Lee Smolin

List of Publications by Year
in descending order

98 papers	4,934 citations	147801 31 h-index	91884 69 g-index
103 all docs	103 docs citations	103 times ranked	1971 citing authors

#	Article	IF	Citations
1	Lorentz Invariance with an Invariant Energy Scale. Physical Review Letters, 2002, 88, 190403.	7.8	939
2	Generalized Lorentz invariance with an invariant energy scale. Physical Review D, 2003, 67, .	4.7	549
3	Gravity's rainbow. Classical and Quantum Gravity, 2004, 21, 1725-1736.	4.0	472
4	Principle of relative locality. Physical Review D, 2011, 84, .	4.7	257
5	Linking topological quantum field theory and nonperturbative quantum gravity. Journal of Mathematical Physics, 1995, 36, 6417-6455.	1.1	176
6	Quantum symmetry, the cosmological constant and Planck-scale phenomenology. Classical and Quantum Gravity, 2004, 21, 3095-3110.	4.0	167
7	String theories with deformed energy-momentum relations, and a possible nontachyonic bosonic string. Physical Review D, 2005, 71, .	4.7	153
8	Fundamental quantum optics experiments conceivable with satellitesâ€”reaching relativistic distances and velocities. Classical and Quantum Gravity, 2012, 29, 224011.	4.0	131
9	Quantization of unimodular gravity and the cosmological constant problems. Physical Review D, 2009, 80, .	4.7	122
10	Prospects for constraining quantum gravity dispersion with near term observations. Physical Review D, 2009, 80, .	4.7	117
11	2+1 gravity and doubly special relativity. Physical Review D, 2004, 69, .	4.7	100
12	Quantum deformation of quantum gravity. Nuclear Physics B, 1996, 473, 267-290.	2.5	90
13	Anomalous Cosmic-Microwave-Background Polarization and Gravitational Chirality. Physical Review Letters, 2008, 101, 141101.	7.8	86
14	Relative locality: a deepening of the relativity principle. General Relativity and Gravitation, 2011, 43, 2547-2553.	2.0	86
15	Triply special relativity. Physical Review D, 2004, 70, .	4.7	77
16	Falsifiable predictions from semiclassical quantum gravity. Nuclear Physics B, 2006, 742, 142-157.	2.5	66
17	Time, laws, and the future of cosmology. Physics Today, 2014, 67, 38-43.	0.3	57
18	Quantum geometry with intrinsic local causality. Physical Review D, 1998, 58, .	4.7	51

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19	Quantum theory from quantum gravity. Physical Review D, 2004, 70, .	4.7	49
20	On the intrinsic entropy of the gravitational field. General Relativity and Gravitation, 1985, 17, 417-437.	2.0	48
21	The Chern-Simons invariant as the natural time variable for classical and quantum cosmology. Nuclear Physics B, 1995, 449, 289-314.	2.5	47
22	The universe as a process of unique events. Physical Review D, 2014, 90, .	4.7	45
23	Quantum fluctuations and inertia. Physics Letters, Section A: General, Atomic and Solid State Physics, 1986, 113, 408-412.	2.1	43
24	Holographic formulation of quantum general relativity. Physical Review D, 2000, 61, .	4.7	43
25	Disordered locality in loop quantum gravity states. Classical and Quantum Gravity, 2007, 24, 3813-3823.	4.0	42
26	Relative locality and the soccer ball problem. Physical Review D, 2011, 84, .	4.7	42
27	Unimodular loop quantum gravity and the problems of time. Physical Review D, 2011, 84, .	4.7	40
28	Atoms of Space and Time. Scientific American, 2004, 290, 66-75.	1.0	38
29	theory as a matrix extension of Chernâ€“Simons theory. Nuclear Physics B, 2000, 591, 227-242.	2.5	36
30	Quantum energetic causal sets. Physical Review D, 2014, 90, .	4.7	35
31	Plebanski action extended to a unification of gravity and Yang-Mills theory. Physical Review D, 2009, 80, .	4.7	34
32	Holography and the scale invariance of density fluctuations. Classical and Quantum Gravity, 2007, 24, 3691-3699.	4.0	30
33	Cosmology of minimal varying Lambda theories. Physical Review D, 2019, 100, .	4.7	28
34	The thermodynamics of gravitational radiation. General Relativity and Gravitation, 1984, 16, 205-210.	2.0	27
35	Gravitational origin of the weak interactionâ€™s chirality. Physical Review D, 2014, 89, .	4.7	26
36	AN INVITATION TO LOOP QUANTUM GRAVITY. , 2004, , .		25

