

Niels R Walet

List of Publications by Citations

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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	Dichotomy of the hydrogen atom in superintense, high-frequency laser fields. <i>Physical Review Letters</i> , 1988 , 61, 939-942	7.4	296
110	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	11.5	138
109	Radiative distortion of the hydrogen atom in superintense, high-frequency fields of linear polarization. <i>Physical Review A</i> , 1990 , 41, 477-494	2.6	125
108	Continuum models for twisted bilayer graphene: Effect of lattice deformation and hopping parameters. <i>Physical Review B</i> , 2019 , 99,	3.3	73
107	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	4.2	59
106	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,	3.3	45
105	Classical theory of collective motion in the large amplitude, small velocity regime. <i>Annals of Physics</i> , 1991 , 208, 90-148	2.5	39
104	Color superconductivity in finite systems. <i>Physical Review D</i> , 2002 , 65,	4.9	37
103	Charge-polarized interfacial superlattices in marginally twisted hexagonal boron nitride. <i>Nature Communications</i> , 2021 , 12, 347	17.4	33
102	Translationally invariant treatment of pair correlations in nuclei: I. Spin and isospin dependent correlations. <i>Nuclear Physics A</i> , 1996 , 609, 218-236	1.3	32
101	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	27.7	29
100	Twists and the Electronic Structure of Graphitic Materials. <i>Nano Letters</i> , 2019 , 19, 8683-8689	11.5	27
99	Quantising the B = 2 and B = 3 skyrmion systems. <i>Nuclear Physics A</i> , 1996 , 606, 429-458	1.3	26
98	Reaction paths and generalized valley approximation. <i>Journal of Chemical Physics</i> , 1989 , 91, 2848-2858	3.9	26
97	Baryon structure in a quark-confining nonlocal Nambu-Jona-Lasinio model. <i>Physical Review C</i> , 2004 , 70,	2.7	22
96	Ground-state correlations and restoration of broken symmetry to nuclear mean field theory. <i>Nuclear Physics A</i> , 1991 , 535, 1-22	1.3	22
95	Gender differences in conceptual understanding of Newtonian mechanics: a UK cross-institution comparison. <i>European Journal of Physics</i> , 2013 , 34, 421-434	0.8	21

94	Skyrmions and the nuclear force. <i>Physical Review Letters</i> , 1992 , 68, 3849-3852	7.4	20
93	Nucleons or diquarks: Competition between clustering and color superconductivity in quark matter. <i>Physical Review C</i> , 2000 , 61,	2.7	19
92	Semiclassical treatment of the M1-mode in IBA-2. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1985 , 163, 1-6	4.2	19
91	Toward a Many-Body Treatment of Hamiltonian Lattice SU(N) Gauge Theory. <i>Annals of Physics</i> , 2000 , 284, 215-262	2.5	18
90	Effective interactions in a graphene layer induced by the proximity to a ferromagnet. <i>2D Materials</i> , 2018 , 5, 014004	5.9	18
89	Translationally invariant treatment of pair correlations in nuclei II. Tensor correlations. <i>Nuclear Physics A</i> , 1998 , 643, 243-258	1.3	17
88	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> , 1986 , 179, 322-326	4.2	17
87	Skyrmions and the nuclear force. <i>Physical Review C</i> , 1993 , 47, 498-511	2.7	16
86	Extracting nuclear transparency from p,2p-A and e,e?p-A cross sections. <i>Nuclear Physics A</i> , 1994 , 580, 595-613	1.3	16
85	Shape coexistence in ⁷² Kr at finite angular momentum. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2004 , 604, 163-169	4.2	15
84	Off-shell effects and consistency of many-body treatments of dense matter. <i>Physical Review C</i> , 2003 , 67,	2.7	15
83	Towards a phase diagram of the 2D Skyrme model. <i>Europhysics Letters</i> , 2001 , 55, 633-639	1.6	15
82	Dynamics of antibaryon-baryon annihilation in the Skyrme model. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1993 , 303, 1-4	4.2	15
81	Edge Modes and Nonlocal Conductance in Graphene Superlattices. <i>Physical Review Letters</i> , 2018 , 120, 026802	7.4	13
80	Renormalization group, dimer-dimer scattering, and three-body forces. <i>Physical Review A</i> , 2010 , 81,	2.6	13
79	Convergence of a renormalization-group approach to dimer-dimer scattering. <i>Physical Review A</i> , 2011 , 83,	2.6	13
78	A Coupled-Cluster Formulation of Hamiltonian Lattice Field Theory: The Nonlinear Sigma Model. <i>Annals of Physics</i> , 1998 , 267, 97-133	2.5	13
77	Splitting the gluon?. <i>Physical Review D</i> , 2005 , 72,	4.9	13

