Martin J Savage

List of Publications by Year
in descending order

80 papers	6,084 citations	47006 47 h-index	66911 78 g-index
81 all docs	81 docs citations	81 times ranked	1755 citing authors

#	Article	IF	Citations
1	A new expansion for nucleon-nucleon interactions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1998, 424, 390-396.	4.1	638
2	Two-nucleon systems from effective field theory. Nuclear Physics B, 1998, 534, 329-355.	2.5	566
3	Nucleon-nucleon scattering from effective field theory. Nuclear Physics B, 1996, 478, 629-659.	2.5	287
4	Nucleon-nucleon effective field theory without pions. Nuclear Physics A, 1999, 653, 386-412.	1.5	254
5	Quantum Computer Systems for Scientific Discovery. PRX Quantum, 2021, 2, .	9.2	142
6	Chiral perturbation theory analysis of the baryon magnetic moments. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1993, 302, 482-490.	4.1	140
7	SU(2) non-Abelian gauge field theory in one dimension on digital quantum computers. Physical Review D, 2020, 101, .	4.7	135
8	Rearranging pionless effective field theory. Nuclear Physics A, 2001, 694, 511-524.	1.5	133
9	The quark-mass dependence of two-nucleon systems. Nuclear Physics A, 2003, 717, 91-103.	1.5	116
10	The spin-flavor dependence of nuclear forces from large-N QCD. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 365, 244-251.	4.1	112
11	Improving the convergence of NN effective field theory. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 473, 209-218.	4.1	110
12	Variation of fundamental couplings and nuclear forces. Nuclear Physics A, 2003, 713, 148-164.	1.5	109
13	I=2ï€ï€scattering from fully-dynamical mixed-action lattice QCD. Physical Review D, 2006, 73, .	4.7	106
14	Digitization of scalar fields for quantum computing. Physical Review A, 2019, 99, .	2.5	106
15	Multipion Systems in Lattice QCD and the Three-Pion Interaction. Physical Review Letters, 2008, 100, 082004.	7.8	98
16	Trailhead for quantum simulation of SU(3) Yang-Mills lattice gauge theory in the local multiplet basis. Physical Review D, 2021, 103, .	4.7	96
17	Two nucleon systems at m lattice QCD. Physical Review D, 2015, 92, .	4.7	92
18	Precise determination of theI=2ï€ï€scattering length from mixed-action lattice QCD. Physical Review D, 2008, 77, .	4.7	89

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19	Improving the volume dependence of two-body binding energies calculated with lattice QCD. Physical Review D, 2011, 84, .	4.7	89
20	n-boson energies at finite volume and three-boson interactions. Physical Review D, 2007, 76, .	4.7	88
21	Simulations of subatomic many-body physics on a quantum frequency processor. Physical Review A, 2019, 100, .	2.5	87
22	An analysis of parity-violating pion-nucleon couplings. Nuclear Physics A, 1993, 556, 653-671.	1.5	86
23	npâ†'dÎ³for big-bang nucleosynthesis. Physical Review C, 1999, 60, .	2.9	86
24	Hyperonâ€"nucleon scattering from fully-dynamical lattice QCD. Nuclear Physics A, 2007, 794, 62-72.	1.5	83
25	Multipion states in lattice QCD and the charged-pion condensate. Physical Review D, 2008, 78, .	4.7	82
26	Baryons in partially quenched chiral perturbation theory. Physical Review D, 2002, 65, .	4.7	73
27	Electroweak matrix elements in the two-nucleon sector from lattice QCD. Nuclear Physics A, 2004, 743, 170-193.	1.5	72
28	Proton-Proton Fusion and Tritium β Decay from Lattice Quantum Chromodynamics. Physical Review Letters, 2017, 119, 062002.	7.8	71
29	Kaon condensation with lattice QCD. Physical Review D, 2008, 78, .	4.7	70
30	High statistics analysis using anisotropic clover lattices. II. Three-baryon systems. Physical Review D, 2009, 80, .	4.7	69
31	*Ab initio* Calculation of the $np \rightarrow d\gamma$ Radiative Capture Process. Physical Review Letters, 2015, 115, 132001.	7.8	68
32	Power counting in dimensionally regularized nonrelativistic QCD. Physical Review D, 1998, 57, 413-423.	4.7	62
33	Magnetic structure of light nuclei from lattice QCD. Physical Review D, 2015, 92, .	4.7	62
34	Standard model physics and the digital quantum revolution: thoughts about the interface. Reports on Progress in Physics, 2022, 85, 064301.	20.1	62
35	Nucleons in two-flavor partially-quenched chiral perturbation theory. Nuclear Physics A, 2002, 709, 319-344.	1.5	61
36	Entanglement Suppression and Emergent Symmetries of Strong Interactions. Physical Review Letters, 2019, 122, 102001.	7.8	59

