

# Leo P Kadanoff

## List of Publications by Citations

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106  
papers

19,297  
citations

53  
h-index

108  
g-index

108  
ext. papers

20,465  
ext. citations

5.6  
avg. IF

6.5  
L-index

#	Paper	IF	Citations
106	Fractal measures and their singularities: The characterization of strange sets. <i>Physical Review A</i> , <b>1986</b> , 33, 1141-1151	2.6	2772
105	Renormalization, vortices, and symmetry-breaking perturbations in the two-dimensional planar model. <i>Physical Review B</i> , <b>1977</b> , 16, 1217-1241	3.3	1628
104	Static Phenomena Near Critical Points: Theory and Experiment. <i>Reviews of Modern Physics</i> , <b>1967</b> , 39, 395-431	40.5	1315
103	Conservation Laws and Correlation Functions. <i>Physical Review</i> , <b>1961</b> , 124, 287-299		1302
102	Scaling laws for ising models near $T_c$ . <i>Physics Physique</i> <b>1966</b> , 2, 263-272		1044
101	Hydrodynamic equations and correlation functions. <i>Annals of Physics</i> , <b>1963</b> , 24, 419-469	2.5	940
100	Notes on Migdal's recursion formulas. <i>Annals of Physics</i> , <b>1976</b> , 100, 359-394	2.5	682
99	Viscous flows in two dimensions. <i>Reviews of Modern Physics</i> , <b>1986</b> , 58, 977-999	40.5	613
98	Scaling and universality in avalanches. <i>Physical Review A</i> , <b>1989</b> , 39, 6524-6537	2.6	545
97	Built upon sand: Theoretical ideas inspired by granular flows. <i>Reviews of Modern Physics</i> , <b>1999</b> , 71, 435-444	40.5	449
96	Transport Coefficients near the Liquid-Gas Critical Point. <i>Physical Review</i> , <b>1968</b> , 166, 89-101		431
95	Determination of an Operator Algebra for the Two-Dimensional Ising Model. <i>Physical Review B</i> , <b>1971</b> , 3, 3918-3939	3.3	370
94	Simple lessons from complexity. <i>Science</i> , <b>1999</b> , 284, 87-9	33.3	325
93	Some Critical Properties of the Eight-Vertex Model. <i>Physical Review B</i> , <b>1971</b> , 4, 3989-3993	3.3	310
92	Turbulent Heat Flow: Structures and Scaling. <i>Physics Today</i> , <b>2001</b> , 54, 34-39	0.9	291
91	Statistical Physics <b>2000</b> ,		282
90	Correlation functions on the critical lines of the Baxter and Ashkin-Teller models. <i>Annals of Physics</i> , <b>1979</b> , 121, 318-342	2.5	270

