

# Martin J Savage

## List of Publications by Year in descending order

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80  
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81  
times ranked

1755  
citing authors

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | Standard model physics and the digital quantum revolution: thoughts about the interface. <i>Reports on Progress in Physics</i> , 2022, 85, 064301.   | 20.1 | 62        |
| 2  | Nuclear matrix elements from lattice QCD for electroweak and beyond-Standard-Model processes. <i>Physics Reports</i> , 2021, 900, 1-74.  | 25.6 | 39        |
| 3  | Quantum Computer Systems for Scientific Discovery. <i>PRX Quantum</i> , 2021, 2, .   | 9.2  | 142       |
| 4  | Low-energy scattering and effective interactions of two baryons at $\langle \text{mml:math} \text{ xmlns:mml="http://www.w3.org/1998/Math/MathML"} \text{ display="block" } \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle m \langle / \text{mml:mi} \rangle \langle / \text{mml:mrow} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:mi} \rangle \epsilon \langle / \text{mml:mi} \rangle \langle / \text{mml:mrow} \rangle \langle / \text{mml:math} \rangle$ from lattice quantum chromodynamics. <i>Physical Review D</i> , 2021, 103, . | 4.7  | 20        |
| 5  | Entanglement rearrangement in self-consistent nuclear structure calculations. <i>Physical Review C</i> , 2021, 103, .  | 2.9  | 41        |
| 6  | Geometric quantum information structure in quantum fields and their lattice simulation. <i>Physical Review D</i> , 2021, 103, .  | 4.7  | 11        |
| 7  | Trailhead for quantum simulation of SU(3) Yang-Mills lattice gauge theory in the local multiplet basis. <i>Physical Review D</i> , 2021, 103, .  | 4.7  | 96        |
| 8  | Entanglement Spheres and a UV-IR Connection in Effective Field Theories. <i>Physical Review Letters</i> , 2021, 127, 211602.   | 7.8  | 11        |
| 9  | Hierarchical qubit maps and hierarchically implemented quantum error correction. <i>Physical Review A</i> , 2021, 104, .   | 2.5  | 10        |
| 10 | Minimally entangled state preparation of localized wave functions on quantum computers. <i>Physical Review A</i> , 2020, 102, .  | 2.5  | 34        |
| 11 | Fixed-point quantum circuits for quantum field theories. <i>Physical Review A</i> , 2020, 102, .   | 2.5  | 15        |
| 12 | Systematically localizable operators for quantum simulations of quantum field theories. <i>Physical Review A</i> , 2020, 102, .  | 2.5  | 22        |
| 13 | SU(2) non-Abelian gauge field theory in one dimension on digital quantum computers. <i>Physical Review D</i> , 2020, 101, .  | 4.7  | 135       |
| 14 | Simulations of subatomic many-body physics on a quantum frequency processor. <i>Physical Review A</i> , 2019, 100, .   | 2.5  | 87        |
| 15 | Digitization of scalar fields for quantum computing. <i>Physical Review A</i> , 2019, 99, .  | 2.5  | 106       |
| 16 | Entanglement Suppression and Emergent Symmetries of Strong Interactions. <i>Physical Review Letters</i> , 2019, 122, 102001.   | 7.8  | 59        |
| 17 | Status and future perspectives for lattice gauge theory calculations to the exascale and beyond. <i>European Physical Journal A</i> , 2019, 55, 1.   | 2.5  | 37        |
| 18 | Scalar, Axial, and Tensor Interactions of Light Nuclei from Lattice QCD. <i>Physical Review Letters</i> , 2018, 120, 152002.   | 7.8  | 41        |

