Nils Paar

List of Publications by Year
in descending order

127 papers	4,088 citations	136950 32 h-index	114465 63 g-index
128 all docs	128 docs citations	128 times ranked	1269 citing authors

#	Article	IF	Citations
1	Exotic modes of excitation in atomic nuclei far from stability. Reports on Progress in Physics, 2007, 70, 691-793.	20.1	464
2	Nuclear symmetry energy and neutron skins derived from pygmy dipole resonances. Physical Review C, 2007, 76, .	2.9	334
3	Quasiparticle random phase approximation based on the relativistic Hartree-Bogoliubov model. Physical Review C, 2003, 67, .	2.9	216
4	Electric dipole polarizability and the neutron skin. Physical Review C, 2012, 85, .	2.9	198
5	DIRHBâ€"A relativistic self-consistent mean-field framework for atomic nuclei. Computer Physics Communications, 2014, 185, 1808-1821.	7.5	187
6	Neutron skin thickness from the measured electric dipole polarizability in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mtext>Ni</mml:mtext><mml:mprescripts /><mml:none /><mml:mn>68</mml:mn></mml:mmultiscripts></mml:math>, <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mtext>Sn</mml:mtext><mml:mprescripts /><mml:none /><mml:mn>120</mml:mn></mml:mmultiscripts></mml:math>, and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmult. Physical Review C, 2015, 92, .	2.9	175
7	Nuclear equation of state from ground and collective excited state properties of nuclei. Progress in Particle and Nuclear Physics, 2018, 101, 96-176.	14.4	155
8	Collectivity of the low-lying dipole strength in relativistic random phase approximation. Nuclear Physics A, 2001, 692, 496-517.	1.5	147
9	Electric dipole polarizability in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>208</mml:mn></mml:msup></mml:math>Pb: Insights from the droplet model. Physical Review C, 2013, 88, .	2.9	146
10	Quasiparticle random phase approximation based on the relativistic Hartree-Bogoliubov model. II. Nuclear spin and isospin excitations. Physical Review C, 2004, 69, .	2.9	145
11	Giant quadrupole resonances in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mrow /><mml:mn>208</mml:mn></mml:msup></mml:math>Pb, the nuclear symmetry energy, and the neutron skin thickness. Physical Review C, 2013, 87, .	2.9	113
12	Hartree-Fock and many body perturbation theory with correlated realistic NN interactions. Physical Review C, 2006, 73, .	2.9	89
13	Toroidal dipole resonances in the relativistic random phase approximation. Physical Review C, 2002, 65, .	2.9	79
14	Isotopic dependence of the pygmy dipole resonance. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 606, 288-294.	4.1	77
15	Î²-decay rates of r-process nuclei in the relativistic quasiparticle random phase approximation. Physical Review C, 2005, 71, .	2.9	76
16	Low-energy isovector and isoscalar dipole response in neutron-rich nuclei. Physical Review C, 2012, 85, .	2.9	69
17	Calculation of stellar electron-capture cross sections on nuclei based on microscopic Skyrme functionals. Physical Review C, 2009, 80, .	2.9	68
18	Isoscalar and Isovector Splitting of Pygmy Dipole Structures. Physical Review Letters, 2009, 103, 032502.	7.8	67

