Joseph Carlson

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3910416/publications.pdf

Version: 2024-02-01

114 papers	12,048 citations	24978 57 h-index	24179 110 g-index
116 all docs	116 docs citations	116 times ranked	3336 citing authors

#	Article	IF	Citations
1	Quantum Monte Carlo calculations of nuclei withA<~7. Physical Review C, 1997, 56, 1720-1750.	1.1	910
2	Quantum Monte Carlo Calculations ofAâ‰6Nuclei. Physical Review Letters, 1995, 74, 4396-4399.	2.9	689
3	Quantum Monte Carlo methods for nuclear physics. Reviews of Modern Physics, 2015, 87, 1067-1118.	16.4	553
4	Realistic models of pion-exchange three-nucleon interactions. Physical Review C, 2001, 64, .	1.1	506
5	Superfluid Fermi Gases with Large Scattering Length. Physical Review Letters, 2003, 91, 050401.	2.9	482
6	Structure and dynamics of few-nucleon systems. Reviews of Modern Physics, 1998, 70, 743-841.	16.4	404
7	Three-nucleon interaction in 3-, 4- and âˆž-body systems. Nuclear Physics A, 1983, 401, 59-85.	0.6	391
8	Quantum Monte Carlo calculations ofA=8nuclei. Physical Review C, 2000, 62, .	1.1	355
9	Simulation of coherent nonlinear neutrino flavor transformation in the supernova environment: Correlated neutrino trajectories. Physical Review D, 2006, 74, .	1.6	351
10	Maximum mass and radius of neutron stars, and the nuclear symmetry energy. Physical Review C, 2012, 85, .	1.1	305
11	Constrained path Monte Carlo method for fermion ground states. Physical Review B, 1997, 55, 7464-7477.	1.1	289
12	Benchmark test calculation of a four-nucleon bound state. Physical Review C, 2001, 64, .	1.1	280
13	Constraining the Speed of Sound inside Neutron Stars with Chiral Effective Field Theory Interactions and Observations. Astrophysical Journal, 2018, 860, 149.	1.6	250
14	Asymmetric Two-Component Fermion Systems in Strong Coupling. Physical Review Letters, 2005, 95, 060401.	2.9	246
15	Quantum Monte Carlo calculations of excited states inA=6â€“8nuclei. Physical Review C, 2004, 70, .	1.1	215
16	Tensor Forces and the Ground-State Structure of Nuclei. Physical Review Letters, 2007, 98, 132501.	2.9	208
17	Quantum Monte Carlo studies of superfluid Fermi gases. Physical Review A, 2004, 70, .	1.0	189
18	Chiral Three-Nucleon Interactions in Light Nuclei, Neutron-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>Scattering, and Neutron Matter. Physical Review Letters, 2016, 116, 062501.	2.9	189

#	Article	IF	Citations
19	Quantum MonteÂCarlo Calculations of Neutron-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î±</mml:mi></mml:math>Scattering. Physical Review Letters, 2007, 99, 022502.	2.9	185
20	Low-density neutron matter. Physical Review C, 2010, 81, .	1.1	178
21	Strongly paired fermions: Cold atoms and neutron matter. Physical Review C, 2008, 77, .	1.1	176
22	Constrained Path Quantum Monte Carlo Method for Fermion Ground States. Physical Review Letters, 1995, 74, 3652-3655.	2.9	165
23	Coherent Development of Neutrino Flavor in the Supernova Environment. Physical Review Letters, 2006, 97, 241101.	2.9	154
24	Quantum Monte Carlo calculations of neutron matter. Physical Review C, 2003, 68, .	1.1	149
25	Nucleon and nucleon-pair momentum distributions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:mo>â‰</mml:mo><mml:mn>12</mml:mn> Physical Review C, 2014, 89, .	1.1	140
26	Analysis of collective neutrino flavor transformation in supernovae. Physical Review D, 2007, 75, .	1.6	134
27	Neutron Matter from Low to High Density. Annual Review of Nuclear and Particle Science, 2015, 65, 303-328.	3.5	131
28	Greenâ€™s function Monte Carlo study of light nuclei. Physical Review C, 1987, 36, 2026-2033.	1.1	126
29	Auxiliary-field quantum Monte Carlo method for strongly paired fermions. Physical Review A, 2011, 84, .	1.0	110
30	Alpha particle structure. Physical Review C, 1988, 38, 1879-1885.	1.1	109
31	Neutrino Mass Hierarchy and Stepwise Spectral Swapping of Supernova Neutrino Flavors. Physical Review Letters, 2007, 99, 241802.	2.9	109
32	Weak capture of protons by protons. Physical Review C, 1998, 58, 1263-1277.	1.1	106
33	The equation of state of neutron matter, symmetry energy and neutron star structure. European Physical Journal A, 2014, 50, 1.	1.0	102
34	Exploiting Intrinsic Triangular Geometry in Relativistic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi>He</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow><mml:mo>+</mml:mo><mml:mrow><mml:mi> to Disentangle Medium Properties. Physical Review Letters, 2014, 113, 112301.	2.9	100
35	Longitudinal and transverse quasielastic response functions of light nuclei. Physical Review C, 2002, 65, .	1.1	97
36	Neutrino Scattering and Flavor Transformation in Supernovae. Physical Review Letters, 2012, 108, 261104.	2.9	97

