable terahertz oscillation arising from Bloch-point dynamics in chiral magnets. <i>Physical Review Research</i> , 2020, 2, .	3.6	13
46	Electrostatic interactions in twisted bilayer graphene. <i>Nano Materials Science</i> , 2022, 4, 27-35.	8.8	13
47	Adiabatic time-dependent Hartree-Fock theory in the generalized valley approximation. <i>Physical Review C</i> , 1989, 40, 945-959.	2.9	12
48	Mean-field approach to the algebraic treatment of molecules: Linear molecules. <i>Physical Review A</i> , 1992, 46, 4037-4047.	2.5	12
49	The kinetic energy and the geometric structure in the $B = 2$ sector of the Skyrme model: A study using the Atiyah-Manton ansatz. <i>Nuclear Physics A</i> , 1995, 586, 649-681.	1.5	12
50	Effect of layered water structures on the anomalous transport through nanoscale graphene channels. <i>Journal of Physics Communications</i> , 2018, 2, 085015.	1.2	12
51	Quantum corrections to the potential energy for large amplitude collective motion. <i>Physical Review C</i> , 1992, 45, 249-260.	2.9	11
52	The Skyrme model of the spin-orbit force. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1993, 314, 159-162.	4.1	11
53	Mean-field approach to the algebraic treatment of molecules: Bent molecules. <i>Physical Review A</i> , 1993, 47, 2064-2074.	2.5	11
54	Narrow bands, electrostatic interactions and band topology in graphene stacks. <i>2D Materials</i> , 2021, 8, 044006.	4.4	11

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55	On the occurrence of particle-antiparticle resonances in scalar QED. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1991, 273, 1-5.	4.1	10
56	A study of the $SU(3)$ limit of IBM-2. Nuclear Physics A, 1987, 474, 61-76.	1.5	9
57	Generalized valley approximation applied to a schematic model of the monopole excitation. Physical Review C, 1990, 41, 318-328.	2.9	9
58	From Skyrmions to NN phase shifts. Physical Review C, 1993, 48, 2222-2229.	2.9	9
59	Towards a practical approach for self-consistent large amplitude collective motion. Physical Review C, 2004, 69, .	2.9	9
60	Quantum theory of large amplitude collective motion and the Born-Oppenheimer method. Physical Review C, 1993, 48, 178-191.	2.9	8
61	Further application of a semimicroscopic core-particle coupling method to the properties of $Gd^{155,157}$ and $Dy^{159}$ . Physical Review C, 1996, 53, 1655-1659.	2.9	8
62	Collective coordinates, shape transitions, and shape coexistence: A microscopic approach. Physical Review C, 1998, 58, 3397-3406.	2.9	8
63	Local harmonic approaches with approximate cranking operators. Physical Review C, 1999, 61, .	2.9	8
64	Recoil effects in a quantum theory of the Skyrmion. Journal of Physics G: Nuclear and Particle Physics, 1992, 18, 499-520.	3.6	7
65	Classical mappings of the symplectic model and their application to the theory of large-amplitude collective motion. Physical Review C, 1994, 49, 840-851.	2.9	7
66	Nuclear transparency in quasifree electron scattering. Physical Review C, 1995, 51, R1616-R1618.	2.9	7
67	Exact Renormalisation Group and pairing in many-fermion systems. Nuclear Physics A, 2005, 749, 134-137.	1.5	7
68	The translationally-invariant coupled cluster method in coordinate space. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 480, 61-64.	4.1	6
69	Collective-pair structure of $K^\pi = 0^+, 1^+, 2^+$ bands in deformed nuclei. Nuclear Physics A, 1988, 486, 235-252.	1.5	5
70	Generalization of the quantized Bogoliubov-Valatin transformation and relation to the method of the vector coherent state: The case of $U(3)$ . Nuclear Physics A, 1990, 515, 207-225.	1.5	5