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37	MOND as a regime of quantum gravity. Physical Review D, 2017, 96, .	4.7	25
38	Unification of gravity, gauge fields and Higgs bosons. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 445401.	2.1	24
39	RELATIVE LOCALITY: A DEEPENING OF THE RELATIVITY PRINCIPLE. International Journal of Modern Physics D, 2011, 20, 2867-2873.	2.1	22
40	Cosmological natural selection as the explanation for the complexity of the universe. Physica A: Statistical Mechanics and Its Applications, 2004, 340, 705-713.	2.6	19
41	A Real Ensemble Interpretation of Quantum Mechanics. Foundations of Physics, 2012, 42, 1239-1261.	1.3	19
42	Zero-parameter extension of general relativity with a varying cosmological constant. Physical Review D, 2019, 100, .	4.7	19
43	Eleven-dimensional supergravity as a constrained topological field theory. Nuclear Physics B, 2001, 601, 191-208.	2.5	18
44	Quantum Mechanics and the Principle of Maximal Variety. Foundations of Physics, 2016, 46, 736-758.	1.3	18
45	The selfâ€“organization of space and time. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 1081-1088.	3.4	17
46	Scientific alternatives to the anthropic principle. , 0, , 323-366.		17
47	Dynamics of the cosmological and Newtonâ€™s constant. Classical and Quantum Gravity, 2016, 33, 025011.	4.0	17
48	The Dynamics of Difference. Foundations of Physics, 2018, 48, 121-134.	1.3	17
49	Quantum gravity and inflation. Physical Review D, 2004, 70, .	4.7	15
50	A Perspective on the Landscape Problem. Foundations of Physics, 2013, 43, 21-45.	1.3	15
51	A Universe that Does Not Know the Time. Universe, 2019, 5, 84.	2.5	15
52	Note on the Plebanski action with the cosmological constant and an Immirzi parameter. Physical Review D, 2010, 81, .	4.7	14
53	Classical paradoxes of locality and their possible quantum resolutions in deformed special relativity. General Relativity and Gravitation, 2011, 43, 3671-3691.	2.0	14
54	Temporal naturalism. Studies in History and Philosophy of Science Part B - Studies in History and Philosophy of Modern Physics, 2015, 52, 86-102.	1.4	14