#	Article	IF	Citations
37	Cold Neutrons Trapped in External Fields. Physical Review Letters, 2011, 106, 012501.	2.9	96
38	Charge Form Factor and Sum Rules of Electromagnetic Response Functions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi mathvariant="bold">C</mml:mi><mml:mprescripts /><mml:none /><mml:mn>12</mml:mn></mml:mmultiscripts></mml:math>. Physical Review Letters, 2013, 111, 092501.	2.9	87
39	Flavor Evolution of the Neutronization Neutrino Burst From an O-Ne-Mg Core-Collapse Supernova. Physical Review Letters, 2008, 100, 021101.	2.9	84
40	Properties of Nuclei up to <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>A</mml:mi><mml:mo>=</mml:mo><mml:mn>16</mml:mn></mml:math> using Local Chiral Interactions. Physical Review Letters, 2018, 120, 122502.	2.9	79
41	Neutron Drops and Skyrme Energy-Density Functionals. Physical Review Letters, 1996, 76, 2416-2419.	2.9	73
42	Euclidean proton response in light nuclei. Physical Review Letters, 1992, 68, 3682-3685.	2.9	66
43	Electromagnetic and neutral-weak response functions of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi mathvariant="normal">He</mml:mi><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>4</mml:mn></mml:mrow></mml:mmultiscripts></mml:math>and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mmultiscripts><mml:mi mathvariant="normal">C</mml:mi><mml:mprescripts /><mml:none /><mml:mn>12</mml:mn></mml:mmultiscripts></mml:mrow></mml:math> from Quantum Monte Carlo Calculations and Chiral Effective Field Theory Potentials. Physical Review Letters, 2014, 112, 132501.	1.1	66
44	Superfluid Pairing Gap in Strong Coupling. Physical Review Letters, 2008, 100, 150403.	2.9	65
45	Auxiliary field diffusion Monte Carlo calculations of light and medium-mass nuclei with local chiral interactions. Physical Review C, 2018, 97, .	1.1	65
46	Quantum Monte Carlo calculations of weak transitions in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:mo>=</mml:mo><mml:mn>6</mml:mn></mml:mrow></mml:math> and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:mo>=</mml:mo><mml:mn>12</mml:mn></mml:mrow></mml:math> nuclei. Physical Review C, 2018, 97, .	1.1	64
47	Inclusive neutrino scattering off the deuteron from threshold to GeV energies. Physical Review C, 2012, 86, .	1.1	63
48	Electromagnetic Response of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi mathvariant="normal">C</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>12</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>: A First-Principles Calculation. Physical Review Letters, 2016, 117, 082501.	2.9	63
49	BEC-BCS crossover and universal relations in unitary Fermi gases. Physical Review A, 2011, 83, .	1.0	62
50	Quantum Monte Carlo calculations of light nuclei with local chiral two- and three-nucleon interactions. Physical Review C, 2017, 96, .	1.1	62
51	Quantum Monte Carlo approaches to nuclear and atomic physics. Progress of Theoretical and Experimental Physics, 2012, 2012, .	1.8	61
52	Nuclear and neutron-star matter from local chiral interactions. Physical Review Research, 2020, 2, .	1.3	61
53	Parity-violating interaction effects in thenpsystem. Physical Review C, 2004, 70, .	1.1	60
54	Neutral Weak Current Two-Body Contributions in Inclusive Scattering from<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mmultiscripts><mml:mrow><mml:mi mathvariant="normal">C</mml:mi></mml:mrow><mml:mprescripts /><mml:none /><mml:mrow><mml:mn>12</mml:mn></mml:mrow></mml:mmultiscripts></mml:mrow></mml:math>. Physical Review Letters, 2014, 112, 182502.	2.9	59