71	Lifetime of a hydrogen atom in an intense radiation field. Physical Review A, 1990, 41, 3905-3915.	2.5	5
72	Quantization of the Skyrmion. Physical Review D, 1993, 47, 2113-2131.	4.7	5

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73	Application of a semimicroscopic core-particle coupling method to the backbending in odd deformed nuclei. <i>Physical Review C</i> , 1996, 54, 638-645.	2.9	5
74	Translationally invariant coupled cluster method in coordinate space for nuclei. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2002, 28, 1209-1222.	3.6	5
75	TOWARDS A COUPLLED-CLUSTER TREATMENT OF SU(N) LATTICE GAUGE FIELD THEORY. <i>International Journal of Modern Physics B</i> , 2006, 20, 4992-5007.	2.0	5
76	Functional renormalization group for few-nucleon systems: SU(4) symmetry and its breaking. <i>Physical Review C</i> , 2013, 87, .	2.9	5
77	Application of the functional renormalization group to Bose gases: From linear to hydrodynamic fluctuations. <i>Physical Review B</i> , 2018, 98, .	3.2	5
78	Generation of collective subspaces and self-consistent cranking operators. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1994, 322, 11-16.	4.1	4
79	Microscopic and translationally-invariant calculations with tensor forces and tensor correlations. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1999, 25, 945-947.	3.6	4
80	Linked-cluster Tammâ€Dancoff field theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2003, 570, 129-136.	4.1	4
81	Renormalization of hamiltonian field theory; a non-perturbative and non-unitarity approach. <i>Journal of High Energy Physics</i> , 2003, 2003, 040-040.	4.7	4
82	EXACT RENORMALIZATION GROUP AND MANY-FERMION SYSTEMS. <i>International Journal of Modern Physics A</i> , 2005, 20, 596-598.	1.5	4
83	Thermodynamics of Bose gases from functional renormalization with a hydrodynamic low-energy effective action. <i>Annals of Physics</i> , 2020, 412, 168006.	2.8	4
84	Cane+eâˆ² peaks be explained as resonances in Bhabha scattering?. <i>Physical Review D</i> , 1993, 47, 844-852.	4.7	3
85	Quantum theory of large amplitude collective motion: Natural fit between the Born-Oppenheimer and Kerman-Klein methods. <i>Physical Review C</i> , 1994, 49, 1428-1438.	2.9	3
86	Quantum theory of large amplitude collective motion: Bosonization of all degrees of freedom. <i>Physical Review C</i> , 1994, 49, 1439-1448.	2.9	3
87	A basis of cranking operators for the pairing-plus-quadrupole model. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1999, 25, L23-L28.	3.6	3
88	A simple model of the charge transfer in DNA-like substances. <i>Nonlinearity</i> , 2005, 18, 2615-2636.	1.4	3
89	Magnetization Signature of Topological Surface States in a Nonâ€Symmorphic Superconductor. <i>Advanced Materials</i> , 2021, 33, e2103257.	21.0	3
90	Boson image of the quadrupole operator in deformed nuclei. <i>Nuclear Physics A</i> , 1988, 483, 295-306.	1.5	2

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91	Inertial parameters of the Skyrmion-Skyrmion system with the product ansatz. <i>Physical Review C</i> , 1993, 48, 2498-2509.	2.9	2
92	The large- $N_c$ limit and the behavior of $g_A(0)$ and $g_A$ . <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1995, 358, 184-190.	4.1	2
93	Algebraic Method for Large- $N_c$ QCD. <i>Australian Journal of Physics</i> , 1997, 50, 211.	0.6	2
94	Colour Superconductivity in Finite Systems. <i>Acta Physica Hungarica A Heavy Ion Physics</i> , 2002, 16, 163-168.	0.4	2