89	Transport Theory for Electron-Phonon Interactions in Metals. <i>Physical Review</i> , <b>1964</b> , 134, A566-A580		270
88	Global universality at the onset of chaos: Results of a forced Rayleigh-Benard experiment. <i>Physical Review Letters</i> , <b>1985</b> , 55, 2798-2801	7.4	248
87	The application of renormalization group techniques to quarks and strings. <i>Reviews of Modern Physics</i> , <b>1977</b> , 49, 267-296	40.5	230
86	Critical behavior of a KAM surface: I. Empirical results. <i>Journal of Statistical Physics</i> , <b>1982</b> , 27, 631-656	1.5	215
85	Quasiperiodicity in dissipative systems: A renormalization group analysis. <i>Physica D: Nonlinear Phenomena</i> , <b>1982</b> , 5, 370-386	3.3	203
84	Numerical evaluations of the critical properties of the two-dimensional Ising model. <i>Physical Review B</i> , <b>1975</b> , 11, 377-386	3.3	188
83	Breakdown of hydrodynamics in a one-dimensional system of inelastic particles. <i>Physical Review Letters</i> , <b>1995</b> , 74, 1268-1271	7.4	181
82	Simulating hydrodynamics: A pedestrian model. <i>Journal of Statistical Physics</i> , <b>1985</b> , 39, 267-283	1.5	176
81	Variational approximations for renormalization group transformations. <i>Journal of Statistical Physics</i> , <b>1976</b> , 14, 171-203	1.5	171
80	Disorder variables and para-fermions in two-dimensional statistical mechanics. <i>Nuclear Physics B</i> , <b>1980</b> , 170, 1-15	2.8	167
79	Operator Algebra and the Determination of Critical Indices. <i>Physical Review Letters</i> , <b>1969</b> , 23, 1430-1433	7.4	164
78	Hamiltonian studies of the d=2 Ashkin-Teller model. <i>Physical Review B</i> , <b>1981</b> , 24, 5229-5241	3.3	161
77	Variational Principles and Approximate Renormalization Group Calculations. <i>Physical Review Letters</i> , <b>1975</b> , 34, 1005-1008	7.4	152
76	Multicritical behavior at the Kosterlitz-Thouless critical point. <i>Annals of Physics</i> , <b>1979</b> , 120, 39-71	2.5	147
75	Transport Coefficients near the Critical Point: A Master-Equation Approach. <i>Physical Review</i> , <b>1968</b> , 165, 310-322		147
74	Extended chaos and disappearance of KAM trajectories. <i>Physica D: Nonlinear Phenomena</i> , <b>1984</b> , 13, 82-89	3.3	132
73	Phase diagram for the Ashkin-Teller model in three dimensions. <i>Physical Review B</i> , <b>1980</b> , 22, 2542-2553	3.3	125
72	More is the Same; Phase Transitions and Mean Field Theories. <i>Journal of Statistical Physics</i> , <b>2009</b> , 137, 777-797	1.5	123

71	Quantum model for commensurate-incommensurate transitions. <i>Nuclear Physics B</i> , <b>1983</b> , 215, 169-208	2.8	122
70	Droplet breakup in a model of the Hele-Shaw cell. <i>Physical Review E</i> , <b>1993</b> , 47, 4169-4181	2.4	121
69	Passive scalars, three-dimensional volume-preserving maps, and chaos. <i>Journal of Statistical Physics</i> , <b>1988</b> , 50, 529-565	1.5	110
68	Renormalization, unstable manifolds, and the fractal structure of mode locking. <i>Physical Review Letters</i> , <b>1985</b> , 55, 343-346	7.4	110
67	Ultrasonic Attenuation in Superconductors Containing Magnetic Impurities. <i>Physical Review</i> , <b>1964</b> , 136, A1170-A1180		109
66	Scaling for a Critical Kolmogorov-Arnold-Moser Trajectory. <i>Physical Review Letters</i> , <b>1981</b> , 47, 1641-1643	7.4	98
65	Connections between the Critical Behavior of the Planar Model and That of the Eight-Vertex Model. <i>Physical Review Letters</i> , <b>1977</b> , 39, 903-905	7.4	94
64	Scaling structure and thermodynamics of strange sets. <i>Physical Review A</i> , <b>1987</b> , 36, 1409-1420	2.6	92
63	Scaling and universality in statistical physics. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1990</b> , 163, 1-14	3.3	91
62	From automata to fluid flow: Comparisons of simulation and theory. <i>Physical Review A</i> , <b>1989</b> , 40, 4527-4541	2.4	86
61	Boltzmann Equation for Polarons. <i>Physical Review</i> , <b>1963</b> , 130, 1364-1369		79
60	Teaching the renormalization group. <i>American Journal of Physics</i> , <b>1978</b> , 46, 652-657	0.7	68
59	Finite-time singularity formation in Hele-Shaw systems. <i>Physical Review E</i> , <b>1993</b> , 47, 4182-4196	2.4	61
58	Anomalous Ultrasonic Attenuation above the Magnetic Critical Point. <i>Physical Review</i> , <b>1969</b> , 187, 619-629		57
57	Real-space renormalization in statistical mechanics. <i>Reviews of Modern Physics</i> , <b>2014</b> , 86, 647-667	40.5	56
56	Finger narrowing under local perturbations in the Saffman-Taylor problem. <i>Physical Review A</i> , <b>1987</b> , 36, 1894-1900	2.6	56
55	Exact solutions for the Saffman-Taylor problem with surface tension. <i>Physical Review Letters</i> , <b>1990</b> , 65, 2986-2988	7.4	54
54	Strange objects in the complex plane. <i>Journal of Statistical Physics</i> , <b>1983</b> , 32, 443-454	1.5	53