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19	Stellar electron-capture rates calculated with the finite-temperature relativistic random-phase approximation. Physical Review C, 2011, 83, .	2.9	67
20	Pygmy dipole resonances in the relativistic random phase approximation. Physical Review C, 2001, 63, .	2.9	66
21	Inclusive charged-current neutrino-nucleus reactions calculated with the relativistic quasiparticle random-phase approximation. Physical Review C, 2008, 77, .	2.9	66
22	Proton Electric Pygmy Dipole Resonance. Physical Review Letters, 2005, 94, 182501.	7.8	48
23	Pairing transitions in finite-temperature relativistic Hartree-Bogoliubov theory. Physical Review C, 2013, 88, .	2.9	47
24	Information content of the weak-charge form factor. Physical Review C, 2013, 88, .	2.9	43
25	Low-energy monopole and dipole response in nuclei at finite temperature. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2009, 681, 315-319.	4.1	41
26	Spin-Isospin Resonances and the Neutron Skin of Nuclei. Physical Review Letters, 2003, 91, 262502.	7.8	40
27	Stellar electron-capture rates on nuclei based on a microscopic Skyrme functional. Physical Review C, 2012, 86, .	2.9	39
28	Collective multipole excitations based on correlated realistic nucleon-nucleon interactions. Physical Review C, 2006, 74, .	2.9	36
29	Optimizing the relativistic energy density functional with nuclear ground state and collective excitation properties. Physical Review C, 2019, 99, .	2.9	36
30	Low-energy monopole strength in exotic nickel isotopes. Physical Review C, 2011, 84, .	2.9	34
31	Covariance analysis for energy density functionals and instabilities. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 034033.	3.6	34
32	Model dependence of the neutron-skin thickness on the symmetry energy. Physical Review C, 2016, 93, .	2.9	34
33	Neutrino and antineutrino charge-exchange reactions on $^{12}\mathrm{C}$. Physical Review C, 2011, 83, .	2.9	30
34	Neutron star structure and collective excitations of finite nuclei. Physical Review C, 2014, 90, .	2.9	27
35	$\hat{\beta}$-delayed neutron-emission and fission calculations within relativistic quasiparticle random-phase approximation and a statistical model. Physical Review C, 2021, 104, .	2.9	27
36	Relativistic quasiparticle random-phase approximation calculation of total muon capture rates. Physical Review C, 2009, 79, .	2.9	25

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37	...dipole resonance in $<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Ce</mml:mi><mml:mprescripts /><mml:none /><mml:mn>140</mml:mn></mml:mmultiscripts></mml:math>$ via inelastic scattering of $<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">O</mml:mi><mml:mprescripts /><mml:none /><mml:mn>17</mml:mn></mml:mmultiscripts></mml:math>$. Physical Review C, 2016, 93, .	2.9	24
38	Incompressibility of finite fermionic systems: Stable and exotic atomic nuclei. Physical Review C, 2013, 87, .	2.9	21
39	The quest for novel modes of excitation in exotic nuclei. Journal of Physics G: Nuclear and Particle Physics, 2010, 37, 064014.	3.6	20
40	Low-energy dipole excitations towards the proton drip-line: Doubly magic 48Ni. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 624, 195-202.	4.1	19
41	Uncertainties in modeling low-energy neutrino-induced reactions on iron-group nuclei. Physical Review C, 2011, 84, .	2.9	19
42	Neutral-current neutrino-nucleus cross sections based on relativistic nuclear energy density functional. Physical Review C, 2012, 86, .	2.9	18
43	Anti-analog giant dipole resonances and the neutron skin of nuclei. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2013, 720, 428-432.	4.1	18
44	Nonlinear dynamics of giant resonances in atomic nuclei. Physical Review E, 1999, 60, 308-319.	2.1	17
45	Relativistic mean-field description of the dynamics of giant resonances. Nuclear Physics A, 1999, 649, 29-36.	1.5	17
46	Evolution of the dipole polarizability in the stable tin isotope chain. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2020, 810, 135804.	4.1	17
47	Gamow-Teller excitations at finite temperature: Competition between pairing and temperature effects. Physical Review C, 2020, 101, .	2.9	17
48	Nuclear collective excitations using correlated realistic interactions: The role of explicit random-phase approximation correlations. Physical Review C, 2007, 75, .	2.9	16
49	Hierarchical structure of cascade of primary and secondary periodicities in Fourier power spectrum of alphoid higher order repeats. BMC Bioinformatics, 2008, 9, 466.	2.6	16
50	Optimizing relativistic energy density functionals: covariance analysis. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 034008.	3.6	16
51	Magnetic dipole excitations based on the relativistic nuclear energy density functional. Physical Review C, 2020, 102, .	2.9	16
52	Relativistic QRPA description of low-lying dipole strength in neutron-rich nuclei. Nuclear Physics A, 2004, 731, 281-288.	1.5	15
53	Large-scale calculations of supernova neutrino-induced reactions in $<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Z</mml:mi><mml:mo>=</mml:mo><mml:mn>8</mml:mn></mml:mrow></mml:math>$–82 target nuclei. Physical Review C, 2013, 87, .	2.9	15
54	Stellar electron-capture rates based on finite-temperature relativistic quasiparticle random-phase approximation. Physical Review C, 2020, 102, .	2.9	13

