

# Joseph Carlson

## List of Publications by Year in descending order

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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	Electron scattering on $A$ nuclei from quantum Monte Carlo based approaches. Physical Review C, 2022, 105, .	1.6	3
2	The 1S0 Pairing Gap in Neutron Matter. Condensed Matter, 2022, 7, 19.	0.8	9
3	Nuclear two point correlation functions on a quantum computer. Physical Review D, 2022, 105, .	1.6	9
4	Classical and quantum evolution in a simple coherent neutrino problem. Physical Review D, 2022, 105, .	1.6	16
5	Reply to "Comment on "Quasielastic lepton scattering and back-to-back nucleons in the short-time approximation": Physical Review C, 2022, 105, .	1.1	0
6	Fast flavor oscillations in dense neutrino media with collisions. Physical Review D, 2021, 103, .	1.6	57
7	Quasielastic electromagnetic scattering cross sections and world data comparisons in the GENIE Monte Carlo event generator. Physical Review D, 2021, 103, .	1.6	5
8	Simulation of collective neutrino oscillations on a quantum computer. Physical Review D, 2021, 104, .	1.6	37
9	Study of $\hat{I}^{1/2}$ $\hat{a},$		

#	ARTICLE	IF	CITATIONS
19	Exploring new small system geometries in heavy ion collisions. Physical Review C, 2019, 99, .	1.1	27
20	Quantum Monte Carlo calculation of neutral-current $C$ inclusive quasielastic scattering. Physical Review C, 2018, 97, .	1.1	43
21	Quantum Monte Carlo calculations of weak transitions in $A$ nuclei. Physical Review C, 2018, 97, .	1.1	6
22	Auxiliary field diffusion Monte Carlo calculations of light and medium-mass nuclei with local chiral interactions. Physical Review C, 2018, 97, .	1.1	65
23	Neutrinoless double- $\hat{I}^2$ decay matrix elements in light nuclei. Physical Review C, 2018, 97, .	1.1	52
24	Properties of Nuclei up to $A$ using Local Chiral Interactions. Physical Review Letters, 2018, 120, 122502.	2.9	79
25	Small bits of cold dense matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2018, 785, 232-237.	1.5	6
26	Constraining the Speed of Sound inside Neutron Stars with Chiral Effective Field Theory Interactions and Observations. Astrophysical Journal, 2018, 860, 149.	1.6	250
27	Single- and two-nucleon momentum distributions for local chiral interactions. Physical Review C, 2018, 98, .	1.1	24
28	Ground-State Properties of Unitary Bosons: From Clusters to Matter. Physical Review Letters, 2017, 119, 223002.	2.9	24
29	Quantum Monte Carlo calculations of light nuclei with local chiral two- and three-nucleon interactions. Physical Review C, 2017, 96, .	1.1	62
30	Ab initio calculation of the electromagnetic and neutral-weak response functions of $^4\text{He}$ and $^{12}\text{C}$ . EPJ Web of Conferences, 2016, 113, 01010.	0.1	1
31	Electromagnetic Response of $C$ : A First Principles Calculation. Physical Review Letters, 2016, 117, 082503.	2.9	63
32	Chiral Three-Nucleon Interactions in Light Nuclei, Neutron- $I_{\pm}$ Scattering, and Neutron Matter. Physical Review Letters, 2016, 116, 062501.	2.9	189
33	$^4\text{He}$ and $^6\text{Li}$ and $^8\text{Be}$ . Physical Review Letters, 2016, 116, 062502.	1.1	66
34	Quantum Monte Carlo calculations of the thermal conductivity of neutron star crusts. Physical Review C, 2015, 92, .	1.1	5
35	Quantum Monte Carlo methods for nuclear physics. Reviews of Modern Physics, 2015, 87, 1067-1118.	16.4	553
36	Neutron Matter from Low to High Density. Annual Review of Nuclear and Particle Science, 2015, 65, 303-328.	3.5	131