| #  | ARTICLE   |  | IF   | CITATIONS |
|----|---|--|------|-----------|
| 19 | Baryon magnetic moments: Symmetries and relations. EPJ Web of Conferences, 2018, 175, 06001.  |  | 0.3  | 1         |
| 20 | 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        |
| 21 | Isotensor Axial Polarizability and Lattice QCD Input for Nuclear Double- $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle mml:mi\rangle\hat{1}^2\langle/mml:mi\rangle\langle/mml:math\rangle$ Decay Phenomenology. Physical Review Letters, 2017, 119, 062003.   |  | 7.8  | 49        |
| 22 | Proton-Proton Fusion and Tritium $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle mml:mi\rangle\hat{1}^2\langle/mml:mi\rangle\langle/mml:math\rangle$ Decay from Lattice Quantum Chromodynamics. Physical Review Letters, 2017, 119, 062002.   |  | 7.8  | 71        |
| 23 | First lattice QCD study of the gluonic structure of light nuclei. Physical Review D, 2017, 96, .  |  | 4.7  | 31        |
| 24 | Baryon-baryon interactions and spin-flavor symmetry from lattice quantum chromodynamics. Physical Review D, 2017, 96, .   |  | 4.7  | 48        |
| 25 | Octet baryon magnetic moments from lattice QCD: Approaching experiment from a three-flavor symmetric point. Physical Review D, 2017, 95, .  |  | 4.7  | 22        |
| 26 | Double- $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle mml:mi\rangle\hat{1}^2\langle/mml:mi\rangle\langle/mml:math\rangle$ decay matrix elements from lattice quantum chromodynamics. Physical Review D, 2017, 96, .   |  | 4.7  | 47        |
| 27 | Statistics of baryon correlation functions in lattice QCD. Physical Review D, 2017, 96, .   |  | 4.7  | 22        |
| 28 | Unitary Limit of Two-Nucleon Interactions in Strong Magnetic Fields. Physical Review Letters, 2016, 116, 112301.  |  | 7.8  | 20        |
| 29 | Magnetic structure of light nuclei from lattice QCD. Physical Review D, 2015, 92, .   |  | 4.7  | 62        |
| 30 | Two nucleon systems at $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle mml:mrow\rangle\langle mml:msub\rangle\langle mml:mrow\rangle\langle mml:mi\rangle m \langle/mml:mi\rangle\langle/mml:mrow\rangle\langle mml:mrow\rangle\langle mml:mi\rangle\hat{1}^2\langle/mml:mi\rangle\langle/mml:mrow\rangle\langle mml:math\rangle$ lattice QCD. Physical Review D, 2015, 92, .   |  |      |           |
| 31 | <i>i&gt;Ab initio</i> Calculation of the $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle mml:mrow\rangle\langle mml:mi\rangle n \langle/mml:mi\rangle\langle mml:mi\rangle p \langle/mml:mi\rangle\langle mml:math\rangle$ stretchy="false">at</mml:math> $\langle mml:mi\rangle d \langle/mml:mi\rangle\langle mml:mi\rangle\hat{1}^3\langle/mml:mi\rangle\langle/mml:mrow\rangle\langle/mml:math\rangle$ Radiative Capture Process. Physical Review Letters, 2015, 115, 132001. |  | 7.8  | 68        |
| 32 | Uncertainty quantification in lattice QCD calculations for nuclear physics. Journal of Physics G: Nuclear and Particle Physics, 2015, 42, 034022.   |  | 3.6  | 19        |
| 33 | Two-particle elastic scattering in a finite volume including QED. Physical Review D, 2014, 90, .  |  | 4.7  | 24        |
| 34 | Two-baryon systems with twisted boundary conditions. Physical Review D, 2014, 89, .   |  | 4.7  | 41        |
| 35 | Finite-volume electromagnetic corrections to the masses of mesons, baryons, and nuclei. Physical Review D, 2014, 90, .  |  | 4.7  | 49        |
| 36 | Constraints on the universe as a numerical simulation. European Physical Journal A, 2014, 50, 1.  |  | 2.5  | 23        |

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|----|---|-----|-----------|
| 37 | leon systems in a finite volume. II.<br>xmins:mml="http://www.w3.org/1998/Math/MathML"<br>display="inline"><mml:mmultiscripts><mml:mi>S</mml:mi><mml:mn>1</mml:mn><mml:none /><mml:mprescripts /><mml:mn>3</mml:mn></mml:mmultiscripts><mml:mtext<br>mathvariant="normal"> $\hat{a}$ </mml:mtext><mml:mmultiscripts><mml:mi>D</mml:mi><mml:mn>1</mml:mn><mml:none /><mml:mprescripts /><mml:mn>3</mml:mn></mml:mmultiscripts></mml:math>coupled<br>sk | 4.7 | 56        |
| 38 | Restoration of rotational symmetry in the continuum limit of lattice field theories. Physical Review D, 2012, 86, .   | 4.7 | 45        |
| 39 | Extracting scattering phase shifts in higher partial waves from lattice QCD calculations. Physical Review D, 2011, 83, .  | 4.7 | 57        |
| 40 | Improving the volume dependence of two-body binding energies calculated with lattice QCD. Physical Review D, 2011, 84, .  | 4.7 | 89        |
| 41 | Nuclear Physics from QCD: The Anticipated Impact of Exa-Scale Computing., 2011, .   |     | 6         |
| 42 | Nucleon-nucleon scattering in a harmonic potential. Physical Review C, 2010, 82, .  | 2.9 | 40        |
| 43 | Method to study complex systems of mesons in lattice QCD. Physical Review D, 2010, 82, .  | 4.7 | 29        |
| 44 | High statistics analysis using anisotropic clover lattices: III. Baryon-baryon interactions. Physical Review D, 2010, 81, .   | 4.7 | 57        |
| 45 | High statistics analysis using anisotropic clover lattices. II. Three-baryon systems. Physical Review D, 2009, 80, .  | 4.7 | 69        |
| 46 | High statistics analysis using anisotropic clover lattices: Single hadron correlation functions. Physical Review D, 2009, 79, .   | 4.7 | 58        |
| 47 | Kaon condensation with lattice QCD. Physical Review D, 2008, 78, .  | 4.7 | 70        |
| 48 | K+K+scattering length from lattice QCD. Physical Review D, 2008, 77, .  | 4.7 | 46        |
| 49 | Multipion states in lattice QCD and the charged-pion condensate. Physical Review D, 2008, 78, .   | 4.7 | 82        |
| 50 | Precise determination of the $\pi\pi$ scattering length from mixed-action lattice QCD. Physical Review D, 2008, 77, .   | 4.7 | 89        |
| 51 | HADRONIC INTERACTIONS FROM LATTICE QCD. International Journal of Modern Physics E, 2008, 17, 1157-1218.   | 1.0 | 48        |
| 52 | Multipion Systems in Lattice QCD and the Three-Pion Interaction. Physical Review Letters, 2008, 100, 082004.  | 7.8 | 98        |
| 53 | <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"<br>display="inline"><mml:mi>B</mml:mi><mml:mi>B</mml:mi></mml:math>potentials in quenched lattice<br>QCD. Physical Review D, 2007, 76, .   | 4.7 | 48        |
| 54 | n-boson energies at finite volume and three-boson interactions. Physical Review D, 2007, 76, .  | 4.7 | 88        |

