

Robert Shrock

List of Publications by Year in descending order

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165
papers

5,607
citations

76196

40
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91712

69
g-index

167
all docs

167
docs citations

167
times ranked

4270
citing authors

#	ARTICLE	IF	CITATIONS
1	A facility to search for hidden particles at the CERN SPS: the SHiP physics case. Reports on Progress in Physics, 2016, 79, 124201.	8.1	496
2	Theory of neutrinos: a white paper. Reports on Progress in Physics, 2007, 70, 1757-1867.	8.1	372
3	A White Paper on keV sterile neutrino Dark Matter. Journal of Cosmology and Astroparticle Physics, 2017, 2017, 025-025.	1.9	256
4	Neutron-antineutron oscillations: Theoretical status and experimental prospects. Physics Reports, 2016, 612, 1-45.	10.3	138
5	Some remarks on theories with large compact dimensions and TeV-scale quantum gravity. Physical Review D, 1999, 59, .	1.6	137
6	Spanning trees on graphs and lattices in dimensions. Journal of Physics A, 2000, 33, 3881-3902.	1.6	117
7	Neutrino masses in theories with dynamical electroweak symmetry breaking. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2002, 548, 204-214.	1.5	115
8	Fermion masses and mixing in extended technicolor models. Physical Review D, 2004, 69, .	1.6	113
9	New perspectives on the quark condensate. Physical Review C, 2010, 82, .	1.1	111
10	Confinement contains condensates. Physical Review C, 2012, 85, .	1.1	105
11	Models of fermion mass matrices based on a flavor- and generation-dependent U(1) gauge symmetry. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1995, 352, 83-91.	1.5	104
12	Dynamical Symmetry Breaking of Extended Gauge Symmetries. Physical Review Letters, 2003, 90, 201801.	2.9	102
13	Condensates in quantum chromodynamics and the cosmological constant. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 45-50.	3.3	102
14	Higher-loop corrections to the infrared evolution of a gauge theory with fermions. Physical Review D, 2011, 83, .	1.6	95
15	$n \hat{a}^\dagger$ transition operators and their matrix elements in the MIT bag model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1982, 116, 238-242.	1.5	92
16	Asymptotic limits and zeros of chromatic polynomials and ground-state entropy of Potts antiferromagnets. Physical Review E, 1997, 55, 5165-5178.	0.8	78
17	Implication of improved upper bounds on $ \hat{\Gamma}^L =2$ processes. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 491, 285-290.	1.5	76
18	Prospects for beyond the Standard Model physics searches at the Deep Underground Neutrino Experiment. European Physical Journal C, 2021, 81, 322.	1.4	69

#	ARTICLE	IF	CITATIONS
19	Exact Potts model partition functions on ladder graphs. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 283, 388-446.	1.2	68
20	Constraints on sterile neutrinos in the MeV to GeV mass range. <i>Physical Review D</i> , 2019, 100, .	1.6	65
21	Chromatic polynomials for families of strip graphs and their asymptotic limits. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 252, 505-546.	1.2	56
22	Flavor-changing processes in extended technicolor. <i>Physical Review D</i> , 2004, 70, .	1.6	55
23	Lepton dipole moments in extended technicolor models. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2004, 593, 175-180.	1.5	54
24	Exact Potts model partition function on strips of the triangular lattice. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 286, 189-238.	1.2	52
25	Decay of $\frac{1}{2}$ in gauge theories of weak and electromagnetic interactions. <i>Physical Review D</i> , 1974, 9, 743-748.	1.6	49
26	n -n Oscillations in Models with Large Extra Dimensions. <i>Physical Review Letters</i> , 2002, 88, 171601.	2.9	49
27	Lower bounds and series for the ground-state entropy of the Potts antiferromagnet on Archimedean lattices and their duals. <i>Physical Review E</i> , 1997, 56, 4111-4124.	0.8	47
28	Exact Potts model partition functions on wider arbitrary-length strips of the square lattice. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 296, 234-288.	1.2	47
29	Technifermion representations and precision electroweak constraints. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2006, 632, 92-98.	1.5	47
30	Analysis of scheme transformations in the vicinity of an infrared fixed point. <i>Physical Review D</i> , 2012, 86, .	1.6	47
31	Infrared zero of β and value of β for an $SU(2)$ gauge theory at the fixed-point level. <i>Physical Review D</i> , 2016, 94, .	1.6	47
32	Study of possible ultraviolet zero of the beta function in gauge theories with many fermions. <i>Physical Review D</i> , 2014, 89, .	1.6	46
33	Ground state entropy of Potts antiferromagnets on homeomorphic families of strip graphs. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 259, 315-348.	1.2	45
34	New constraints on chiral gauge theories. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1999, 459, 235-241.	1.5	44
35	Scheme transformations in the vicinity of an infrared fixed point. <i>Physical Review D</i> , 2012, 86, .	1.6	43
36	Complex-temperature properties of the Ising model on 2D heteropolygonal lattices. <i>Journal of Physics A</i> , 1995, 28, 5235-5256.	1.6	42

