

Nikolaj Thomas Zinner

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.

151
papers

3,705
citations

28
h-index

55
g-index

163
ext. papers

4,268
ext. citations

3.1
avg, IF

5.71
L-index

#	Paper	IF	Citations
151	Quantum Maxwell's demon assisted by non-Markovian effects.. <i>Physical Review E</i> , 2022 , 105, 044141	2.4	0
150	Generation of spin currents by a temperature gradient in a two-terminal device. <i>Communications Physics</i> , 2021 , 4,	5.4	2
149	An artificial spiking quantum neuron. <i>Npj Quantum Information</i> , 2021 , 7,	8.6	2
148	Lattice gauge theory and dynamical quantum phase transitions using noisy intermediate-scale quantum devices. <i>Physical Review B</i> , 2021 , 103,	3.3	3
147	Giant Magnetoresistance in Boundary-Driven Spin Chains. <i>Physical Review Letters</i> , 2021 , 126, 077203	7.4	2
146	Quantum thermal transistor in superconducting circuits. <i>Physical Review B</i> , 2020 , 101,	3.3	12
145	Quantum interference device for controlled two-qubit operations. <i>Npj Quantum Information</i> , 2020 , 6,	8.6	4
144	State transfer in an inhomogeneous spin chain. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2020 , 53, 155301	1.3	0
143	Single-step implementation of high-fidelity n-bit Toffoli gates. <i>Physical Review A</i> , 2020 , 101,	2.6	16
142	Clusters in Separated Tubes of Tilted Dipoles. <i>Mathematics</i> , 2020 , 8, 484	2.3	
141	Coherent router for quantum networks with superconducting qubits. <i>Physical Review Research</i> , 2020 , 2,	3.9	3
140	Reducing the Amount of Single-Qubit Rotations in VQE and Related Algorithms. <i>Advanced Quantum Technologies</i> , 2020 , 3, 2000063	4.3	2
139	Stable adiabatic quantum batteries. <i>Physical Review E</i> , 2019 , 100, 032107	2.4	38
138	Realization of efficient quantum gates with a superconducting qubit-qutrit circuit. <i>Scientific Reports</i> , 2019 , 9, 13389	4.9	22
137	Most scientists prefer small and mid-sized research grants. <i>Nature Human Behaviour</i> , 2019 , 3, 765-767	12.8	3
136	Controllable two-qubit swapping gate using superconducting circuits. <i>Physical Review B</i> , 2019 , 99,	3.3	4
135	Realizing time crystals in discrete quantum few-body systems. <i>Physical Review B</i> , 2019 , 99,	3.3	14

134	Effective approach to impurity dynamics in one-dimensional trapped Bose gases. <i>Physical Review A</i> , 2019 , 100,	2.6	29
133	Native three-body interaction in superconducting circuits. <i>Physical Review Research</i> , 2019 , 1,	3.9	8
132	Correlated Gaussian approach to anisotropic resonantly interacting few-body systems. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2019 , 52, 145102	1.3	4
131	Dynamics of spin and density fluctuations in strongly interacting few-body systems. <i>Scientific Reports</i> , 2019 , 9, 15994	4.9	6
130	Ion-induced interactions in a Tomonaga-Luttinger liquid. <i>Physical Review B</i> , 2019 , 100,	3.3	3
129	Emergence of Clusters: Halos, Efimov States, and Experimental Signals. <i>Physical Review Letters</i> , 2018 , 120, 052502	7.4	7
128	Energy-level repulsion by spin-orbit coupling in two-dimensional Rydberg excitons. <i>Physical Review B</i> , 2018 , 97,	3.3	11
127	Squeezing the Efimov effect. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2018 , 51, 065004.3	16	
126	Effects of Interaction Imbalance in a Strongly Repulsive One-Dimensional Bose Gas. <i>Few-Body Systems</i> , 2018 , 59, 1	1.6	2
125	Coalescence of Two Impurities in a Trapped One-dimensional Bose Gas. <i>Physical Review Letters</i> , 2018 , 121, 080405	7.4	44
124	Emergence of junction dynamics in a strongly interacting Bose mixture. <i>New Journal of Physics</i> , 2018 , 20, 063014	2.9	4
123	Quantum collision theory in flat bands. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017 , 50, 064004	1.3	6
122	Comparing numerical and analytical approaches to strongly interacting two-component mixtures in one dimensional traps. <i>European Physical Journal D</i> , 2017 , 71, 1	1.3	12
121	Quantum simulation of Abelian lattice gauge theories via state-dependent hopping. <i>Physical Review A</i> , 2017 , 96,	2.6	16
120	Hybrid model of separable, zero-range, few-body interactions in one-dimensional harmonic traps. <i>Physical Review A</i> , 2017 , 96,	2.6	3
119	Mobile spin impurity in an optical lattice. <i>New Journal of Physics</i> , 2017 , 19, 075001	2.9	3
118	Luttinger liquids from a microscopic perspective. <i>Physica Scripta</i> , 2017 , 92, 095801	2.6	1
117	Combined mean-field and three-body model tested on the O26 nucleus. <i>Physical Review C</i> , 2017 , 95,	2.7	7