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37	Nuclear theory and science of the facility for rare isotope beams. Modern Physics Letters A, 2014, 29, 1430010.	0.5	57
38	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
39	Neutral Weak Current Two-Body Contributions in Inclusive Scattering from $C < \mathbf{C} >$ Exploiting Intrinsic Triangular Geometry in Relativistic $\text{He} < \mathbf{He} >$	2.9	59
40	to Disentangle Medium Properties. Physical Review Letters, 2014, 113, 112301.	2.9	100
41	Quantum Monte Carlo Calculations of Light Nuclei Using Chiral Potentials. Physical Review Letters, 2014, 113, 192501.	2.9	52
42	The equation of state of neutron matter, symmetry energy and neutron star structure. European Physical Journal A, 2014, 50, 1.	1.0	102
43	Predicting energies of small clusters from the inhomogeneous unitary Fermi gas. Physical Review A, 2014, 90, .	1.0	23
44	Nucleon and nucleon-pair momentum distributions in $A < \mathbf{A} >$	1.0	102
45	Computational nuclear quantum many-body problem: The UNEDF project. Computer Physics Communications, 2013, 184, 2235-2250.	3.0	52
46	Halo modification of a supernova neutronization neutrino burst. Physical Review D, 2013, 87, .	1.6	56
47	Spin response and neutrino emissivity of dense neutron matter. Physical Review C, 2013, 87, .	1.1	13
48	Properties of trapped neutrons interacting with realistic nuclear Hamiltonians. Physical Review C, 2013, 87, .	1.1	57
49	Charge Form Factor and Sum Rules of Electromagnetic Response Functions in $C < \mathbf{C} >$ Physical Review Letters, 2013, 111, 092501.	2.9	87
50	Superfluid Pairing in Neutrons and Cold Atoms. , 2013, , 348-359.		1
51	Quantum Monte Carlo approaches to nuclear and atomic physics. Progress of Theoretical and Experimental Physics, 2012, 2012, .	1.8	61
52	Inclusive neutrino scattering off the deuteron from threshold to GeV energies. Physical Review C, 2012, 86, .	1.1	63
53	Maximum mass and radius of neutron stars, and the nuclear symmetry energy. Physical Review C, 2012, 85, .	1.1	305
54	Neutrino luminosity and matter-induced modification of collective neutrino flavor oscillations in supernovae. Physical Review D, 2012, 85, .	1.6	18

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55	Neutrino Scattering and Flavor Transformation in Supernovae. Physical Review Letters, 2012, 108, 261104.	2.9	97
56	Jastrow functions in double- $\langle \text{mml:mrow} \langle \text{mml:mi} \hat{I}^2 \text{mml:mi} \rangle \text{mml:mrow} \rangle$ decay. Physical Review C, 2011, 83, .	1.1	14
57	Density fluctuation effects on collective neutrino oscillations in O-Ne-Mg core-collapse supernovae. Physical Review D, 2011, 84, .	1.6	19
58	Auxiliary-field quantum Monte Carlo method for strongly paired fermions. Physical Review A, 2011, 84, .	1.0	110
59	BEC-BCS crossover and universal relations in unitary Fermi gases. Physical Review A, 2011, 83, .	1.0	62
60	Cold Neutrons Trapped in External Fields. Physical Review Letters, 2011, 106, 012501.	2.9	96
61	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
62	Low-density neutron matter. Physical Review C, 2010, 81, .	1.1	178
63	Heavy-Light Fermion Mixtures at Unitarity. Physical Review Letters, 2009, 103, 060403.	2.9	53
64	Simulating nonlinear neutrino flavor evolution. Computational Science & Discovery, 2008, 1, 015007.	1.5	34
65	Superfluid Pairing Gap in Strong Coupling. Physical Review Letters, 2008, 100, 150403.	2.9	65
66	Equation of State and Pairing Gaps in Cold Atoms and Low-Density Neutron Matter. AIP Conference Proceedings, 2008, , .	0.3	1
67	Dependence of two-nucleon momentum densities on total pair momentum. Physical Review C, 2008, 78, .	1.1	30
68	Strongly paired fermions: Cold atoms and neutron matter. Physical Review C, 2008, 77, .	1.1	176
69	Flavor Evolution of the Neutronization Neutrino Burst From an O-Ne-Mg Core-Collapse Supernova. Physical Review Letters, 2008, 100, 021101.	2.9	84
70	Neutrino Mass Hierarchy and Stepwise Spectral Swapping of Supernova Neutrino Flavors. Physical Review Letters, 2007, 99, 241802.	2.9	109
71	Tensor Forces and the Ground-State Structure of Nuclei. Physical Review Letters, 2007, 98, 132501.	2.9	208
72	Quantum Monte Carlo Calculations of Neutron- $\langle \text{mml:mrow} \langle \text{mml:mi} \hat{I}^{\pm} \text{mml:mi} \rangle \text{mml:mrow} \rangle$ Scattering. Physical Review Letters, 2007, 99, 022502.	2.9	185