#	Article	IF	Citations
55	Weak proton capture reactions onH1andHe3and tritium Î² decay. Physical Review C, 1991, 44, 619-625.	1.1	57
56	Effects of Î”-isobar degrees of freedom on low-energy electroweak transitions in few-body nuclei. Physical Review C, 1992, 45, 2628-2639.	1.1	57
57	Variational Monte Carlo calculations ofH3andHe4with a relativistic Hamiltonian. Physical Review C, 1993, 47, 484-497.	1.1	57
58	Properties of trapped neutrons interacting with realistic nuclear Hamiltonians. Physical Review C, 2013, 87, .	1.1	57
59	Nuclear theory and science of the facility for rare isotope beams. Modern Physics Letters A, 2014, 29, 1430010.	0.5	57
60	Fast flavor oscillations in dense neutrino media with collisions. Physical Review D, 2021, 103, .	1.6	57
61	A study of three-nucleon interaction in three- and four-body nuclei. Nuclear Physics A, 1981, 371, 301-317.	0.6	56
62	Halo modification of a supernova neutronization neutrino burst. Physical Review D, 2013, 87, .	1.6	56
63	Heavy-Light Fermion Mixtures at Unitarity. Physical Review Letters, 2009, 103, 060403.	2.9	53
64	Dynamic linear response quantum algorithm. Physical Review C, 2019, 100, .	1.1	53
65	Computational nuclear quantum many-body problem: The UNEDF project. Computer Physics Communications, 2013, 184, 2235-2250.	3.0	52
66	Quantum Monte Carlo Calculations of Light Nuclei Using Chiral Potentials. Physical Review Letters, 2014, 113, 192501.	2.9	52
67	Neutrinoless double- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î²</mml:mi></mml:math> decay matrix elements in light nuclei. Physical Review C, 2018, 97, .	1.1	52
68	Quantum computing for neutrino-nucleus scattering. Physical Review D, 2020, 101, .	1.6	51
69	Variational calculations of resonant states in 4He. Nuclear Physics A, 1984, 424, 47-59.	0.6	48
70	From the lightest nuclei to the equation of state of asymmetric nuclear matter with realistic nuclear interactions. Physical Review C, 2014, 90, .	1.1	48
71	Chiral effective field theory calculations of weak transitions in light nuclei. Physical Review C, 2020, 102, .	1.1	46
72	Inclusive electron scattering and pion degrees of freedom in light nuclei. Physical Review C, 1994, 49, R2880-R2884.	1.1	43

#	Article	IF	Citations
73	Quantum Monte Carlo calculation of neutral-current <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î½</mml:mi><mml:mo>â^'</mml:mo><mml:mmultiscr mathvariant="normal">C</mml:mi><mml:mprescripts /><mml:none /><mml:mn>12</mml:mn></mml:mmultiscripts></mml:mrow></mml:math> inclusive quasielastic scattering. Physical Review C, 2018, 97, .	1.1	43
74	Parity-violating interaction effects: The longitudinal asymmetry inppelastic scattering. Physical Review C, 2002, 65, .	1.1	42
75	Simulation of collective neutrino oscillations on a quantum computer. Physical Review D, 2021, 104, .	1.6	37
76	Simulating nonlinear neutrino flavor evolution. Computational Science & Discovery, 2008, 1, 015007.	1.5	34
77	Coulomb sum and proton-proton correlations in few-body nuclei. Physical Review Letters, 1993, 70, 3856-3859.	2.9	33
78	Dependence of two-nucleon momentum densities on total pair momentum. Physical Review C, 2008, 78, .	1.1	30
79	Multiangle simulation of flavor evolution in the neutronization neutrino burst from an O-Ne-Mg core-collapse supernova. Physical Review D, 2010, 82, .	1.6	27
80	Exploring new small system geometries in heavy ion collisions. Physical Review C, 2019, 99, .	1.1	27
81	Isovector spin-longitudinal and -transverse response of nuclei. Physical Review C, 1994, 49, 789-801.	1.1	26
82	Neutron matter: a superfluid gas. Nuclear Physics A, 2004, 746, 215-221.	0.6	25
83	Quasielastic lepton scattering and back-to-back nucleons in the short-time approximation. Physical Review C, 2020, 101, .	1.1	25
84	Ground-State Properties of Unitary Bosons: From Clusters to Matter. Physical Review Letters, 2017, 119, 223002.	2.9	24
85	Single- and two-nucleon momentum distributions for local chiral interactions. Physical Review C, 2018, 98, .	1.1	24
86	AbAInitio Study of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mo stretchy="false">(</mml:mo><mml:msub><mml:mi>Î½</mml:mi><mml:mo>â„“</mml:mo></mml:msub><mml:mo>,</mml:mo><mml:n xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mo		