76	Calculation of the properties of the rotational bands of 155,157Gd. <i>Physical Review C</i> , 1994 , 50, 245-256	2.7	13
75	Thermal boson expansions and dynamical symmetry. <i>Nuclear Physics A</i> , 1990 , 510, 261-284	1.3	13
74	The emergence of one-dimensional channels in marginal-angle twisted bilayer graphene. <i>2D Materials</i> , 2020 , 7, 015023	5.9	13
73	Description of light nuclei in pionless effective field theory using the stochastic variational method. <i>Physical Review C</i> , 2016 , 94,	2.7	13
72	Diabatic and adiabatic collective motion in a model pairing system. <i>Physical Review C</i> , 1998 , 57, 1192-1203	2.7	12
71	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	1.3	12
70	Theory of large-amplitude collective motion applied to the structure of 28Si. <i>Physical Review C</i> , 1991 , 43, 2254-2267	2.7	12
69	Mean-field approach to the algebraic treatment of molecules: Linear molecules. <i>Physical Review A</i> , 1992 , 46, 4037-4047	2.6	12
68	Adiabatic time-dependent Hartree-Fock theory in the generalized valley approximation. <i>Physical Review C</i> , 1989 , 40, 945-959	2.7	12
67	Mean-field approach to the algebraic treatment of molecules: Bent molecules. <i>Physical Review A</i> , 1993 , 47, 2064-2074	2.6	11
66	Quantum corrections to the potential energy for large amplitude collective motion. <i>Physical Review C</i> , 1992 , 45, 249-260	2.7	11
65	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	4.2	11
64	Effect of layered water structures on the anomalous transport through nanoscale graphene channels. <i>Journal of Physics Communications</i> , 2018 , 2, 085015	1.2	11
63	On the occurrence of particle-antiparticle resonances in scalar QED. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1991 , 273, 1-5	4.2	10
62	Towards a practical approach for self-consistent large amplitude collective motion. <i>Physical Review C</i> , 2004 , 69,	2.7	9
61	From Skyrmions to NN phase shifts. <i>Physical Review C</i> , 1993 , 48, 2222-2229	2.7	9
60	Generalized valley approximation applied to a schematic model of the monopole excitation. <i>Physical Review C</i> , 1990 , 41, 318-328	2.7	9
59	A study of the SU(3)* limit of IBM-2. <i>Nuclear Physics A</i> , 1987 , 474, 61-76	1.3	9

58	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	3.1	9
57	Local harmonic approaches with approximate cranking operators. <i>Physical Review C</i> , 1999 , 61,	2.7	8
56	Further application of a semimicroscopic core-particle coupling method to the properties of ^{155,157} Gd and ¹⁵⁹ Dy. <i>Physical Review C</i> , 1996 , 53, 1655-1659	2.7	8
55	Quantum theory of large amplitude collective motion and the Born-Oppenheimer method. <i>Physical Review C</i> , 1993 , 48, 178-191	2.7	8
54	Flat bands, strains, and charge distribution in twisted bilayer hBN. <i>Physical Review B</i> , 2021 , 103,	3.3	8
53	Exact Renormalisation Group and pairing in many-fermion systems. <i>Nuclear Physics A</i> , 2005 , 749, 134-137.	3.3	7
52	Collective coordinates, shape transitions, and shape coexistence: A microscopic approach. <i>Physical Review C</i> , 1998 , 58, 3397-3406	2.7	7
51	Classical mappings of the symplectic model and their application to the theory of large-amplitude collective motion. <i>Physical Review C</i> , 1994 , 49, 840-851	2.7	7
50	Recoil effects in a quantum theory of the Skyrmion. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 1992 , 18, 499-520	2.9	7
49	Tunable terahertz oscillation arising from Bloch-point dynamics in chiral magnets. <i>Physical Review Research</i> , 2020 , 2,	3.9	7
48	Majorana zero modes in a two-dimensional p-wave superconductor. <i>Physical Review B</i> , 2017 , 96,	3.3	6
47	The translationally-invariant coupled cluster method in coordinate space. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2000 , 480, 61-64	4.2	6
46	Translationally invariant coupled cluster method in coordinate space for nuclei. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2002 , 28, 1209-1222	2.9	5
45	Nuclear transparency in quasifree electron scattering. <i>Physical Review C</i> , 1995 , 51, R1616-R1618	2.7	5
44	Application of a semimicroscopic core-particle coupling method to the backbending in odd deformed nuclei. <i>Physical Review C</i> , 1996 , 54, 638-645	2.7	5
43	Quantization of the Skyrmion. <i>Physical Review D</i> , 1993 , 47, 2113-2131	4.9	5
42	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> , 1990 , 515, 207-225	1.3	5
41	Lifetime of a hydrogen atom in an intense radiation field. <i>Physical Review A</i> , 1990 , 41, 3905-3915	2.6	5