116	Dynamical realization of magnetic states in a strongly interacting Bose mixture. <i>Physical Review A</i> , 2017 , 95,	2.6	3
115	Four fermions in a one-dimensional harmonic trap: Accuracy of a variational-ansatz approach. <i>Physical Review A</i> , 2017 , 95,	2.6	21
114	Structure and Decay at Rapid Proton Capture Waiting Points. <i>Few-Body Systems</i> , 2017 , 58, 1	1.6	1
113	Spin Localization of a Fermi Polaron in a Quasirandom Optical Lattice. <i>Few-Body Systems</i> , 2017 , 58, 1	1.6	6
112	Combining Few-Body Cluster Structures with Many-Body Mean-Field Methods. <i>Few-Body Systems</i> , 2017 , 58, 1	1.6	2
111	Analytical and numerical studies of BoseFermi mixtures in a one-dimensional harmonic trap. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2017 , 50, 144002	1.3	15
110	Capture reactions into borromean two-proton systems at rp-waiting points. <i>Journal of Physics: Conference Series</i> , 2017 , 863, 012074	0.3	
109	Exploring the few- to many-body crossover using cold atoms in one dimension. <i>EPJ Web of Conferences</i> , 2016 , 113, 01002	0.3	23
108	Simulation of time-dependent Heisenberg models in one dimension. <i>Physical Review B</i> , 2016 , 93,	3.3	11
107	Capture reactions into Borromean two-proton systems at rp waiting points. <i>Physical Review C</i> , 2016 , 93,	2.7	7
106	Quantum spin transistor with a Heisenberg spin chain. <i>Nature Communications</i> , 2016 , 7, 13070	17.4	44
105	Unitary fermions and L�cher formula on a crystal. <i>Science China: Physics, Mechanics and Astronomy</i> , 2016 , 59, 1	3.6	2
104	Entanglement of an impurity in a few-body one-dimensional ideal Bose system. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016 , 49, 075303	1.3	10
103	Correlation properties of a three-body bosonic mixture in a harmonic trap. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016 , 49, 135301	1.3	11
102	Computation of local exchange coefficients in strongly interacting one-dimensional few-body systems: local density approximation and exact results. <i>European Physical Journal D</i> , 2016 , 70, 1	1.3	5
101	Quantum single-particle properties in a one-dimensional curved space. <i>Journal of Modern Optics</i> , 2016 , 63, 1814-1828	1.1	4
100	Quantum few-body bound states of dipolar particles in a helical geometry. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016 , 49, 024002	1.3	7
99	Three-body bound states of two bosonic impurities immersed in a Fermi sea in 2D. <i>New Journal of Physics</i> , 2016 , 18, 043023	2.9	7

