Frank Wilczek

List of Publications by Citations

182 papers	29,068 citations	66 h-index	170 g-index
229 ext. papers	31,797 ext. citations	11.4 avg, IF	7.39 L-index

#	Paper	IF	Citations
182	Ultraviolet Behavior of Non-Abelian Gauge Theories. *Physical Review Letters*, **1973**, 30, 1343-1346	7.4	2618
181	Cosmology of the invisible axion. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **1983**, 120, 127-132	4.2	1565
180	Hawking radiation As tunneling. *Physical Review Letters*, **2000**, 85, 5042-5	7.4	1339
179	Appearance of Gauge Structure in Simple Dynamical Systems. *Physical Review Letters*, **1984**, 52, 2111-2114	7.4	1243
178	Quantum Mechanics of Fractional-Spin Particles. *Physical Review Letters*, **1982**, 49, 957-959	7.4	1113
177	Magnetic Flux, Angular Momentum, and Statistics. *Physical Review Letters*, **1982**, 48, 1144-1146	7.4	888
176	Asymptotically Free Gauge Theories. I. *Physical Review D*, **1973**, 8, 3633-3652	4.9	865
175	Remarks on the chiral phase transition in chromodynamics. *Physical Review D*, **1984**, 29, 338-341	4.9	827
174	Chiral spin states and superconductivity. *Physical Review B*, **1989**, 39, 11413-11423	3.3	809
173	Fractional Statistics and the Quantum Hall Effect. *Physical Review Letters*, **1984**, 53, 722-723	7.4	779
172	Majorana returns. *Nature Physics*, **2009**, 5, 614-618	16.2	697
171	Particle–antiparticle annihilation in diffusive motion. *Journal of Chemical Physics*, **1983**, 78, 2642-2647	3.9	673
170	Fractional Quantum Numbers on Solitons. *Physical Review Letters*, **1981**, 47, 986-989	7.4	631
169	Linking Numbers, Spin, and Statistics of Solitons. *Physical Review Letters*, **1983**, 51, 2250-2252	7.4	609
168	Diquarks and exotic spectroscopy. *Physical Review Letters*, **2003**, 91, 232003	7.4	583
167	Supersymmetry and the scale of unification. *Physical Review D*, **1981**, 24, 1681-1683	4.9	581
166	Fractional Statistics and Anyon Superconductivity. *Series on Directions in Condensed Matter Physics*, **1990**,		516

165	Two applications of axion electrodynamics. *Physical Review Letters*, **1987**, 58, 1799-1802	7.4	511
164	Discrete gauge symmetry in continuum theories. *Physical Review Letters*, **1989**, 62, 1221-1223	7.4	497
163	Asymptotically free gauge theories. II. *Physical Review D*, **1974**, 9, 980-993	4.9	479
162	Decays of Heavy Vector Mesons into Higgs Particles. *Physical Review Letters*, **1977**, 39, 1304-1306	7.4	442
161	Static and dynamic critical phenomena at a second order QCD phase transition. *Nuclear Physics B*, **1993**, 399, 395-425	2.8	405
160	Operator Analysis of Nucleon Decay. *Physical Review Letters*, **1979**, 43, 1571-1573	7.4	404
159	Reheating an Inflationary Universe. *Physical Review Letters*, **1982**, 48, 1437-1440	7.4	383
158	2n-quasihole states realize 2n□-dimensional spinor braiding statistics in paired quantum Hall states. *Nuclear Physics B*, **1996**, 479, 529-553	2.8	377
157	Quantum time crystals. *Physical Review Letters*, **2012**, 109, 160401	7.4	370
156	Axions and Family Symmetry Breaking. *Physical Review Letters*, **1982**, 49, 1549-1552	7.4	335
155	Paired Hall state at half filling. *Physical Review Letters*, **1991**, 66, 3205-3208	7.4	313
154	Paired Hall states. *Nuclear Physics B*, **1992**, 374, 567-614	2.8	307
153	Running inflation in the Standard Model. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2009**, 678, 1-8	4.2	302
152	New macroscopic forces?. *Physical Review D*, **1984**, 30, 130-138	4.9	283
151	Continuity of Quark and Hadron Matter. *Physical Review Letters*, **1999**, 82, 3956-3959	7.4	262
150	Realizations of magnetic-monopole gauge fields: Diatoms and spin precession. *Physical Review Letters*, **1986**, 56, 893-896	7.4	254
149	Geometry of self-propulsion at low Reynolds number. *Journal of Fluid Mechanics*, **1989**, 198, 557	3.7	252
148	Dimensionless constants, cosmology, and other dark matters. *Physical Review D*, **2006**, 73,	4.9	233

