

# Niels R Walet

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

111  
papers

1,734  
citations

19  
h-index

37  
g-index

125  
ext. papers

1,991  
ext. citations

3.7  
avg, IF

5.23  
L-index

#	Paper	IF	Citations
111	Electrostatic interactions in twisted bilayer graphene. <i>Nano Materials Science</i> , <b>2021</b> ,	10.2	2
110	Flat bands, strains, and charge distribution in twisted bilayer hBN. <i>Physical Review B</i> , <b>2021</b> , 103,	3.3	8
109	Magnetization Signature of Topological Surface States in a Non-Symmorphic Superconductor. <i>Advanced Materials</i> , <b>2021</b> , 33, e2103257	24	
108	Narrow bands, electrostatic interactions and band topology in graphene stacks. <i>2D Materials</i> , <b>2021</b> , 8, 044006	5.9	2
107	Charge-polarized interfacial superlattices in marginally twisted hexagonal boron nitride. <i>Nature Communications</i> , <b>2021</b> , 12, 347	17.4	33
106	Tunable terahertz oscillation arising from Bloch-point dynamics in chiral magnets. <i>Physical Review Research</i> , <b>2020</b> , 2,	3.9	7
105	Thermodynamics of Bose gases from functional renormalization with a hydrodynamic low-energy effective action. <i>Annals of Physics</i> , <b>2020</b> , 412, 168006	2.5	3
104	The emergence of one-dimensional channels in marginal-angle twisted bilayer graphene. <i>2D Materials</i> , <b>2020</b> , 7, 015023	5.9	13
103	Continuum models for twisted bilayer graphene: Effect of lattice deformation and hopping parameters. <i>Physical Review B</i> , <b>2019</b> , 99,	3.3	73
102	Twists and the Electronic Structure of Graphitic Materials. <i>Nano Letters</i> , <b>2019</b> , 19, 8683-8689	11.5	27
101	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> , <b>2019</b> , 100,	3.3	45
100	Edge Modes and Nonlocal Conductance in Graphene Superlattices. <i>Physical Review Letters</i> , <b>2018</b> , 120, 026802	7.4	13
99	Effective interactions in a graphene layer induced by the proximity to a ferromagnet. <i>2D Materials</i> , <b>2018</b> , 5, 014004	5.9	18
98	The role of attitudinal factors in mathematical on-line assessments: a study of undergraduate STEM students. <i>Assessment and Evaluation in Higher Education</i> , <b>2018</b> , 43, 710-726	3.1	9
97	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> , <b>2018</b> , 115, 13174-13179	11.5	138
96	Application of the functional renormalization group to Bose gases: From linear to hydrodynamic fluctuations. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	4
95	Effect of layered water structures on the anomalous transport through nanoscale graphene channels. <i>Journal of Physics Communications</i> , <b>2018</b> , 2, 085015	1.2	11

94	Electronic correlations in the Hubbard model on a bi-partite lattice. <i>Annals of Physics</i> , <b>2017</b> , 378, 280-302.	2.5	
93	Majorana zero modes in a two-dimensional p-wave superconductor. <i>Physical Review B</i> , <b>2017</b> , 96,	3.3	6
92	Description of light nuclei in pionless effective field theory using the stochastic variational method. <i>Physical Review C</i> , <b>2016</b> , 94,	2.7	13
91	Functional renormalization group for few-nucleon systems: SU(4) symmetry and its breaking. <i>Physical Review C</i> , <b>2013</b> , 87,	2.7	4
90	Gender differences in conceptual understanding of Newtonian mechanics: a UK cross-institution comparison. <i>European Journal of Physics</i> , <b>2013</b> , 34, 421-434	0.8	21
89	Convergence of a renormalization-group approach to dimer-dimer scattering. <i>Physical Review A</i> , <b>2011</b> , 83,	2.6	13
88	Renormalization group, dimer-dimer scattering, and three-body forces. <i>Physical Review A</i> , <b>2010</b> , 81,	2.6	13
87	An Integrated Approach to Encourage Student-Centred Learning: a First Course in Dynamics. <i>New Directions in the Teaching of Physical Sciences</i> , <b>2008</b> , 21-26	2	1
86	TOWARDS A COUPLED-CLUSTER TREATMENT OF SU(N) LATTICE GAUGE FIELD THEORY. <i>International Journal of Modern Physics B</i> , <b>2006</b> , 20, 4992-5007	1.1	2
85	Splitting the gluon?. <i>Physical Review D</i> , <b>2005</b> , 72,	4.9	13
84	Pairing in many-fermion systems: an exact renormalisation group treatment. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>2005</b> , 605, 287-294	4.2	59
83	Exact Renormalisation Group and pairing in many-fermion systems. <i>Nuclear Physics A</i> , <b>2005</b> , 749, 134-137.	1.3	7
82	Removal of spurious admixture in a self-consistent theory of adiabatic large amplitude collective motion. <i>Journal of Physics G: Nuclear and Particle Physics</i> , <b>2005</b> , 31, 1067-1081	2.9	
81	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> , <b>2005</b> , 31, S1523-S1526	2.9	2
80	A simple model of the charge transfer in DNA-like substances. <i>Nonlinearity</i> , <b>2005</b> , 18, 2615-2636	1.7	2
79	EXACT RENORMALIZATION GROUP AND MANY-FERMION SYSTEMS. <i>International Journal of Modern Physics A</i> , <b>2005</b> , 20, 596-598	1.2	4
78	Towards a practical approach for self-consistent large amplitude collective motion. <i>Physical Review C</i> , <b>2004</b> , 69,	2.7	9
77	VARIATIONAL MONTE CARLO FOR MICROSCOPIC CLUSTER MODELS. <i>International Journal of Modern Physics C</i> , <b>2004</b> , 15, 1329-1351	1.1	1