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55	Role of momentum transfer in the quenching of Gamow-Teller strength. Physical Review C, 2012, 85, .	2.9	12
56	Nuclear charge-exchange excitations based on a relativistic density-dependent point-coupling model. Physical Review C, 2021, 103, .	2.9	12
57	Role of residual interaction in the relativistic description of M1 excitation. Journal of Physics G: Nuclear and Particle Physics, 2020, 47, 115106.	3.6	12
58	Neutron-skin thickness of ^{208}Pb from the energy of the anti-analogue giant dipole resonance. Physica Scripta, 2013, T154, 014018.	2.5	11
59	Evolution of β -decay half-lives in stellar environments. Physical Review C, 2021, 104, .	2.9	11
60	Relativistic QRPA description of nuclear excitations. Journal of Physics G: Nuclear and Particle Physics, 2008, 35, 014039.	3.6	10
61	Hybrid method to resolve the neutrino mass hierarchy by supernova (anti)neutrino induced reactions. Journal of Cosmology and Astroparticle Physics, 2016, 2016, 007-007.	5.4	10
62	Neutrino–nucleus reactions with the relativistic quasiparticle RPA. Journal of Physics G: Nuclear and Particle Physics, 2008, 35, 014058.	3.6	9
63	Modeling nuclear weak-interaction processes with relativistic energy density functionals. International Journal of Modern Physics E, 2015, 24, 1541004.	1.0	8
64	Magnetic dipole excitation and its sum rule in nuclei with two valence nucleons. Physical Review C, 2019, 100, .	2.9	8
65	Statistical Hauser-Feshbach Model Description of (n,α) Reaction Cross Sections for the Weak s-Process. Universe, 2022, 8, 25.	2.5	8
66	Relativistic quasiparticle random-phase approximation description of isoscalar compression modes in open-shell nuclei in the $A\approx60$ mass region. Physical Review C, 2006, 74, .	2.9	7
67	Nuclear Structure in the UCOM Framework: From Realistic Interactions to Collective Excitations. Nuclear Physics A, 2007, 788, 12-19.	1.5	7
68	Neutron-skin thickness from the study of the anti-analog giant dipole resonance. , 2012, , .		7
69	Self-consistent calculation of the reactor antineutrino spectra including forbidden transitions. Journal of Physics G: Nuclear and Particle Physics, 2019, 46, 085103.	3.6	7
70	Nonlinear regular dynamics of a single-degree robot model. Robotica, 1996, 14, 423-431.	1.9	6
71	Dynamics of Exotic Nuclear Systems: Covariant QRPA and Extensions. Nuclear Physics A, 2007, 788, 194-201.	1.5	6
72	Finite-temperature electron-capture rates for neutron-rich nuclei near $N=50$ and effects on core-collapse supernova simulations. Physical Review C, 2022, 105, .	2.9	6