147	Enforced electrical neutrality of the color-flavor locked phase. *Physical Review Letters*, **2001**, 86, 3492-5	7.4	229
146	Aharonov-Bohm interaction of cosmic strings with matter. *Physical Review Letters*, **1989**, 62, 1071-1074	7.4	219
145	Hawking radiation from charged black holes via gauge and gravitational anomalies. *Physical Review Letters*, **2006**, 96, 151302	7.4	199
144	Matter-antimatter accounting, thermodynamics, and black-hole radiation. *Physical Review D*, **1979**, 19, 1036-1045	4.9	197
143	Minimal color-flavor-locked□uclear interface. *Physical Review D*, **2001**, 64,	4.9	192
142	Solar System constraints and signatures for dark-matter candidates. *Physical Review D*, **1986**, 33, 2079-2083	4.9	192
141	Anomalies, Hawking radiations, and regularity in rotating black holes. *Physical Review D*, **2006**, 74,	4.9	189
140	Bolometric detection of neutrinos. *Physical Review Letters*, **1985**, 55, 25-28	7.4	169
139	Families from spinors. *Physical Review D*, **1982**, 25, 553-565	4.9	162
138	Classical time crystals. *Physical Review Letters*, **2012**, 109, 160402	7.4	159
137	Remarks on Dyons. *Physical Review Letters*, **1982**, 48, 1146-1149	7.4	158
136	Consequences of time-reversal-symmetry violation in models of high-Tc superconductors. *Physical Review B*, **1989**, 40, 8726-8744	3.3	152
135	Axion cosmology and the energy scale of inflation. *Physical Review D*, **2008**, 78,	4.9	144
134	Self-propulsion at low Reynolds number. *Physical Review Letters*, **1987**, 58, 2051-2054	7.4	142
133	Relic gravitational waves and extended inflation. *Physical Review Letters*, **1990**, 65, 3080-3083	7.4	138
132	Light-quark masses and isospin violation. *Physical Review D*, **1979**, 19, 2188-2196	4.9	135
131	Inflationary axion cosmology. *Physical Review Letters*, **1991**, 66, 5-8	7.4	133
130	Calculations for cosmic axion detection. *Physical Review Letters*, **1985**, 55, 1797-1800	7.4	129

129	Observability of earth-skimming ultrahigh energy neutrinos. *Physical Review Letters*, **2002**, 88, 161102	7.4	120
128	Exclusion statistics: Low-temperature properties, fluctuations, duality, and applications. *Physical Review Letters*, **1994**, 73, 2740-2743	7.4	116
127	Positron line radiation as a signature of particle dark matter in the halo. *Physical Review D*, **1990**, 42, 1001-1007	4.9	110
126	Gravitational correction to running of gauge couplings. *Physical Review Letters*, **2006**, 96, 231601	7.4	103
125	Experimental Consequences of a Minimal Messenger Model for Supersymmetry Breaking. *Physical Review Letters*, **1996**, 77, 3070-3073	7.4	100
124	Dilute and dense axion stars. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2018**, 777, 64-72	4.2	98
123	Josephson effect without superconductivity: realization in quantum Hall bilayers. *Physical Review Letters*, **2001**, 86, 1833-6	7.4	92
122	Spin-dependent Hubbard model and a quantum phase transition in cold atoms. *Physical Review A*, **2004**, 70,	2.6	82
121	Efficiencies of self-propulsion at low Reynolds number. *Journal of Fluid Mechanics*, **1989**, 198, 587	3.7	79
120	Interactions and excitations of non-Abelian vortices. *Physical Review Letters*, **1990**, 64, 1632-1635	7.4	79
119	Tunable Axion Plasma Haloscopes. *Physical Review Letters*, **2019**, 123, 141802	7.4	68
118	Possible new form of spontaneous T violation. *Physical Review Letters*, **1988**, 61, 2066-2068	7.4	68
117	THE CONDENSED MATTER PHYSICS OF QCD **2001**, 2061-2151		66
116	Riemann-Einstein Structure from Volume and Gauge Symmetry. *Physical Review Letters*, **1998**, 80, 4851-4854	7.4	66
115	Rare Muon Decays, Natural Lepton Models, and Doubly Charged Leptons. *Physical Review Letters*, **1977**, 38, 531-533	7.4	66
114	Foundations and working pictures in microphysical cosmology. *Physics Reports*, **1984**, 104, 143-157	27.7	64
113	Superfluidity and space-time translation symmetry breaking. *Physical Review Letters*, **2013**, 111, 250402	7.4	63
112	Illustrations of vacuum polarization by solitons. *Physical Review D*, **1984**, 30, 2194-2200	4.9	62