53	Perturbation Theoretic Calculation of Polaron Mobility. <i>Physical Review</i> , <b>1964</b> , 133, A1070-A1075		51
52	Traveling-wave solutions to thin-film equations. <i>Physical Review E</i> , <b>1993</b> , 48, 4423-4431	2.4	50
51	Singularities and Similarities in Interface Flows. <i>Applied Mathematical Sciences (Switzerland)</i> , <b>1994</b> , 155-208		50
50	Transitions in convective turbulence: The role of thermal plumes. <i>Physical Review A</i> , <b>1991</b> , 44, 8091-8102	2.6	46
49	The Loewner Equation: Maps and Shapes. <i>Journal of Statistical Physics</i> , <b>2004</b> , 114, 1183-1198	1.5	43
48	Correlations along a Line in the Two-Dimensional Ising Model. <i>Physical Review</i> , <b>1969</b> , 188, 859-863		43
47	Exact Solutions for Loewner Evolutions. <i>Journal of Statistical Physics</i> , <b>2004</b> , 115, 805-822	1.5	37
46	Green's Functions and Superfluid Hydrodynamics. <i>Journal of Mathematical Physics</i> , <b>1965</b> , 6, 1902-1912	1.2	37
45	Inelastic collapse of three particles. <i>Physical Review E</i> , <b>1996</b> , 54, 623-628	2.4	36
44	Renormalization-group analysis of the global structure of the period-doubling attractor. <i>Physical Review A</i> , <b>1986</b> , 33, 3622-3624	2.6	34
43	Transport coefficients near the $\lambda$ -transition of helium. <i>Annals of Physics</i> , <b>1968</b> , 50, 312-322	2.5	33
42	Failure of the Electronic Quasiparticle Picture for Nuclear Spin Relaxation in Metals. <i>Physical Review</i> , <b>1963</b> , 132, 2073-2077		32
41	Fractal measures and their singularities: The characterization of strange sets. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , <b>1987</b> , 2, 501-511		31
40	Singularities near the bifurcation point of the Ashkin-Teller model. <i>Physical Review B</i> , <b>1980</b> , 22, 1405-1408	2.3	31
39	Stationary solutions for the Saffman-Taylor problem with surface tension. <i>Physical Review A</i> , <b>1991</b> , 44, 6490-6495	2.6	30
38	Interface dynamics and the motion of complex singularities. <i>Physical Review A</i> , <b>1991</b> , 43, 6672-6682	2.6	30
37	Sandpiles, avalanches, and the statistical mechanics of nonequilibrium stationary states. <i>Physical Review E</i> , <b>1993</b> , 47, 3099-3121	2.4	25
36	Anomalous Electrical Conductivity above the Superconducting Transition. <i>Physical Review</i> , <b>1968</b> , 175, 579-584		24