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73	Collective excitations far from the valley of stability. Nuclear Physics A, 2003, 722, C372-C378.	1.5	5
74	Self-consistent relativistic QRPA studies of soft modes and spin-isospin resonances in unstable nuclei. European Physical Journal A, 2005, 25, 531-534.	2.5	5
75	Evolution of magnetic dipole strength in $^{100-140}\mathrm{Sn}$ isotope chain and the quenching of nucleon g factors. Physica.	2.9	5
76	Discerning nuclear pairing properties from magnetic dipole excitation. European Physical Journal A, 2021, 57, 1.	2.5	5
77	Finite-temperature linear response theory based on relativistic Hartree Bogoliubov model with point-coupling interaction. Physical Review C, 2021, 104, .	2.9	5
78	Nuclear Equation of State in the Relativistic Point-Coupling Model Constrained by Excitations in Finite Nuclei. Universe, 2021, 7, 71.	2.5	4
79	Nonlinear dynamics of a single-degree robot model Part 2: Onset of chaotic transients. Robotica, 2000, 18, 201-208.	1.9	3
80	Relativistic Hartree-Bogoliubov and QRPA description of exotic nuclear structure. European Physical Journal A, 2003, 20, 75-80.	2.5	3
81	Relativistic description of regular and chaotic dynamics in the giant monopole resonances. Chaos, Solitons and Fractals, 2003, 17, 585-590.	5.1	3
82	RELATIVISTIC DESCRIPTION OF EXOTIC COLLECTIVE EXCITATION PHENOMENA IN ATOMIC NUCLEI. International Journal of Modern Physics E, 2005, 14, 29-37.	1.0	3
83	NUCLEAR EXCITATIONS AND WEAK INTERACTION RATES AT FINITE TEMPERATURE. Modern Physics Letters A, 2010, 25, 1767-1770.	1.2	3
84	Probing the neutron skin thickness in collective modes of excitation. EPJ Web of Conferences, 2014, 66, 02078.	0.3	3
85	Two-neutrino double-β decay matrix elements based on a relativistic nuclear energy density functional. Physical Review C, 2022, 105, .	2.9	3
86	SELF-CONSISTENT DESCRIPTION OF COLLECTIVE EXCITATIONS IN THE UNITARY CORRELATION OPERATOR METHOD. International Journal of Modern Physics E, 2006, 15, 346-353.	1.0	2
87	A New Method for Measuring Neutron-skin Thickness in Rare Isotope Beams. Acta Physica Polonica B, 2013, 44, 559.	0.8	2
88	The Nuclear Symmetry Energy and Other Isovector Observables from the Point of View of Nuclear Structure. Acta Physica Polonica B, 2015, 46, 395.	0.8	2
89	Microscopic Calculations of β-decay Rates for r-process. Acta Physica Polonica B, 2017, 48, 641.	0.8	2
90	Symmetry breaking of Gamow-Teller and magnetic-dipole transitions and its restoration in calcium isotopes. Physical Review C, 2022, 105, .	2.9	2