111	Growing hair on black holes. *Physical Review Letters*, **1991**, 67, 1975-1978	7.4	56
110	Physical processes involving Majorana neutrinos. *Physical Review D*, **1982**, 25, 143-148	4.9	54
109	HEURISTIC PRINCIPLE FOR QUANTIZED HALL STATES. *Modern Physics Letters B*, **1990**, 04, 1063-1069	1.6	51
108	Effect of instantons on the heavy-quark potential. *Physical Review D*, **1978**, 18, 4684-4692	4.9	50
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106	Lattice fermions. *Physical Review Letters*, **1987**, 59, 2397-2400	7.4	49
105	Is our vacuum metastable?. *Nature*, **1982**, 298, 633-634	50.4	49
104	SU(3) Predictions for Charmed-Meson Decays. *Physical Review Letters*, **1979**, 43, 816-817	7.4	48
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101	Gauge kinematics of deformable bodies. *American Journal of Physics*, **1989**, 57, 514-518	0.7	38
100	Paired Hall states in double-layer electron systems. *Physical Review B*, **1992**, 46, 9586-9589	3.3	33
99	Space-time approach to holonomy scattering. *Physical Review Letters*, **1990**, 65, 13-16	7.4	33
98	Solar-neutrino oscillations. *Physical Review Letters*, **1985**, 55, 122-125	7.4	33
97	Rare muon decays, heavy leptons, and CP violation. *Physical Review D*, **1977**, 16, 152-157	4.9	33
96	Resolution of cosmological singularities in string theory. *Physical Review D*, **1997**, 55, 4591-4595	4.9	32
95	In search of symmetry lost. *Nature*, **2005**, 433, 239-47	50.4	32
94	Exact solutions and the adiabatic heuristic for quantum Hall states. *Nuclear Physics B*, **1992**, 370, 577-600	2.8	31