95	COLOUR SUPERCONDUCTIVITY IN FINITE SYSTEMS. <i>International Journal of Modern Physics B</i> , 2003, 17, 5185-5189.	2.0	2
96	Large amplitude collective motion and the structure of low-lying states in $^{68}\text{Se}$ . <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2005, 31, S1523-S1526.	3.6	2
97	Jastrow-Correlated Configuration-Interaction Description of Light Nuclei. <i>Few-Body Systems</i> , 1999, , 53-56.	0.2	2
98	The doubly-magic character of $^{146}\text{Gd}$ and its relation to $^{208}\text{Pb}$ . <i>Zeitschrift für Physik A, Atomic Nuclei</i> , 1989, 332, 9-16.	0.3	1
99	QUANTUM CORRECTIONS TO THE CRANKING MODEL. <i>International Journal of Modern Physics E</i> , 1992, 01, 95-130.	1.0	1
100	Title is missing!. <i>European Physical Journal D</i> , 1998, 48, 813-816.	0.4	1
101	Algebraic approaches in nuclear physics. <i>European Physical Journal D</i> , 1999, 49, 89-130.	0.4	1
102	Quantum phase transitions and the extended coupled cluster method. <i>Physical Review E</i> , 2001, 63, 037103.	2.1	1
103	SKYRMIONS IN QUANTUM HALL SYSTEMS. <i>International Journal of Modern Physics B</i> , 2003, 17, 5007-5010.	2.0	1
104	COUPLED CLUSTER CALCULATIONS OF THE SCHWINGER MODEL IN HAMILTONIAN LATTICE GAUGE THEORY. <i>International Journal of Modern Physics B</i> , 2003, 17, 5393-5396.	2.0	1
105	VARIATIONAL MONTE CARLO FOR MICROSCOPIC CLUSTER MODELS. <i>International Journal of Modern Physics C</i> , 2004, 15, 1329-1351.	1.7	1
106	An Integrated Approach to Encourage Student-Centred Learning: a First Course in Dynamics. <i>New Directions in the Teaching of Physical Sciences</i> , 2008, , 21-26.	0.4	1
107	Rotating Majorana zero modes in a disk geometry. <i>Physical Review B</i> , 2022, 105, .	3.2	1
108	A boson-quasiboson mapping and Dirac quantization. <i>Journal of Physics A</i> , 1993, 26, L1047-L1051.	1.6	0

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109	The three nucleon system in the Skyrme model. , 1997, , .		0
110	Algebraic approaches in nuclear physics. European Physical Journal D, 1998, 48, 773-781.	0.4	0
111	Self-consistent collective subspaces and diabatic/adiabatic motion in nuclei. Journal of Physics G: Nuclear and Particle Physics, 1999, 25, 815-817.	3.6	0
112	Phase transitions in finite density baryonic matter. AIP Conference Proceedings, 2000, , .	0.4	0
113	Finite size effects in colour superconductivity. AIP Conference Proceedings, 2002, , .	0.4	0
114	FOREWORD BY THE EDITORS. International Journal of Modern Physics B, 2003, 17, xvii-xvii.	2.0	0
115	Off-shell effects in nuclear matter from an EFT point of view. AIP Conference Proceedings, 2003, , .	0.4	0
116	Relativistic Faddeev approach to a non-local NJL model. AIP Conference Proceedings, 2004, , .	0.4	0
117	Removal of spurious admixture in a self-consistent theory of adiabatic large amplitude collective motion. Journal of Physics G: Nuclear and Particle Physics, 2005, 31, 1067-1081.	3.6	0
118	TOWARDS A COUPLED-CLUSTER TREATMENT OF SU(N) LATTICE GAUGE FIELD THEORY. , 2006, , .		0
119	Nature of phase transitions in two-dimensional type-II superconductors. Physical Review B, 2013, 88, .	3.2	0
120	Electronic correlations in the Hubbard model on a bi-partite lattice. Annals of Physics, 2017, 378, 280-302.	2.8	0
121	COUPLED CLUSTER CALCULATIONS OF THE SCHWINGER MODEL IN HAMILTONIAN LATTICE GAUGE THEORY. , 2002, , .		0
122	COLOUR SUPERCONDUCTIVITY IN FINITE SYSTEMS. , 2002, , .		0
123	THE EXACT RENORMALIZATION GROUP AND PAIRING IN MANY-FERMION SYSTEMS. , 2008, , .		0