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37	Chromatic polynomials for $J(\hat{H})$ strip graphs and their asymptotic limits. Physica A: Statistical Mechanics and Its Applications, 1998, 259, 367-387.	1.2	42
38	Exact partition functions for Potts antiferromagnets on cyclic lattice strips. Physica A: Statistical Mechanics and Its Applications, 2000, 275, 429-449.	1.2	42
39	Higher-loop structural properties of the β function of a gauge theory. Physical Review D, 2013, 87, .	1.6	42
40	Higher-loop structural properties of the β function in asymptotically free vectorial gauge theories. Physical Review D, 2013, 87, .	1.6	41
41	Study of scheme transformations to remove higher-loop terms in the β function of a gauge theory. Physical Review D, 2013, 88, .	1.6	39
42	Complex-temperature singularities in Potts models on the square lattice. Physical Review E, 1996, 54, 6174-6185.	0.8	38
43	Structural properties of Potts model partition functions and chromatic polynomials for lattice strips. Physica A: Statistical Mechanics and Its Applications, 2001, 296, 131-182.	1.2	38
44	Higher-loop calculations of the ultraviolet to infrared evolution of a vectorial gauge theory in the limit $N \rightarrow \infty$. Physical Review D, 2013, 87, .	1.6	38
45	Improved constraints on sterile neutrinos in the MeV to GeV mass range. Physical Review D, 2019, 100, .	1.6	38
46	Scheme-independent series expansions at an infrared zero of the beta function in asymptotically free gauge theories. Physical Review D, 2016, 94, .	1.6	37
47	$T=0$ partition functions for Potts antiferromagnets on square lattice strips with (twisted) periodic boundary conditions. Journal of Physics A, 1999, 32, L489-L493.	1.6	36
48	Exact Potts Model Partition Functions for Strips of the Square Lattice. Journal of Statistical Physics, 2002, 107, 1207-1253.	0.5	36
49	Comparison of some exact and perturbative results for a supersymmetric $SU(N)_c$ gauge theory. Journal of High Energy Physics, 2010, 10, 078.	1.6	36
50	$T=0$ partition functions for Potts antiferromagnets on Möbius strips and effects of graph topology. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 261, 57-62.	0.9	35
51	Implications of Dynamical Generation of Standard-Model Fermion Masses. Physical Review Letters, 2005, 94, .	2.9	35
52	Upper and lower bounds for the ground state entropy of antiferromagnetic Potts models. Physical Review E, 1997, 55, 6791-6794.	0.8	33
53	Generalized scheme transformations for the elimination of higher-loop terms in the beta function of a gauge theory. Physical Review D, 2014, 90, .	1.6	33
54	Scheme-independent calculation of β function for an $SU(3)$ gauge theory. Physical Review D, 2016, 94, .	1.6	33