76	Baryon structure in a quark-confining nonlocal Nambu–Jona-Lasinio model. <i>Physical Review C</i> , <b>2004</b> , 70,	2.7	22
75	Shape coexistence in $^{72}\text{Kr}$ at finite angular momentum. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>2004</b> , 604, 163-169	4.2	15
74	SKYRMIONS IN QUANTUM HALL SYSTEMS. <i>International Journal of Modern Physics B</i> , <b>2003</b> , 17, 5007-5010.	1.1	1
73	COUPLED CLUSTER CALCULATIONS OF THE SCHWINGER MODEL IN HAMILTONIAN LATTICE GAUGE THEORY. <i>International Journal of Modern Physics B</i> , <b>2003</b> , 17, 5393-5396	1.1	1
72	Renormalization of hamiltonian field theory; a non-perturbative and non-unitarity approach. <i>Journal of High Energy Physics</i> , <b>2003</b> , 2003, 040-040	5.4	3
71	Linked-cluster Tamm-Dancoff field theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>2003</b> , 570, 129-136	4.2	4
70	Off-shell effects and consistency of many-body treatments of dense matter. <i>Physical Review C</i> , <b>2003</b> , 67,	2.7	15
69	COLOUR SUPERCONDUCTIVITY IN FINITE SYSTEMS. <i>International Journal of Modern Physics B</i> , <b>2003</b> , 17, 5185-5189	1.1	1
68	Colour superconductivity in finite systems. <i>Acta Physica Hungarica A Heavy Ion Physics</i> , <b>2002</b> , 16, 163-168		2
67	Color superconductivity in finite systems. <i>Physical Review D</i> , <b>2002</b> , 65,	4.9	37
66	Translationally invariant coupled cluster method in coordinate space for nuclei. <i>Journal of Physics G: Nuclear and Particle Physics</i> , <b>2002</b> , 28, 1209-1222	2.9	5
65	Quantum phase transitions and the extended coupled cluster method. <i>Physical Review E</i> , <b>2001</b> , 63, 037103.	1.1	1
64	Towards a phase diagram of the 2D Skyrme model. <i>Europhysics Letters</i> , <b>2001</b> , 55, 633-639	1.6	15
63	Toward a Many-Body Treatment of Hamiltonian Lattice SU(N) Gauge Theory. <i>Annals of Physics</i> , <b>2000</b> , 284, 215-262	2.5	18
62	Self-consistent theory of large-amplitude collective motion: applications to approximate quantization of nonseparable systems and to nuclear physics. <i>Physics Reports</i> , <b>2000</b> , 335, 93-274	27.7	29
61	The translationally-invariant coupled cluster method in coordinate space. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>2000</b> , 480, 61-64	4.2	6
60	Nucleons or diquarks: Competition between clustering and color superconductivity in quark matter. <i>Physical Review C</i> , <b>2000</b> , 61,	2.7	19
59	Microscopic and translationally-invariant calculations with tensor forces and tensor correlations. <i>Journal of Physics G: Nuclear and Particle Physics</i> , <b>1999</b> , 25, 945-947	2.9	4