#	Article	IF	Citations
91	Neutrino luminosity and matter-induced modification of collective neutrino flavor oscillations in supernovae. Physical Review D, 2012, 85, .	1.6	18
92	Ab initio short-range-correlation scaling factors from light to medium-mass nuclei. Journal of Physics G: Nuclear and Particle Physics, 2020, 47, 045109.	1.4	17
93	Monte Carlo approaches to light nuclei: Structure and electron scattering. Nuclear Physics A, 1991, 522, 185-200.	0.6	16
94	Classical and quantum evolution in a simple coherent neutrino problem. Physical Review D, 2022, 105, .	1.6	16
95	Jastrow functions in double-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Î²</mml:mi></mml:mrow></mml:math>decay. Physical Review C, 2011, 83, .	1.1	14
96	Spectral swaps in a two-dimensional neutrino ring model. Physical Review D, 2020, 101, .	1.6	14
97	Spin response and neutrino emissivity of dense neutron matter. Physical Review C, 2013, 87, .	1.1	13
98	Electron scattering on <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:mo>=</mml:mo><mml:mn>12</mml:mn></mml:mr nuclei from quantum Monte Carlo based approaches. Physical Review C, 2022, 105, .	1.1	13
99	The 1S0 Pairing Gap in Neutron Matter. Condensed Matter, 2022, 7, 19.	0.8	9
100	Nuclear two point correlation functions on a quantum computer. Physical Review D, 2022, 105, .	1.6	9
101	Clustering of Four-Component Unitary Fermions. Physical Review Letters, 2020, 124, 143402.	2.9	8
102	Small bits of cold dense matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2018, 785, 232-237.	1.5	6
103	Quantum Monte Carlo calculations of the thermal conductivity of neutron star crusts. Physical Review C, 2015, 92, .	1.1	5
104	Quasielastic electromagnetic scattering cross sections and world data comparisons in the GENIE MonteÂCarlo event generator. Physical Review D, 2021, 103, .	1.6	5
105	Recent Progress in Quantum Monte Carlo Calculations of Nuclear Structure and Reactions. Nuclear Physics A, 2007, 787, 516-523.	0.6	4
106	Monte Carlo approaches to the few-nucleon continuum. AIP Conference Proceedings, 1995, , .	0.3	2
107	Dilute Fermi Gases with Large Scattering Lengths: Atomic Gases and Neutron Matter. AIP Conference Proceedings, 2003, , .	0.3	2
108	GFMC studies of low-density neutron matter. European Physical Journal A, 2003, 17, 463-467.	1.0	1

#	Article	IF	Citations
109	Equation of State and Pairing Gaps in Cold Atoms and Low-Density Neutron Matter. AIP Conference Proceedings, 2008, , .	0.3	1
110	Superfluid Pairing in Neutrons and Cold Atoms. , 2013, , 348-359.		1
111	Ab initio calculation of the electromagnetic and neutral-weak response functions of4He and12C. EPJ Web of Conferences, 2016, 113, 01010.	0.1	1
112	Vijay Pandharipande and Few-Body Physics. Nuclear Physics A, 2007, 790, 191c-196c.	0.6	0
113	New States of Matter in Polarized Cold Fermi Atoms. , 2006, , .		0
114	Reply to â€œComment on â€˜Quasielastic lepton scattering and back-to-back nucleons in the short-time approximationâ€™â€‰â€• Physical Review C, 2022, 105, .	1.1	0