93	HADRON SYSTEMATICS AND EMERGENT DIQUARKS **2006**,		30
92	Possible new species of quarks and hadrons. *Physical Review D*, **1977**, 16, 860-868	4.9	29
91	Wilczek reply:. *Physical Review Letters*, **2013**, 110, 118902	7.4	27
90	Constraints on heavy neutrinos. *Nature*, **1981**, 289, 777-778	50.4	27
89	Examples of vacuum polarization by solitons. *Physical Review D*, **1984**, 30, 2260-2263	4.9	26
88	Chiral Casimir forces: Repulsive, enhanced, tunable. *Physical Review B*, **2019**, 99,	3.3	25
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86	Nobel Lecture: Asymptotic freedom: From paradox to paradigm*. *Reviews of Modern Physics*, **2005**, 77, 857-870	40.5	25
85	Asymptotic freedom: from paradox to paradigm. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 8403-13	11.5	25
84	Internal frame dragging and a global analog of the Aharonov-Bohm effect. *Physical Review Letters*, **1992**, 68, 2567-2571	7.4	24
83	Physics: The enigmatic electron. *Nature*, **2013**, 498, 31-2	50.4	23
82	Superdensity operators for spacetime quantum mechanics. *Journal of High Energy Physics*, **2018**, 2018, 1	5.4	22
81	Quantum Overlapping Tomography. *Physical Review Letters*, **2020**, 124, 100401	7.4	21
80	Branched quantization. *Physical Review Letters*, **2012**, 109, 200402	7.4	21
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78	The noise of gravitons. *International Journal of Modern Physics D*, **2020**, 29, 2042001	2.2	19
77	Algebra of Majorana doubling. *Physical Review Letters*, **2013**, 111, 226402	7.4	17
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75	A model of comprehensive unification. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2017**, 774, 667-670	4.2	16
74	POSSIBLE ELECTRONIC STRUCTURE OF DOMAIN WALLS IN MOTT INSULATORS. *International Journal of Modern Physics B*, **1996**, 10, 2125-2136	1.1	16
73	Macroscopic T nonconservation: Prospects for a new experiment. *Physical Review Letters*, **1986**, 56, 1623-1626	7.4	16
72	Origins of mass. *Open Physics*, **2012**, 10,	1.3	15
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67	Resonant scattering and charm showers in ultrahigh-energy neutrino interactions. *Physical Review Letters*, **1985**, 55, 1252-1253	7.4	14
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65	QCD and Natural Philosophy. *Annales Henri Poincare*, **2003**, 4, 211-228	1.2	13
64	DIQUARKS AS INSPIRATION AND AS OBJECTS **2005**, 77-93		13
63	Quantum Numbers of Textured Hall Effect Quasiparticles. *Physical Review Letters*, **1996**, 77, 4418-4421	7.4	13
62	SO(3) family symmetry and axions. *Physical Review D*, **2018**, 98,	4.9	12
61	Regularizations of time-crystal dynamics. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 18772-18776	11.5	10
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43	Experimental test of entangled histories. *Annals of Physics*, **2017**, 387, 334-347	2.5	5
42	Light, the universe and everything 12 Herculean tasks for quantum cowboys and black diamond skiers. *Journal of Modern Optics*, **2018**, 65, 1261-1308	1.1	5
41	The Quantum Theory of Fields, Vol. 3: Supersymmetry. *Physics Today*, **2000**, 53, 55-56	0.9	5
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39	Quantum independent-set problem and non-Abelian adiabatic mixing. *Physical Review A*, **2020**, 101,	2.6	5
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34	A model of anthropic reasoning: the dark to ordinary matter ratio151-162		4
33	The Universe is a Strange Place. *Nuclear Physics, Section B, Proceedings Supplements*, **2004**, 134, 3-12		4
32	Quantum hair and quantum gravity. *General Relativity and Gravitation*, **1992**, 24, 9-16	2.3	4
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27	Geometric Induction in Chiral Superconductors. *Physical Review Letters*, **2020**, 124, 197001	7.4	2
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25	Enlightenment, knowledge, ignorance, temptation43-54		2
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20	BCS AS FOUNDATION AND INSPIRATION: THE TRANSMUTATION OF SYMMETRY **2010**, 535-558		2
19	Chromatic interferometry with small frequency differences. *Optics Express*, **2020**, 28, 32294-32301	3.3	2
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16	From concept to reality to vision. *European Physical Journal C*, **2004**, 33, s1-s4	4.2	1
15	When words fail. *Nature*, **2001**, 410, 149-149	50.4	1
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13	Particle physics. Backyard exotica. *Nature*, **2000**, 404, 452-3	50.4	1
12	Orientation of the weak interaction with respect to the strong interaction. *Physical Review D*, **1977**, 15, 3701-3710	4.9	1
11	SOME BASIC ASPECTS OF FRACTIONAL QUANTUM NUMBERS. *World Scientific Series in 20th Century Physics*, **2002**, 135-152	0	1
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9	Entanglement Enabled Intensity Interferometry of different wavelengths of light. *Annals of Physics*, **2021**, 424, 168346	2.5	1
8	Improved Spatial Resolution Achieved by Chromatic Intensity Interferometry. *Physical Review Letters*, **2021**, 127, 103601	7.4	1
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6	YANGMILLS THEORY IN, BEYOND, AND BEHIND OBSERVED REALITY **2005**, 255-267		
5	An explorer and surveyor. *Nature*, **2005**, 437, 1095	50.4	
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