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55	New high-sensitivity searches for neutrons converting into antineutrons and/or sterile neutrons at the HIBEAM/NNBAR experiment at the European Spallation Source. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2021, 48, 070501.	1.4	33
56	Families of graphs with chromatic zeros lying on circles. <i>Physical Review E</i> , 1997, 56, 1342-1345.	0.8	32
57	Exact Potts model partition functions on strips of the honeycomb lattice. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 296, 183-233.	1.2	32
58	Chromatic polynomials and their zeros and asymptotic limits for families of graphs. <i>Discrete Mathematics</i> , 2001, 231, 421-446.	0.4	32
59	Ground-state entropy of Potts antiferromagnets: Bounds, series, and Monte Carlo measurements. <i>Physical Review E</i> , 1997, 56, 2733-2737.	0.8	31
60	Ground-state degeneracy of Potts antiferromagnets on two-dimensional lattices: Approach using infinite cyclic strip graphs. <i>Physical Review E</i> , 1999, 60, 3512-3515.	0.8	31
61	Quark dipole operators in extended technicolor models. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2004, 595, 442-452.	1.5	31
62	Exact Potts Model Partition Functions for Strips of the Triangular Lattice. <i>Journal of Statistical Physics</i> , 2004, 114, 763-823.	0.5	30
63	A little statistical mechanics for the graph theorist. <i>Discrete Mathematics</i> , 2010, 310, 2037-2053.	0.4	30
64	Ground state entropy of the Potts antiferromagnet on strips of the square lattice. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 290, 402-430.	1.2	29
65	Gedanken worlds without Higgs fields: QCD-induced electroweak symmetry breaking. <i>Physical Review D</i> , 2009, 79, .	1.6	28
66	New scheme transformations and application to study scheme dependence of an infrared zero of the beta function in gauge theories. <i>Physical Review D</i> , 2014, 90, .	1.6	28
67	Some exact results for spanning trees on lattices. <i>Journal of Physics A</i> , 2006, 39, 5653-5658.	1.6	27
68	Ground-state entropy of the Potts antiferromagnet on cyclic strip graphs. <i>Journal of Physics A</i> , 1999, 32, L195-L200.	1.6	26
69	Coulombic effects on fermion masses in models with standard model fields in large extra dimensions. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2002, 526, 137-143.	1.5	25
70	EXACT PARTITION FUNCTION FOR THE POTTS MODEL WITH NEXT-NEAREST NEIGHBOR COUPLINGS ON ARBITRARY-LENGTH LADDERS. <i>International Journal of Modern Physics B</i> , 2001, 15, 443-478.	1.0	24
71	Tutte polynomials and related asymptotic limiting functions for recursive families of graphs. <i>Advances in Applied Mathematics</i> , 2004, 32, 44-87.	0.4	24
72	Unification of gauge symmetries in theories with dynamical symmetry breaking. <i>Physical Review D</i> , 2005, 72, .	1.6	24

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73	T=0 partition functions for Potts antiferromagnets on lattice strips with fully periodic boundary conditions. Physica A: Statistical Mechanics and Its Applications, 2001, 292, 307-345.	1.2	22
74	Potts model partition functions for self-dual families of strip graphs. Physica A: Statistical Mechanics and Its Applications, 2001, 301, 301-329.	1.2	22
75	Ground State Entropy of the Potts Antiferromagnet on Triangular Lattice Strips. Annals of Physics, 2001, 290, 124-155.	1.0	22
76	Complex-temperature phase diagrams for the q-state Potts model on self-dual families of graphs and the nature of the $q \rightarrow \infty$ limit. Physical Review E, 2001, 64, 066116.	0.8	22
77	<p>mirrored fixed point physics in $SO(N)$ spin glasses</p> <p>display="inline" > < mml:mrow > < mml:mrow > < mml:mi > SO < /mml:mi > < /mml:mrow > < mml:mo stretchy="false" > (< /mml:mo > < mml:msub > < mml:mrow > < mml:mi > N < /mml:mi > < /mml:mrow > < mml:mrow > < mml:mi > c < /mml:mi > < /mml:mo > < /mml:mrow > < /mml:math ></p> <p>xmlns:mml="http://www.w3.org/1998/Math/MathML"</p> <p>display="inline" > < mml:mrow > < mml:mi > Sp < /mml:mi > < mml:mo ></p>		