98	Tunable self-assembled spin chains of strongly interacting cold atoms for demonstration of reliable quantum state transfer. <i>New Journal of Physics</i> , 2016 , 18, 045011	2.9	13
97	An interpolatory ansatz captures the physics of one-dimensional confined Fermi systems. <i>Scientific Reports</i> , 2016 , 6, 28362	4.9	16
96	Comparing models for the ground state energy of a trapped one-dimensional Fermi gas with a single impurity. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016 , 49, 125305	1.3	10
95	Impenetrable mass-imbalanced particles in one-dimensional harmonic traps. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016 , 49, 085301	1.3	26
94	CONAN—the cruncher of local exchange coefficients for strongly interacting confined systems in one dimension. <i>Computer Physics Communications</i> , 2016 , 209, 171-182	4.2	20
93	Efimov States in Li^{∞} s Mixtures within a Minimal Model. <i>Few-Body Systems</i> , 2015 , 56, 125-131	1.6	4
92	Weakly bound states of two- and three-boson systems in the crossover from two to three dimensions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015 , 48, 025302	1.3	20
91	Engineering the dynamics of effective spin-chain models for strongly interacting atomic gases. <i>Physical Review A</i> , 2015 , 91,	2.6	65
90	Three-body recombination of two-component cold atomic gases into deep dimers in an optical model. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015 , 48, 085301	1.3	17
89	Repulsively interacting fermions in a two-dimensional deformed trap with spin-orbit coupling. <i>European Physical Journal D</i> , 2015 , 69, 1	1.3	3
88	A variational approach to repulsively interacting three-fermion systems in a one-dimensional harmonic trap. <i>European Physical Journal D</i> , 2015 , 69, 1	1.3	26
87	THE ROLE OF FISSION IN NEUTRON STAR MERGERS AND ITS IMPACT ON THE r -PROCESS PEAKS. <i>Astrophysical Journal</i> , 2015 , 808, 30	4.7	107
86	Analytic Expression for Three-Body Recombination Rates into Deep Dimers. <i>Few-Body Systems</i> , 2015 , 56, 889-896	1.6	3
85	Real-time dynamics of an impurity in an ideal Bose gas in a trap. <i>Physical Review A</i> , 2015 , 92,	2.6	55
84	Quantum impurity in a one-dimensional trapped Bose gas. <i>Physical Review A</i> , 2015 , 92,	2.6	44
83	Strongly interacting mesoscopic systems of anyons in one dimension. <i>Physical Review A</i> , 2015 , 92,	2.6	19
82	Classical crystal formation of dipoles in two dimensions. <i>Physica Scripta</i> , 2015 , 90, 125002	2.6	3
81	Effective Field Theory of Interactions on the Lattice. <i>Few-Body Systems</i> , 2015 , 56, 845-851	1.6	15

80	Hyperspherical treatment of strongly-interacting few-fermion systems in one dimension. <i>European Physical Journal: Special Topics</i> , 2015 , 224, 585-590	2.3	5
79	Analytic solutions of topologically disjoint systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2015 , 48, 085301	2	19
78	Universality of Three-Body Systems in 2D: Parametrization of the Bound States Energies. <i>Few-Body Systems</i> , 2014 , 55, 1025-1027	1.6	
77	Mass-Imbalanced Three-Body Systems in 2D: Bound States and the Analytical Approach to the Adiabatic Potential. <i>Few-Body Systems</i> , 2014 , 55, 847-850	1.6	
76	Spin-Orbit Coupling in Deformed Harmonic Traps. <i>Few-Body Systems</i> , 2014 , 55, 1045-1047	1.6	2
75	Strongly interacting confined quantum systems in one dimension. <i>Nature Communications</i> , 2014 , 5, 530017.4	1.7	123
74	Mapping the two-component atomic Fermi gas to the nuclear shell-model. <i>European Physical Journal D</i> , 2014 , 68, 1	1.3	3
73	Higher-order Brunnian structures and possible physical realizations. <i>Physics of Atomic Nuclei</i> , 2014 , 77, 336-343	0.4	12
72	Fractional energy states of strongly interacting bosons in one dimension. <i>Europhysics Letters</i> , 2014 , 107, 60003	1.6	31
71	Assessing the accuracy of Hartree-Fock-Bogoliubov calculations by use of mass relations. <i>European Physical Journal A</i> , 2014 , 50, 1	2.5	2
70	Fermionization of two-component few-fermion systems in a one-dimensional harmonic trap. <i>New Journal of Physics</i> , 2014 , 16, 063003	2.9	71
69	Contact parameters in two dimensions for general three-body systems. <i>New Journal of Physics</i> , 2014 , 16, 013048	2.9	3
68	Efimov three-body states on top of a Fermi sea. <i>New Journal of Physics</i> , 2014 , 16, 023026	2.9	17
67	Statistical properties of spectra in harmonically trapped spin-orbit coupled systems. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 195303	1.3	9
66	Borromean structures in medium-heavy nuclei. <i>Physical Review C</i> , 2014 , 90,	2.7	6
65	Borromean ground state of fermions in two dimensions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 185302	1.3	26
64	Spectral flow of trimer states of two heavy impurities and one light condensed boson. <i>European Physical Journal D</i> , 2014 , 68, 1	1.3	5
63	Formation of classical crystals of dipolar particles in a helical geometry. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014 , 47, 165103	1.3	9