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37	Ï€Kscattering in full QCD with domain-wall valence quarks. Physical Review D, 2006, 74, .	4.7	58
38	High statistics analysis using anisotropic clover lattices: Single hadron correlation functions. Physical Review D, 2009, 79, .	4.7	58
39	High statistics analysis using anisotropic clover lattices: III. Baryon-baryon interactions. Physical Review D, 2010, 81, .	4.7	57
40	Extracting scattering phase shifts in higher partial waves from lattice QCD calculations. Physical Review D, 2011, 83, .	4.7	57
41	Two-nucleon systems in a finite volume. II. <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mmultiscripts><mml:mi>S</mml:mi><mml:mn>1</mml:mn><mml:none /><mml:mprescripts /><mml:none /><mml:mn>3</mml:mn></mml:mmultiscripts><mml:mtext mathvariant="normal">â^’</mml:mtext><mml:mmultiscripts><mml:mi>D</mml:mi><mml:mn>1</mml:mn><mml:none />...coupled...	4.7	56
42	Finite-volume electromagnetic corrections to the masses of mesons, baryons, and nuclei. Physical Review D, 2014, 90, .	4.7	49
43	Isotensor Axial Polarizability and Lattice QCD Input for Nuclear Double- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î²</mml:mi></mml:math> Decay Phenomenology. Physical Review Letters, 2017, 119, 062003.	7.8	49
44	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>B</mml:mi><mml:mi>B</mml:mi></mml:math>potentials in quenched lattice QCD. Physical Review D, 2007, 76, .	4.7	48
45	HADRONIC INTERACTIONS FROM LATTICE QCD. International Journal of Modern Physics E, 2008, 17, 1157-1218.	1.0	48
46	Baryon-baryon interactions and spin-flavor symmetry from lattice quantum chromodynamics. Physical Review D, 2017, 96, .	4.7	48
47	Double- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î²</mml:mi></mml:math> decay matrix elements from lattice quantum chromodynamics. Physical Review D, 2017, 96, .	4.7	47
48	K+K+scattering length from lattice QCD. Physical Review D, 2008, 77, .	4.7	46
49	Parity violation in effective field theory and the deuteron anapole moment. Nuclear Physics A, 1998, 644, 235-244.	1.5	45
50	Restoration of rotational symmetry in the continuum limit of lattice field theories. Physical Review D, 2012, 86, .	4.7	45
51	Two-baryon systems with twisted boundary conditions. Physical Review D, 2014, 89, .	4.7	41
52	Scalar, Axial, and Tensor Interactions of Light Nuclei from Lattice QCD. Physical Review Letters, 2018, 120, 152002.	7.8	41
53	Entanglement rearrangement in self-consistent nuclear structure calculations. Physical Review C, 2021, 103, .	2.9	41
54	Hyperon masses in nuclear matter. Physical Review D, 1996, 53, 349-354.	4.7	40

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55	Nucleon-nucleon scattering in a harmonic potential. Physical Review C, 2010, 82, .	2.9	40
56	Nuclear matrix elements from lattice QCD for electroweak and beyond-Standard-Model processes. Physics Reports, 2021, 900, 1-74.	25.6	39
57	Status and future perspectives for lattice gauge theory calculations to the exascale and beyond. European Physical Journal A, 2019, 55, 1.	2.5	37
58	Low energy effective hamiltonian for Î"I = 1 nuclear parity violation and nucleonic strangeness. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1991, 271, 403-409.	4.1	36
59	Minimally entangled state preparation of localized wave functions on quantum computers. Physical Review A, 2020, 102, .	2.5	34
60	First lattice QCD study of the gluonic structure of light nuclei. Physical Review D, 2017, 96, .	4.7	31
61	Method to study complex systems of mesons in lattice QCD. Physical Review D, 2010, 82, .	4.7	29
62	Two-particle elastic scattering in a finite volume including QED. Physical Review D, 2014, 90, .	4.7	24
63	Constraints on the universe as a numerical simulation. European Physical Journal A, 2014, 50, 1.	2.5	23
64	The anapole form factor of the deuteron. Nuclear Physics A, 2001, 686, 413-428.	1.5	22
65	Octet baryon magnetic moments from lattice QCD: Approaching experiment from a three-flavor symmetric point. Physical Review D, 2017, 95, .	4.7	22
66	Statistics of baryon correlation functions in lattice QCD. Physical Review D, 2017, 96, .	4.7	22
67	Systematically localizable operators for quantum simulations of quantum field theories. Physical Review A, 2020, 102, .	2.5	22
68	Unitary Limit of Two-Nucleon Interactions in Strong Magnetic Fields. Physical Review Letters, 2016, 116, 112301.	7.8	20
69	White paper on nuclear astrophysics and low-energy nuclear physics, Part 2: Low-energy nuclear physics. Progress in Particle and Nuclear Physics, 2017, 94, 68-124.	14.4	20
70	Low-energy scattering and effective interactions of two baryons at <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>m</mml:mi></mml:mrow><mml:mrow><mml:mi>Ï€</mml:mi></mml from lattice quantum chromodynamics. Physical Review D, 2021, 103, .	4.7	20
71	Uncertainty quantification in lattice QCD calculations for nuclear physics. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 034022.	3.6	19
72	Pionic matrix elements in neutrinoless double-Î² decay. Physical Review C, 1999, 59, 2293-2296.	2.9	17

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73	Fixed-point quantum circuits for quantum field theories. Physical Review A, 2020, 102, .	2.5	15
74	A comment on the strong interactions of color-neutral technibaryons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1993, 298, 380-382.	4.1	14
75	Geometric quantum information structure in quantum fields and their lattice simulation. Physical Review D, 2021, 103, .	4.7	11
76	Entanglement Spheres and a UV-IR Connection in Effective Field Theories. Physical Review Letters, 2021, 127, 211602.	7.8	11
77	Hierarchical qubit maps and hierarchically implemented quantum error correction. Physical Review A, 2021, 104, .	2.5	10
78	Nuclear Physics from QCD: The Anticipated Impact of Exa-Scale Computing. , 2011, , .		6
79	Baryon magnetic moments: Symmetries and relations. EPJ Web of Conferences, 2018, 175, 06001.	0.3	1
80	EFFECTIVE FIELD THEORY IN NUCLEAR PHYSICS. , 2001, , .		0