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91	Patterns of dynamical gauge symmetry breaking. Physical Review D, 2010, 82, .	1.6	16
92	Scheme-independent calculations of physical quantities in an N supersymmetric gauge theory. Physical Review D, 2017, 96, .	1.6	16
93	Improved lower bounds on partial lifetimes for nucleon decay modes. Physical Review D, 2019, 100, .	1.6	16
94	Renormalization-group flows and fixed points in Yukawa theories. Physical Review D, 2014, 89, .	1.6	15
95	Scheme-independent calculations of anomalous dimensions of baryon operators in conformal field theories. Physical Review D, 2018, 97, .	1.6	15
96	Baryon-number-violating nucleon and dinucleon decays in a model with large extra dimensions. Physical Review D, 2020, 101, .	1.6	15
97	Integral formalism for the construction of scheme transformations in quantum field theory. Physical Review D, 2016, 94, .	1.6	14
98	Nucleon decay and n oscillations in a left-right symmetric model with large extra dimensions. Physical Review D, 2020, 101, .	1.6	14
99	Weak and Electromagnetic Nuclear Decay Signatures for Neutrino Reactions in Super-Kamiokande. Physical Review Letters, 2001, 86, 2223-2226.	2.9	13
100	Ultraviolet to infrared evolution of chiral gauge theories. Physical Review D, 2013, 88, .	1.6	13
101	Scheme-independent calculations of properties at a conformal infrared fixed point in gauge theories with multiple fermion representations. Physical Review D, 2018, 98, .	1.6	13
102	q -plane zeros of the Potts partition function on diamond hierarchical graphs. Journal of Mathematical Physics, 2020, 61, .	0.5	13
103	New model for fermion masses in supersymmetric grand unified theories. Physical Review D, 1994, 49, 4962-4965.	1.6	12
104	Renormalization-group evolution of chiral gauge theories. Physical Review D, 2015, 91, .	1.6	12
105	Improved upper limits on baryon-number violating dinucleon decays to dileptons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2020, 803, 135296.	1.5	12
106	Transfer matrices for the partition function of the Potts model on cyclic and Möbius lattice strips. Physics A: Statistical Mechanics and Its Applications, 2005, 347, 314-352.	1.2	11
107	Some results on vector and tensor meson mixing in a generalized QCD-like theory. Physical Review D, 2011, 84, .	1.6	11
108	Study of the renormalization-group evolution of N supersymmetric gauge theories using Padé approximants. Physical Review D, 2016, 93, .	1.6	11

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109	Question of a Possible Infrared Zero in the Beta Function of the Finite- N Gross-Neveu Model. Physical Review D, 2017, 95, .	1.6	11
110	Extended technicolor models with two extended technicolor groups. Physical Review D, 2006, 74, .	1.6	10
111	Determination of $SU(4)$ technicolor gauge group from embedding in extended technicolor. Physical Review D, 2015, 91, .	1.6	10
112	Exact $T=0$ partition functions for Potts antiferromagnets on sections of the simple cubic lattice. Physical Review E, 2001, 64, 011111.	0.8	9
113	Zeros of the Potts model partition function on Sierpinski graphs. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 671-675.	0.9	9
114	Neutrino masses and mixing in models with large extra dimensions and localized fermions. Physical Review D, 2021, 103, .	1.6	9
115	Further study of an approach to the unification of gauge symmetries in theories with dynamical symmetry breaking. Physical Review D, 2008, 78, .	1.6	8
116	Some exact results on the Potts model partition function in a magnetic field. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 385004.	0.7	8
117	Renormalization-group behavior of the six-loop beta function of the $O(N)$ theories in $d=4-\epsilon$. Physical Review D, 2019, 100, 054011.	1.6	7
118	Flow Polynomials and Their Asymptotic Limits for Lattice Strip Graphs. Journal of Statistical Physics, 2003, 112, 815-879.	0.5	7
119	Variants of the standard model with electroweak-singlet quarks. Physical Review D, 2008, 78, .	1.6	7
120	Structure of the Partition Function and Transfer Matrices for the Potts Model in a Magnetic Field on \mathbb{Z}^2 Lattice Strips. Journal of Statistical Physics, 2009, 137, 667-699.	0.5	7
121	Weighted Graph Colorings. Journal of Statistical Physics, 2010, 138, 496-542.	0.5	7
122	Higher extended technicolor representations and fermion generations. European Physical Journal C, 2011, 71, 1.	1.4	7
123	Scheme-independent series for anomalous dimensions of higher-spin operators at an infrared fixed point in a gauge theory. Physical Review D, 2020, 101, .	1.6	7
124	Renormalization-group behavior of the $d=4-\epsilon$ $O(N)$ theories in $d=4-\epsilon$. Physical Review D, 2019, 100, 054011.	1.6	7
125	Renormalization-group behavior of the $d=4-\epsilon$ $O(N)$ theories in $d=4-\epsilon$. Physical Review D, 2019, 100, 054011.	1.6	7
126	Constraints on N_c extensions of the standard model. Physical Review D, 2007, 76, .	1.6	6