62	Few-Body Physics in a Many-Body World. <i>Few-Body Systems</i> , 2014 , 55, 599-604	1.6	15
61	Multicomponent Strongly Interacting Few-Fermion Systems in One Dimension. <i>Few-Body Systems</i> , 2014 , 55, 839-842	1.6	23
60	Comparing and contrasting nuclei and cold atomic gases. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2013 , 40, 053101	2.9	50
59	Efimov Trimers Near the Zero-crossing of a Feshbach Resonance. <i>Few-Body Systems</i> , 2013 , 54, 597-603	1.6	2
58	Thermodynamics of Dipolar Chain Systems. <i>Few-Body Systems</i> , 2013 , 54, 605-618	1.6	7
57	Bound Chains of Tilted Dipoles in Layered Systems. <i>Few-Body Systems</i> , 2013 , 54, 707-715	1.6	6
56	Dipoles on a two-leg ladder. <i>Physical Review B</i> , 2013 , 88,	3.3	6
55	Efimov states of heavy impurities in a Bose-Einstein condensate. <i>Europhysics Letters</i> , 2013 , 101, 60009	1.6	26
54	Occurrence conditions for two-dimensional Borromean systems. <i>European Physical Journal D</i> , 2013 , 67, 1	1.3	9
53	Finite-range effects in energies and recombination rates of three identical bosons. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013 , 46, 075301	1.3	14
52	Mass-imbalanced three-body systems in two dimensions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013 , 46, 055301	1.3	22
51	Bound states of dipolar bosons in one-dimensional systems. <i>New Journal of Physics</i> , 2013 , 15, 043046	2.9	21
50	Spectral gaps of spin-orbit coupled particles in deformed traps. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2013 , 46, 134012	1.3	10
49	Single-particle momentum distributions of Efimov states in mixed-species systems. <i>Physical Review A</i> , 2013 , 87,	2.6	16
48	Three-body recombination at finite energy within an optical model. <i>Physical Review A</i> , 2013 , 88,	2.6	11
47	Dimensional effects on the momentum distribution of bosonic trimer states. <i>Physical Review A</i> , 2013 , 87,	2.6	11
46	Efimov physics and the three-body parameter within a two-channel framework. <i>Physical Review A</i> , 2012 , 86,	2.6	45
45	Dimers, Effective Interactions, and Pauli Blocking Effects in a Bilayer of Cold Fermionic Polar Molecules. <i>Few-Body Systems</i> , 2012 , 53, 369-385	1.6	13

44	Layers of cold dipolar molecules in the harmonic approximation. <i>European Physical Journal D</i> , 2012 , 66, 1	1.3	20
43	BCS-BEC crossover in bilayers of cold fermionic polar molecules. <i>Physical Review A</i> , 2012 , 85,	2.6	42
42	Few-body bound-state stability of dipolar molecules in two dimensions. <i>Physical Review A</i> , 2012 , 85,	2.6	21
41	Quantum statistics and thermodynamics in the harmonic approximation. <i>Physical Review E</i> , 2012 , 85, 021117	2.4	18
40	Field-induced long-lived supermolecules. <i>Physical Review A</i> , 2012 , 85,	2.6	5
39	Universal two-body spectra of ultracold harmonically trapped atoms in two and three dimensions. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2012 , 45, 205302	2	20
38	Density wave instabilities of tilted fermionic dipoles in a multilayer geometry. <i>New Journal of Physics</i> , 2012 , 14, 105006	2.9	23
37	Universal properties of Fermi gases in arbitrary dimensions. <i>Physical Review A</i> , 2012 , 86,	2.6	52
36	Supercircle description of universal three-body states in two dimensions. <i>Physical Review A</i> , 2012 , 85,	2.6	17
35	Virial expansion coefficients in the harmonic approximation. <i>Physical Review E</i> , 2012 , 86, 021115	2.4	18
34	Effective Potential for Ultracold Atoms at the Zero Crossing of a Feshbach Resonance. <i>Journal of Atomic, Molecular, and Optical Physics</i> , 2012 , 2012, 1-9		
33	Many-particle systems in one dimension in the harmonic approximation. <i>Physica Scripta</i> , 2012 , T151, 014061	0.6	6
32	Analytic harmonic approach to the N-body problem. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 055303	1.3	34
31	Universal relations for the two-dimensional spin-1/2 Fermi gas with contact interactions. <i>Physical Review A</i> , 2011 , 84,	2.6	56
30	Few-body bound complexes in one-dimensional dipolar gases and nondestructive optical detection. <i>Physical Review A</i> , 2011 , 84,	2.6	28
29	Density waves in layered systems with fermionic polar molecules. <i>European Physical Journal D</i> , 2011 , 65, 133-139	1.3	32
28	Weakly Bound States of Polar Molecules in Bilayers. <i>Few-Body Systems</i> , 2011 , 50, 395-397	1.6	7
27	Galactic abundances as a relic neutrino detection scheme. <i>Journal of Cosmology and Astroparticle Physics</i> , 2011 , 2011, 019-019	6.4	