40	Collective-pair structure of $K\pi^- 0+, 1+, 2+$ bands in deformed nuclei. <i>Nuclear Physics A</i> , 1988 , 486, 235-252	1.3	5
39	Functional renormalization group for few-nucleon systems: SU(4) symmetry and its breaking. <i>Physical Review C</i> , 2013 , 87,	2.7	4
38	Linked-cluster Tamm-Dancoff field theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2003 , 570, 129-136	4.2	4
37	EXACT RENORMALIZATION GROUP AND MANY-FERMION SYSTEMS. <i>International Journal of Modern Physics A</i> , 2005 , 20, 596-598	1.2	4
36	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	2.9	4
35	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	4.2	4
34	Application of the functional renormalization group to Bose gases: From linear to hydrodynamic fluctuations. <i>Physical Review B</i> , 2018 , 98,	3.3	4
33	Renormalization of hamiltonian field theory; a non-perturbative and non-unitarity approach. <i>Journal of High Energy Physics</i> , 2003 , 2003, 040-040	5.4	3
32	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	2.9	3
31	Can $e+e^-$ peaks be explained as resonances in Bhabha scattering?. <i>Physical Review D</i> , 1993 , 47, 844-852	4.9	3
30	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	2.7	3
29	Quantum theory of large amplitude collective motion: Bosonization of all degrees of freedom. <i>Physical Review C</i> , 1994 , 49, 1439-1448	2.7	3
28	Thermodynamics of Bose gases from functional renormalization with a hydrodynamic low-energy effective action. <i>Annals of Physics</i> , 2020 , 412, 168006	2.5	3
27	Algebraic Method for Large-Nc QCD. <i>Australian Journal of Physics</i> , 1997 , 50, 211		2
26	TOWARDS A COUPLED-CLUSTER TREATMENT OF SU(N) LATTICE GAUGE FIELD THEORY. <i>International Journal of Modern Physics B</i> , 2006 , 20, 4992-5007	1.1	2
25	Colour superconductivity in finite systems. <i>Acta Physica Hungarica A Heavy Ion Physics</i> , 2002 , 16, 163-168		2
24	Large amplitude collective motion and the structure of low-lying states in ^{68}Se . <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2005 , 31, S1523-S1526	2.9	2
23	A simple model of the charge transfer in DNA-like substances. <i>Nonlinearity</i> , 2005 , 18, 2615-2636	1.7	2

22	The large-Nc 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	4.2	2
21	Inertial parameters of the Skyrmion-Skyrmion system with the product ansatz. <i>Physical Review C</i> , 1993 , 48, 2498-2509	2.7	2
20	Boson image of the quadrupole operator in deformed nuclei. <i>Nuclear Physics A</i> , 1988 , 483, 295-306	1.3	2
19	Electrostatic interactions in twisted bilayer graphene. <i>Nano Materials Science</i> , 2021 ,	10.2	2
18	Jastrow-Correlated Configuration-Interaction Description of Light Nuclei. <i>Few-Body Systems</i> , 1999 , 53-56		2
17	Narrow bands, electrostatic interactions and band topology in graphene stacks. <i>2D Materials</i> , 2021 , 8, 044006	5.9	2
16	Large amplitude collective motion in nuclei and metallic clusters [Applicability of adiabatic theory for a pairing model. <i>European Physical Journal D</i> , 1998 , 48, 813-816		1
15	SKYRMIONS IN QUANTUM HALL SYSTEMS. <i>International Journal of Modern Physics B</i> , 2003 , 17, 5007-5010.	1.1	1
14	COUPLED CLUSTER CALCULATIONS OF THE SCHWINGER MODEL IN HAMILTONIAN LATTICE GAUGE THEORY. <i>International Journal of Modern Physics B</i> , 2003 , 17, 5393-5396	1.1	1
13	VARIATIONAL MONTE CARLO FOR MICROSCOPIC CLUSTER MODELS. <i>International Journal of Modern Physics C</i> , 2004 , 15, 1329-1351	1.1	1
12	COLOUR SUPERCONDUCTIVITY IN FINITE SYSTEMS. <i>International Journal of Modern Physics B</i> , 2003 , 17, 5185-5189	1.1	1
11	Quantum phase transitions and the extended coupled cluster method. <i>Physical Review E</i> , 2001 , 63, 037103.	1.1	1
10	Algebraic approaches in nuclear physics. <i>European Physical Journal D</i> , 1999 , 49, 89-130		1
9	QUANTUM CORRECTIONS TO THE CRANKING MODEL. <i>International Journal of Modern Physics E</i> , 1992 , 01, 95-130	0.7	1
8	The doubly-magic character of ^{146}Gd and its relation to ^{208}Pb . <i>Zeitschrift für Physik A, Atomic Nuclei</i> , 1989 , 332, 9-16		1
7	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	2	1
6	Electronic correlations in the Hubbard model on a bi-partite lattice. <i>Annals of Physics</i> , 2017 , 378, 280-302.	5	
5	Algebraic approaches in nuclear physics. <i>European Physical Journal D</i> , 1998 , 48, 773-781		

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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
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Self-consistent collective subspaces and diabatic/adiabatic motion in nuclei. *Journal of Physics G: Nuclear and Particle Physics*, **1999**, 25, 815-817
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Magnetization Signature of Topological Surface States in a Non-Symmorphic Superconductor. *Advanced Materials*, **2021**, 33, e2103257