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73	Analysis of collective neutrino flavor transformation in supernovae. <i>Physical Review D</i> , 2007, 75, .	1.6	134
74	Recent Progress in Quantum Monte Carlo Calculations of Nuclear Structure and Reactions. <i>Nuclear Physics A</i> , 2007, 787, 516-523.	0.6	4
75	Vijay Pandharipande and Few-Body Physics. <i>Nuclear Physics A</i> , 2007, 790, 191c-196c.	0.6	0
76	Simulation of coherent nonlinear neutrino flavor transformation in the supernova environment: Correlated neutrino trajectories. <i>Physical Review D</i> , 2006, 74, .	1.6	351
77	Coherent Development of Neutrino Flavor in the Supernova Environment. <i>Physical Review Letters</i> , 2006, 97, 241101.	2.9	154
78	New States of Matter in Polarized Cold Fermi Atoms. , 2006, , .		0
79	Asymmetric Two-Component Fermion Systems in Strong Coupling. <i>Physical Review Letters</i> , 2005, 95, 060401.	2.9	246
80	Quantum Monte Carlo calculations of excited states in $A=6\text{--}8$ nuclei. <i>Physical Review C</i> , 2004, 70, .	1.1	215
81	Quantum Monte Carlo studies of superfluid Fermi gases. <i>Physical Review A</i> , 2004, 70, .	1.0	189
82	Parity-violating interaction effects in the system. <i>Physical Review C</i> , 2004, 70, .	1.1	60
83	Neutron matter: a superfluid gas. <i>Nuclear Physics A</i> , 2004, 746, 215-221.	0.6	25
84	GFMC studies of low-density neutron matter. <i>European Physical Journal A</i> , 2003, 17, 463-467.	1.0	1
85	Superfluid Fermi Gases with Large Scattering Length. <i>Physical Review Letters</i> , 2003, 91, 050401.	2.9	482
86	Quantum Monte Carlo calculations of neutron matter. <i>Physical Review C</i> , 2003, 68, .	1.1	149
87	Dilute Fermi Gases with Large Scattering Lengths: Atomic Gases and Neutron Matter. <i>AIP Conference Proceedings</i> , 2003, , .	0.3	2
88	Longitudinal and transverse quasielastic response functions of light nuclei. <i>Physical Review C</i> , 2002, 65, .	1.1	97
89	Parity-violating interaction effects: The longitudinal asymmetry in inelastic scattering. <i>Physical Review C</i> , 2002, 65, .	1.1	42
90	Realistic models of pion-exchange three-nucleon interactions. <i>Physical Review C</i> , 2001, 64, .	1.1	506

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91	Benchmark test calculation of a four-nucleon bound state. <i>Physical Review C</i> , 2001, 64, .	1.1	280
92	Quantum Monte Carlo calculations of $A=8$ nuclei. <i>Physical Review C</i> , 2000, 62, .	1.1	355
93	Structure and dynamics of few-nucleon systems. <i>Reviews of Modern Physics</i> , 1998, 70, 743-841.	16.4	404
94	Weak capture of protons by protons. <i>Physical Review C</i> , 1998, 58, 1263-1277.	1.1	106
95	Constrained path Monte Carlo method for fermion ground states. <i>Physical Review B</i> , 1997, 55, 7464-7477.	1.1	289
96	Quantum Monte Carlo calculations of nuclei with $A \leq 7$ . <i>Physical Review C</i> , 1997, 56, 1720-1750.	1.1	910
97	Neutron Drops and Skyrme Energy-Density Functionals. <i>Physical Review Letters</i> , 1996, 76, 2416-2419.	2.9	73
98	Monte Carlo approaches to the few-nucleon continuum. <i>AIP Conference Proceedings</i> , 1995, , .	0.3	2
99	Constrained Path Quantum Monte Carlo Method for Fermion Ground States. <i>Physical Review Letters</i> , 1995, 74, 3652-3655.	2.9	165
100	Quantum Monte Carlo Calculations of $A \leq 6$ Nuclei. <i>Physical Review Letters</i> , 1995, 74, 4396-4399.	2.9	689
101	Inclusive electron scattering and pion degrees of freedom in light nuclei. <i>Physical Review C</i> , 1994, 49, R2880-R2884.	1.1	43
102	Isovector spin-longitudinal and -transverse response of nuclei. <i>Physical Review C</i> , 1994, 49, 789-801.	1.1	26
103	Variational Monte Carlo calculations of $^3\text{H}$ and $^4\text{He}$ with a relativistic Hamiltonian. <i>Physical Review C</i> , 1993, 47, 484-497.	1.1	57
104	Coulomb sum and proton-proton correlations in few-body nuclei. <i>Physical Review Letters</i> , 1993, 70, 3856-3859.	2.9	33
105	Effects of $\hat{T}^+$ -isobar degrees of freedom on low-energy electroweak transitions in few-body nuclei. <i>Physical Review C</i> , 1992, 45, 2628-2639.	1.1	57
106	Euclidean proton response in light nuclei. <i>Physical Review Letters</i> , 1992, 68, 3682-3685.	2.9	66
107	Monte Carlo approaches to light nuclei: Structure and electron scattering. <i>Nuclear Physics A</i> , 1991, 522, 185-200.	0.6	16
108	Weak proton capture reactions on $^1\text{H}$ and $^3\text{He}$ and tritium $\hat{T}^+$ decay. <i>Physical Review C</i> , 1991, 44, 619-625.	1.1	57

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109	Alpha particle structure. <i>Physical Review C</i> , 1988, 38, 1879-1885.	1.1	109
110	Green's function Monte Carlo study of light nuclei. <i>Physical Review C</i> , 1987, 36, 2026-2033.	1.1	126
111	Microscopic calculations of He5 with realistic interactions. <i>Physical Review C</i> , 1987, 36, 27-31.	1.1	19
112	Variational calculations of resonant states in $^4\text{He}$ . <i>Nuclear Physics A</i> , 1984, 424, 47-59.	0.6	48
113	Three-nucleon interaction in 3-, 4- and $\infty$ -body systems. <i>Nuclear Physics A</i> , 1983, 401, 59-85.	0.6	391
114	A study of three-nucleon interaction in three- and four-body nuclei. <i>Nuclear Physics A</i> , 1981, 371, 301-317.	0.6	56