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|----|---|-----|-----------|
| 55 | Hyperon-nucleon scattering from fully-dynamical lattice QCD. Nuclear Physics A, 2007, 794, 62-72.   | 1.5 | 83        |
| 56 | $\bar{K}$ scattering in full QCD with domain-wall valence quarks. Physical Review D, 2006, 74, .  | 4.7 | 58        |
| 57 | $I=2$ $\bar{K}$ scattering from fully-dynamical mixed-action lattice QCD. Physical Review D, 2006, 73, .  | 4.7 | 106       |
| 58 | Electroweak matrix elements in the two-nucleon sector from lattice QCD. Nuclear Physics A, 2004, 743, 170-193.  | 1.5 | 72        |
| 59 | Variation of fundamental couplings and nuclear forces. Nuclear Physics A, 2003, 713, 148-164.   | 1.5 | 109       |
| 60 | The quark-mass dependence of two-nucleon systems. Nuclear Physics A, 2003, 717, 91-103.   | 1.5 | 116       |
| 61 | Baryons in partially quenched chiral perturbation theory. Physical Review D, 2002, 65, .  | 4.7 | 73        |
| 62 | Nucleons in two-flavor partially-quenched chiral perturbation theory. Nuclear Physics A, 2002, 709, 319-344.  | 1.5 | 61        |
| 63 | The anapole form factor of the deuteron. Nuclear Physics A, 2001, 686, 413-428.   | 1.5 | 22        |
| 64 | Rearranging pionless effective field theory. Nuclear Physics A, 2001, 694, 511-524.   | 1.5 | 133       |
| 65 | EFFECTIVE FIELD THEORY IN NUCLEAR PHYSICS. , 2001, , .  | 0   |           |
| 66 | 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       |
| 67 | Pionic matrix elements in neutrinoless double- $\beta^2$ decay. Physical Review C, 1999, 59, 2293-2296.   | 2.9 | 17        |
| 68 | $n\bar{p}\bar{\tau}d\bar{\beta}^3$ for big-bang nucleosynthesis. Physical Review C, 1999, 60, .   | 2.9 | 86        |
| 69 | Nucleon-nucleon effective field theory without pions. Nuclear Physics A, 1999, 653, 386-412.  | 1.5 | 254       |
| 70 | 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       |
| 71 | Parity violation in effective field theory and the deuteron anapole moment. Nuclear Physics A, 1998, 644, 235-244.  | 1.5 | 45        |
| 72 | Two-nucleon systems from effective field theory. Nuclear Physics B, 1998, 534, 329-355.   | 2.5 | 566       |

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|----|---|--|-----|-----------|
| 73 | Power counting in dimensionally regularized nonrelativistic QCD. Physical Review D, 1998, 57, 413-423.  |  | 4.7 | 62        |
| 74 | Nucleon-nucleon scattering from effective field theory. Nuclear Physics B, 1996, 478, 629-659.  |  | 2.5 | 287       |
| 75 | 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       |
| 76 | Hyperon masses in nuclear matter. Physical Review D, 1996, 53, 349-354.   |  | 4.7 | 40        |
| 77 | 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       |
| 78 | 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        |
| 79 | An analysis of parity-violating pion-nucleon couplings. Nuclear Physics A, 1993, 556, 653-671.  |  | 1.5 | 86        |
| 80 | Low energy effective hamiltonian for $\hat{l}^{\dagger}l = 1$ nuclear parity violation and nucleonic strangeness. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1991, 271, 403-409. |  | 4.1 | 36        |