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55	Interaction-Free Effects Between Distant Atoms. Foundations of Physics, 2018, 48, 1-16.	1.3	14
56	Disordered locality as an explanation for the dark energy. Physical Review D, 2009, 80, .	4.7	13
57	Time asymmetric extensions of general relativity. Physical Review D, 2015, 92, .	4.7	13
58	The unique universe. Physics World, 2009, 22, 21-26.	0.0	12
59	OPERA NEUTRINOS AND DEFORMED SPECIAL RELATIVITY. Modern Physics Letters A, 2012, 27, 1250063.	1.2	12
60	A shape dynamical approach to holographic renormalization. European Physical Journal C, 2015, 75, 1.	3.9	11
61	The Quantum Cosmological Constant. Symmetry, 2019, 11, 1130.	2.2	11
62	The new universe around the next corner. Physics World, 1999, 12, 79-84.	0.0	10
63	Strings as perturbations of evolving spin networks. Nuclear Physics, Section B, Proceedings Supplements, 2000, 88, 103-113.	0.4	10
64	Spin foam models as energetic causal sets. Physical Review D, 2016, 93, .	4.7	10
65	Four Principles for Quantum Gravity. Fundamental Theories of Physics, 2017, , 427-450.	0.3	9
66	Gauge fixing in causal dynamical triangulations. Nuclear Physics B, 2006, 739, 120-130.	2.5	8
67	A quantization of topological <mml:math altimg="si1.gif" overflow="scroll" xmlns:xocs="http://www.elsevier.com/xml/xocs/dtd" xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="http://www.elsevier.com/xml/ja/dtd" xmlns:ja="http://www.elsevier.com/xml/ja/dtd" xmlns:mml="http://www.w3.org/1998/Math/MathML" xmlns:tb="http://www.elsevier.com/xml/common/table/dtd" xmlns:sb="http://www.elsevier.com/xml/common/struct-bib/dtd" xmlns:ce="http://www.elsevier.com/x	2.5	8
68	Reply to â€œComment on â€˜Relative locality and the soccer ball problemâ€™â€•. Physical Review D, 2013, 88, .	4.7	7
69	Realism and causality. I. Pilot wave and retrocausal models as possible facilitators. Physical Review D, 2020, 102, .	4.7	6
70	General relativity as the equation of state of spin foam. Classical and Quantum Gravity, 2014, 31, 195007.	4.0	5
71	Cosmological signatures of time-asymmetric gravity. Physical Review D, 2016, 94, .	4.7	5
72	Realism and causality. II. Retrocausality in energetic causal sets. Physical Review D, 2020, 102, .	4.7	5

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73	Quantum gravity faces reality. Physics Today, 2006, 59, 44-48.	0.3	4
74	Reversing the irreversible: From limit cycles to emergent time symmetry. Physical Review D, 2018, 97, .	4.7	4
75	What Are We Missing in Our Search for Quantum Gravity?. , 2018, , 287-304.		4
76	Linking shape dynamics and loop quantum gravity. Physical Review D, 2014, 90, .	4.7	3
77	Thermodynamics of quantum spacetime histories. Physical Review D, 2017, 96, .	4.7	3
78	Black hole information paradox and relative locality. Physical Review D, 2014, 90, .	4.7	2
79	Positive energy in quantum gravity. Physical Review D, 2014, 90, .	4.7	2
80	Unification of the State with the Dynamical Law. Foundations of Physics, 2015, 45, 1-10.	1.3	2
81	Quantum theories of gravity: results and prospects. , 2004, , 492-527.		1
82	â€œHot-spottingâ€•to improve vaccine allocation by harnessing digital contact tracing technology: An application of percolation theory. PLoS ONE, 2021, 16, e0256889.	2.5	1
83	THE MAIN POSTULATES AND RESULTS OF LOOP QUANTUM GRAVITY. , 2006, , .		1
84	The science of the one universe in time. , 0, , 5-45.		0
85	The nature and scope of this work. , 0, , x-xxii.		0
86	The context and consequences of the argument. , 0, , 46-99.		0
87	The singular existence of the universe. , 0, , 100-161.		0
88	The inclusive reality of time. , 0, , 162-258.		0
89	The mutability of the laws of nature. , 0, , 259-301.		0
90	The selective realism of mathematics. , 0, , 302-348.		0

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91	Cosmology in crisis. , 0, , 353-366.		0
92	Principles for a cosmological theory. , 0, , 367-392.		0
93	The setting: the puzzles of contemporary cosmology. , 0, , 393-413.		0
94	Hypotheses for a new cosmology. , 0, , 414-421.		0
95	Approaches to solving the meta-law dilemma. , 0, , 447-479.		0
96	Implications of temporal naturalism for the philosophy of mind. , 0, , 480-483.		0
97	An agenda for science. , 0, , 484-499.		0
98	Extending Dualities to Trialities Deepens the Foundations of Dynamics. International Journal of Theoretical Physics, 2017, 56, 221-231.	1.2	0