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127	Gauge-invariant quantities characterizing gauge fields in chromodynamics. Physical Review D, 2008, 77, .	1.6	6
128	Gluon-gluon duality and glueball searches. Physical Review D, 2009, 80, .	1.6	6
129	Weighted-Set Graph Colorings. Journal of Statistical Physics, 2010, 139, 27-61.	0.5	6
130	Upper limits on a possible gluon mass. Physical Review D, 2010, 82, .	1.6	6
131	Large- N_c and large- N_f limits of		

#	ARTICLE	IF	CITATIONS
145	Study of Exponential Growth Constants of Directed Heteropolygonal Archimedean Lattices. Journal of Statistical Physics, 2019, 174, 1288-1315.	0.5	3
146	Asymptotic behavior of acyclic and cyclic orientations of directed lattice graphs. Physica A: Statistical Mechanics and Its Applications, 2020, 540, 123059.	1.2	3
147	Asymptotic behavior of spanning forests and connected spanning subgraphs on two-dimensional lattices. International Journal of Modern Physics B, 2020, 34, 2050249.	1.0	2
148	SOME RECENT RESULTS ON MODELS OF DYNAMICAL ELECTROWEAK SYMMETRY BREAKING. , 2008, , .		2
149	Study of the Change from Walking to Non-Walking Behavior in a Vectorial Gauge Theory as a Function of $N_{f</sub>f</sub>}$. , 2008, , .		1
150	Lower bounds on the ground-state entropy of the Potts antiferromagnet on slabs of the simple cubic lattice. Physical Review E, 2010, 81, 031134.	0.8	1
151	Ground state entropy of the Potts antiferromagnet on homeomorphic expansions of kagomÃ© lattice strips. Physical Review E, 2011, 83, 041109.	0.8	1
152	Some Exact Results on Bond Percolation. Journal of Statistical Physics, 2012, 149, 676-700.	0.5	1
153	Improved lower bounds on the ground-state entropy of the antiferromagnetic Potts model. Physical Review E, 2015, 91, 052142.	0.8	1
154	Recent results on renormalization-group evolution of theories with gauge, fermion, and scalar fields. International Journal of Modern Physics A, 2017, 32, 1747007.	0.5	1
155	Ultraviolet to infrared evolution and nonperturbative behavior of $SU(N)\hat{S}-SU(N\hat{4})\hat{S}-U(1)$ chiral gauge theories. Physical Review D, 2019, 100, .	1.6	1
156	Exponential growth constants for spanning forests on Archimedean lattices: Values and comparisons of upper bounds. International Journal of Modern Physics B, 2021, 35, 2150085.	1.0	1
157	INTRODUCTION TO THE CONFERENCE. , 2003, , .		1
158	Exact results for average cluster numbers in bond percolation on infinite-length lattice strips. Physical Review E, 2021, 104, 044107.	0.8	1
159	NEUTRINO MASSES IN THEORIES WITH DYNAMICAL BREAKING OF ELECTROWEAK AND EXTENDED GAUGE SYMMETRIES. , 2003, , .		1
160	An experiment to search for a 17 KeV neutrino. AIP Conference Proceedings, 1992, , .	0.3	0
161	Matter effects on long baseline neutrino oscillation experiments. AIP Conference Proceedings, 2000, , .	0.3	0
162	Recent Results on Renormalization-Group Evolution of Theories with Gauge, Fermion, and Scalar Fields. , 2018, , .		0

#	ARTICLE	IF	CITATIONS
163	ON THE LARGE- N_C LIMIT AND ELECTROWEAK INTERACTIONS: SOME PROPERTIES OF THE N_C -EXTENDED STANDARD MODEL. , 2002, , .		0
164	HIGHER-LOOP CALCULATIONS OF THE UV TO IR EVOLUTION OF GAUGE THEORIES AND REMARKS ON NEUTRINO PROPERTIES. , 2015, , .		0
165	Some recent results on renormalization-group properties of quantum field theories. SciPost Physics Proceedings, 2022, , .	0.2	0