58	A basis of cranking operators for the pairing-plus-quadrupole model. <i>Journal of Physics G: Nuclear and Particle Physics</i> , <b>1999</b> , 25, L23-L28	2.9	3
57	Self-consistent collective subspaces and diabatic/adiabatic motion in nuclei. <i>Journal of Physics G: Nuclear and Particle Physics</i> , <b>1999</b> , 25, 815-817	2.9	
56	Local harmonic approaches with approximate cranking operators. <i>Physical Review C</i> , <b>1999</b> , 61,	2.7	8
55	Algebraic approaches in nuclear physics. <i>European Physical Journal D</i> , <b>1999</b> , 49, 89-130		1
54	Jastrow-Correlated Configuration-Interaction Description of Light Nuclei. <i>Few-Body Systems</i> , <b>1999</b> , 53-56		2
53	Algebraic approaches in nuclear physics. <i>European Physical Journal D</i> , <b>1998</b> , 48, 773-781		
52	Large amplitude collective motion in nuclei and metallic clusters [Applicability of adiabatic theory for a pairing model. <i>European Physical Journal D</i> , <b>1998</b> , 48, 813-816		1
51	A Coupled-Cluster Formulation of Hamiltonian Lattice Field Theory: The Nonlinear Sigma Model. <i>Annals of Physics</i> , <b>1998</b> , 267, 97-133	2.5	13
50	Translationally invariant treatment of pair correlations in nuclei II. Tensor correlations. <i>Nuclear Physics A</i> , <b>1998</b> , 643, 243-258	1.3	17
49	Diabatic and adiabatic collective motion in a model pairing system. <i>Physical Review C</i> , <b>1998</b> , 57, 1192-1203	2.7	12
48	Collective coordinates, shape transitions, and shape coexistence: A microscopic approach. <i>Physical Review C</i> , <b>1998</b> , 58, 3397-3406	2.7	7
47	Algebraic Method for Large-Nc QCD. <i>Australian Journal of Physics</i> , <b>1997</b> , 50, 211		2
46	Quantising the B = 2 and B = 3 skyrmion systems. <i>Nuclear Physics A</i> , <b>1996</b> , 606, 429-458	1.3	26
45	Translationally invariant treatment of pair correlations in nuclei: I. Spin and isospin dependent correlations. <i>Nuclear Physics A</i> , <b>1996</b> , 609, 218-236	1.3	32
44	Application of a semimicroscopic core-particle coupling method to the backbending in odd deformed nuclei. <i>Physical Review C</i> , <b>1996</b> , 54, 638-645	2.7	5
43	Further application of a semimicroscopic core-particle coupling method to the properties of <sup>155,157</sup> Gd and <sup>159</sup> Dy. <i>Physical Review C</i> , <b>1996</b> , 53, 1655-1659	2.7	8
42	The large-Nc limit and the behavior of gA(0) and gA. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1995</b> , 358, 184-190	4.2	2
41	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> , <b>1995</b> , 586, 649-681	1.3	12

40	Nuclear transparency in quasifree electron scattering. <i>Physical Review C</i> , <b>1995</b> , 51, R1616-R1618	2.7	5
39	Calculation of the properties of the rotational bands of 155,157Gd. <i>Physical Review C</i> , <b>1994</b> , 50, 245-256	2.7	13
38	Quantum theory of large amplitude collective motion: Natural fit between the Born-Oppenheimer and Kerman-Klein methods. <i>Physical Review C</i> , <b>1994</b> , 49, 1428-1438	2.7	3
37	Classical mappings of the symplectic model and their application to the theory of large-amplitude collective motion. <i>Physical Review C</i> , <b>1994</b> , 49, 840-851	2.7	7
36	Quantum theory of large amplitude collective motion: Bosonization of all degrees of freedom. <i>Physical Review C</i> , <b>1994</b> , 49, 1439-1448	2.7	3
35	Extracting nuclear transparency from p,2p-A and e,e?p-A cross sections. <i>Nuclear Physics A</i> , <b>1994</b> , 580, 595-613	1.3	16
34	Generation of collective subspaces and self-consistent cranking operators. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1994</b> , 322, 11-16	4.2	4
33	Mean-field approach to the algebraic treatment of molecules: Bent molecules. <i>Physical Review A</i> , <b>1993</b> , 47, 2064-2074	2.6	11
32	A boson-quasiboson mapping and Dirac quantization. <i>Journal of Physics A</i> , <b>1993</b> , 26, L1047-L1051		
31	Inertial parameters of the Skyrmion-Skyrmion system with the product ansatz. <i>Physical Review C</i> , <b>1993</b> , 48, 2498-2509	2.7	2
30	Can e+e- peaks be explained as resonances in Bhabha scattering?. <i>Physical Review D</i> , <b>1993</b> , 47, 844-852	4.9	3
29	Quantization of the Skyrmion. <i>Physical Review D</i> , <b>1993</b> , 47, 2113-2131	4.9	5
28	Skyrmions and the nuclear force. <i>Physical Review C</i> , <b>1993</b> , 47, 498-511	2.7	16
27	Quantum theory of large amplitude collective motion and the Born-Oppenheimer method. <i>Physical Review C</i> , <b>1993</b> , 48, 178-191	2.7	8
26	From Skyrmions to NN phase shifts. <i>Physical Review C</i> , <b>1993</b> , 48, 2222-2229	2.7	9
25	The Skyrme model of the spin-orbit force. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1993</b> , 314, 159-162	4.2	11
24	Dynamics of antibaryon-baryon annihilation in the Skyrme model. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1993</b> , 303, 1-4	4.2	15
23	Recoil effects in a quantum theory of the Skyrmion. <i>Journal of Physics G: Nuclear and Particle Physics</i> , <b>1992</b> , 18, 499-520	2.9	7