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91	Pygmy Dipole Strength and Neutron Skins in Exotic Nuclei. AIP Conference Proceedings, 2008, , .	0.4	1
92	Comment on â€œPygmy dipole response of proton-rich argon nuclei in random-phase approximation and no-core shell modelâ€. Physical Review C, 2008, 78, .	2.9	1
93	Neutrino and antineutrino cross sections in ^{12}C. Journal of Physics: Conference Series, 2011, 312, 072009.	0.4	1
94	Finite temperature effects on monopole and dipole excitations. Journal of Physics: Conference Series, 2011, 312, 042017.	0.4	1
95	Sensitivity of the electric dipole polarizability to the neutron skin thickness in [sup 208]Pb. , 2012, , .		1
96	Stellar electron-capture rates on nuclei based on Skyrme functionals. EPJ Web of Conferences, 2014, 66, 02035.	0.3	1
97	Resolving neutrino mass hierarchy from supernova (anti)neutrino-nucleus reactions. AIP Conference Proceedings, 2015, , .	0.4	1
98	The symmetry energy, neutron skin thickness and isovector dipole response of neutron-rich nuclei. EPJ Web of Conferences, 2015, 88, 01008.	0.3	1
99	Measurement of the ^{92,93,94,100}Mo($\hat{I}^3$,n) reactions by Coulomb Dissociation. Journal of Physics: Conference Series, 2016, 665, 012034.	0.4	1
100	Beta decay rates of neutron-rich nuclei. AIP Conference Proceedings, 2016, , .	0.4	1
101	Small amplitude motion. International Review of Nuclear Physics, 2016, , 413-468.	1.0	1
102	Relativistic nuclear energy density functional approach to magnetic-dipole excitation. Journal of Physics: Conference Series, 2020, 1643, 012153.	0.4	1
103	Covariant density functional theory for isospin properties of nuclei far from stability. Journal of Physics: Conference Series, 2005, 20, 119-124.	0.4	0
104	Spin-Isospin Giant Resonances and the Neutron Skin of Nuclei. AIP Conference Proceedings, 2005, , .	0.4	0
105	Self-consistent relativistic QRPA studies of soft modes and spin-isospin resonances in unstable nuclei. , 2005, , 531-534.		0
106	Collective excitations in the unitary correlation operator method and relativistic QRPA studies of exotic nuclei. Physics of Atomic Nuclei, 2006, 69, 1345-1352.	0.4	0
107	Nuclear Structure and Response based on Correlated Realistic NN interactions. AIP Conference Proceedings, 2006, , .	0.4	0
108	Self-consistent models for the collective excitation phenomena in exotic nuclei. AIP Conference Proceedings, 2006, , .	0.4	0

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109	Static and dynamic aspect of covariant density functional theory in proton rich nuclei. AIP Conference Proceedings, 2007, , .	0.4	0
110	Exotic nuclear structure: Relativistic mean-field and beyond. European Physical Journal: Special Topics, 2007, 150, 193-196.	2.6	0
111	Neutrino-nucleus reaction rates based on the relativistic quasiparticle random phase approximation. AIP Conference Proceedings, 2008, , .	0.4	0
112	Relativistic Energy Density Functionals: Exotic modes of excitation. , 2008, , .		0
113	Pygmy Dipole Strength in Exotic Nuclei and the Equation of State. , 2009, , .		0
114	Relativistic Point Coupling Model for Vibrational Excitations in the Continuum. , 2009, , .		0
115	Phenomenological Relativistic Energy Density Functionals. , 2009, , .		0
116	Relativistic Random Phase Approximation At Finite Temperature. , 2009, , .		0
117	Exotic modes of excitation in proton rich nuclei. , 2011, , .		0
118	Exotic modes of excitation and weak interaction rates at finite temperature. , 2011, , .		0
119	Role of momentum transfer in the quenching of the Gamow-Teller strength. , 2012, , .		0
120	Self-consistent theory of stellar electron capture rates. Journal of Physics: Conference Series, 2012, 337, 012013.	0.4	0
121	Nuclear Symmetry Energy: constraints from Giant Quadrupole Resonances and Parity Violating Electron Scattering. EPJ Web of Conferences, 2014, 66, 02092.	0.3	0
122	Nuclear Energy Density Functionals and Neutron Star Properties. Acta Physica Polonica B, 2015, 46, 369.	0.8	0
123	Beta-Delayed Neutron Emission in Neutron-Rich Nuclei. , 2017, , .		0
124	Nuclear magnetic transitions in the relativistic energy density functional approach. EPJ Web of Conferences, 2021, 252, 02002.	0.3	0
125	Relativistic QRPA Description of Excitations in Exotic Nuclei. , 2004, , 661-663.		0
126	STELLAR ELECTRON-CAPTURE RATES: A COVARIANT DENSITY FUNCTIONAL CALCULATION. , 2013, , .		0

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127	Description of weak-interaction rates within the relativistic energy density functional theory. EPJ Web of Conferences, 2022, 260, 11032.	0.3	0