26	Bound dimers in bilayers of cold polar molecules. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 125301	1.3	27
25	Scaling and universality in two dimensions: three-body bound states with short-ranged interactions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2011 , 44, 205302	1.3	21
24	Few-body bound states in dipolar gases and their detection. <i>Physical Review Letters</i> , 2011 , 107, 073201	7.4	43
23	Model independence in two dimensions and polarized cold dipolar molecules. <i>Physical Review Letters</i> , 2011 , 106, 250401	7.4	37
22	Vortex Structures in a Rotating BEC Dark Matter Component. <i>Research Letters in Physics</i> , 2011 , 2011, 1-12		24
21	Electromagnetic counterparts of compact object mergers powered by the radioactive decay of r-process nuclei. <i>Monthly Notices of the Royal Astronomical Society</i> , 2010 , 406, 2650-2662	4.3	687
20	Phases in balanced fermionic superfluids on spin-dependent optical lattices. <i>Physical Review Letters</i> , 2010 , 105, 095301	7.4	16
19	Bound states and universality in layers of cold polar molecules. <i>Europhysics Letters</i> , 2010 , 91, 16001	1.6	45
18	Magnetic structure of an imbalanced Fermi gas in an optical lattice. <i>Physical Review A</i> , 2010 , 81,	2.6	14
17	Stability of a fully polarized ultracold Fermi gas near zero-crossing of a p-wave Feshbach resonance. <i>European Physical Journal D</i> , 2010 , 57, 235-240	1.3	4
16	Shell-model Monte Carlo simulations of the BCS-BEC crossover in few-fermion systems. <i>Physical Review A</i> , 2009 , 80,	2.6	19
15	Stability of a Bose-Einstein condensate with higher-order interactions near a Feshbach resonance. <i>Physical Review A</i> , 2009 , 80,	2.6	28
14	Thomas-Fermi approximation for a condensate with higher-order interactions. <i>Physical Review A</i> , 2009 , 80,	2.6	27
13	Comment on "Coexistence of BCS- and BEC-like pair structures in halo nuclei". <i>Physical Review Letters</i> , 2008 , 101, 179201; discussion 179202	7.4	4
12	Nuclear α -particle condensates: Definitions, occurrence conditions, and consequences. <i>Physical Review C</i> , 2008 , 78,	2.7	16
11	Common concepts in nuclear physics and ultracold atomic gasses. <i>Journal of Physics: Conference Series</i> , 2008 , 111, 012016	0.3	3
10	Production of intermediate-mass and heavy nuclei. <i>Progress in Particle and Nuclear Physics</i> , 2007 , 59, 74-93	10.6	16
9	The role of fission in the r-process. <i>Progress in Particle and Nuclear Physics</i> , 2007 , 59, 199-205	10.6	52

8	Alpha decay rate enhancement in metals: An unlikely scenario. <i>Nuclear Physics A</i> , 2007 , 781, 81-87	1.3	39
7	Muon capture on nuclei: Random phase approximation evaluation versus data for 6Z?94 nuclei. <i>Physical Review C</i> , 2006 , 74,	2.7	21
6	Neutrino-induced nucleosynthesis of A>64 nuclei: the nu p process. <i>Physical Review Letters</i> , 2006 , 96, 142502	7.4	346
5	Composition of the Innermost Core-Collapse Supernova Ejecta. <i>Astrophysical Journal</i> , 2006 , 637, 415-426.	4.7	170
4	Nucleosynthesis in neutrino-driven supernovae. <i>New Astronomy Reviews</i> , 2006 , 50, 496-499	7.9	14
3	Cross sections and fragment distributions from neutrino-induced fission on r-process nuclei. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2005 , 616, 48-58	4.2	13
2	The Innermost Ejecta of Core Collapse Supernovae. <i>Nuclear Physics A</i> , 2005 , 758, 27-30	1.3	8
1	Muon capture on nickel and tin isotopes. <i>European Physical Journal A</i> , 2003 , 17, 625-631	2.5	2