22	QUANTUM CORRECTIONS TO THE CRANKING MODEL. <i>International Journal of Modern Physics E</i> , <b>1992</b> , 01, 95-130	0.7	1
21	Quantum corrections to the potential energy for large amplitude collective motion. <i>Physical Review C</i> , <b>1992</b> , 45, 249-260	2.7	11
20	Skyrmions and the nuclear force. <i>Physical Review Letters</i> , <b>1992</b> , 68, 3849-3852	7.4	20
19	Mean-field approach to the algebraic treatment of molecules: Linear molecules. <i>Physical Review A</i> , <b>1992</b> , 46, 4037-4047	2.6	12
18	Ground-state correlations and restoration of broken symmetry to nuclear mean field theory. <i>Nuclear Physics A</i> , <b>1991</b> , 535, 1-22	1.3	22
17	On the occurrence of particle-antiparticle resonances in scalar QED. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1991</b> , 273, 1-5	4.2	10
16	Classical theory of collective motion in the large amplitude, small velocity regime. <i>Annals of Physics</i> , <b>1991</b> , 208, 90-148	2.5	39
15	Theory of large-amplitude collective motion applied to the structure of $^{28}\text{Si}$ . <i>Physical Review C</i> , <b>1991</b> , 43, 2254-2267	2.7	12
14	Thermal boson expansions and dynamical symmetry. <i>Nuclear Physics A</i> , <b>1990</b> , 510, 261-284	1.3	13
13	Generalization of the quantized Bogoliubov-Valatin transformation and relation to the method of the vector coherent state: The case of $U(3)$ . <i>Nuclear Physics A</i> , <b>1990</b> , 515, 207-225	1.3	5
12	Generalized valley approximation applied to a schematic model of the monopole excitation. <i>Physical Review C</i> , <b>1990</b> , 41, 318-328	2.7	9
11	Lifetime of a hydrogen atom in an intense radiation field. <i>Physical Review A</i> , <b>1990</b> , 41, 3905-3915	2.6	5
10	Radiative distortion of the hydrogen atom in superintense, high-frequency fields of linear polarization. <i>Physical Review A</i> , <b>1990</b> , 41, 477-494	2.6	125
9	Adiabatic time-dependent Hartree-Fock theory in the generalized valley approximation. <i>Physical Review C</i> , <b>1989</b> , 40, 945-959	2.7	12
8	Reaction paths and generalized valley approximation. <i>Journal of Chemical Physics</i> , <b>1989</b> , 91, 2848-2858	3.9	26
7	The doubly-magic character of $^{146}\text{Gd}$ and its relation to $^{208}\text{Pb}$ . <i>Zeitschrift für Physik A, Atomic Nuclei</i> , <b>1989</b> , 332, 9-16		1
6	Collective-pair structure of $K^\pi = 0^+, 1^+, 2^+$ bands in deformed nuclei. <i>Nuclear Physics A</i> , <b>1988</b> , 486, 235-252	1.3	5
5	Boson image of the quadrupole operator in deformed nuclei. <i>Nuclear Physics A</i> , <b>1988</b> , 483, 295-306	1.3	2

4	Dichotomy of the hydrogen atom in superintense, high-frequency laser fields. <i>Physical Review Letters</i> , <b>1988</b> , 61, 939-942	7.4	296
3	A study of the SU(3)* limit of IBM-2. <i>Nuclear Physics A</i> , <b>1987</b> , 474, 61-76	1.3	9
2	Collective pair structure of K=0 and K=1 bands in deformed nuclei. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1986</b> , 179, 322-326	4.2	17
1	Semiclassical treatment of the M1-mode in IBA-2. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , <b>1985</b> , 163, 1-6	4.2	19