35	From simulation model to public policy: An examination of Forrester's "Urban Dynamics". <i>Simulation</i> , <b>1971</b> , 16, 261-268	1.2	24
34	Relating theories via renormalization. <i>Studies in History and Philosophy of Science Part B - Studies in History and Philosophy of Modern Physics</i> , <b>2013</b> , 44, 22-39	1	21
33	Singularities and Blowups. <i>Physics Today</i> , <b>1997</b> , 50, 11-13	0.9	20
32	Renormalization group analysis of the global properties of a strange attractor. <i>Journal of Statistical Physics</i> , <b>1986</b> , 43, 395-410	1.5	20
31	Many-point correlation functions in a modified Ising model. <i>Physical Review B</i> , <b>1981</b> , 24, 5382-5383	3.3	20
30	Reversible Boolean networks I: distribution of cycle lengths. <i>Physica D: Nonlinear Phenomena</i> , <b>2001</b> , 149, 11-29	3.3	19
29	Critical indices for singular diffusion. <i>Physical Review A</i> , <b>1992</b> , 45, 6095-6098	2.6	19
28	Supercritical behavior of an ordered trajectory. <i>Journal of Statistical Physics</i> , <b>1983</b> , 31, 1-27	1.5	17
27	Correlation functions on the critical line of the two-dimensional planar model: Logarithms and corrections to scaling. <i>Nuclear Physics B</i> , <b>1981</b> , 180, 61-76	2.8	16
26	Marginality, universality, and expansion techniques for critical lines in two dimensions. <i>Physical Review B</i> , <b>1980</b> , 22, 5154-5170	3.3	12
25	Transitions and probes in turbulent helium. <i>Physical Review E</i> , <b>1997</b> , 55, 2672-2681	2.4	11
24	Hydrodynamic Equations and Correlation Functions. <i>Annals of Physics</i> , <b>2000</b> , 281, 800-852	2.5	10
23	The break-up of a heteroclinic connection in a volume preserving mapping. <i>Physica D: Nonlinear Phenomena</i> , <b>1993</b> , 62, 51-65	3.3	10
22	Slippery Wave Functions. <i>Journal of Statistical Physics</i> , <b>2013</b> , 152, 805-823	1.5	9
21	From Periodic Motion to Unbounded Chaos: Investigations of the Simple Pendulum. <i>Physica Scripta</i> , <b>1985</b> , T9, 5-10	2.6	8
20	SMJ's analysis of Ising model correlation functions. <i>Annals of Physics</i> , <b>1980</b> , 126, 371-398	2.5	7
19	A tale of two rhythms: Locked clocks and chaos in biology. <i>Cell Systems</i> , <b>2021</b> , 12, 291-303	10.6	7
18	Disorder variables for a non-abelian symmetry group. <i>Nuclear Physics B</i> , <b>1981</b> , 190, 671-680	2.8	5

17	. <i>IEEE Transactions on Systems, Man, and Cybernetics</i> , <b>1972</b> , SMC-2, 159-165		4
16	Transport of Passive scalars: Kam Surfaces and Diffusion in Three-Dimensional Liouvillian Maps <b>1989</b> , 37-51		4
15	Entropy is in Flux V3.4. <i>Journal of Statistical Physics</i> , <b>2017</b> , 167, 1039-1079	1.5	3
14	Reflections on Gibbs: From Statistical Physics to the Amistad V3.0. <i>Journal of Statistical Physics</i> , <b>2014</b> , 156, 1-9	1.5	3
13	Scaling properties of passive scalars in one dimension. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1997</b> , 244, 190-212	3.3	3
12	Turbulent convection in helium gas. <i>Physica D: Nonlinear Phenomena</i> , <b>1992</b> , 58, 414-422	3.3	3
11	Global Universality at the onset of chaos: Results of a forced Rayleigh-Bénard experiment. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , <b>1987</b> , 2, 513-516		2
10	Innovations in Statistical Physics. <i>Annual Review of Condensed Matter Physics</i> , <b>2015</b> , 6, 1-14	19.7	1
9	Trace for the Loewner equation with singular forcing. <i>Nonlinearity</i> , <b>2004</b> , 17, R41-R54	1.7	1
8	Conditional averages in convective turbulence. <i>Physica A: Statistical Mechanics and Its Applications</i> , <b>1994</b> , 204, 341-345	3.3	1
7	CIRCLE MAPS IN THE COMPLEX PLANE <b>1986</b> , 439-445		1
6	The application of renormalization group techniques to quarks and strings <b>1972</b> , 274-347		0
5	Kenneth Geddes Wilson, 1936-2013, an appreciation. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , <b>2013</b> , 2013, P10016	1.9	
4	Dimensional Calculations for Julia Sets. <i>Physica Scripta</i> , <b>1987</b> , T19A, 19-22	2.6	
3	Singularities in Complex Interface Dynamics. <i>NATO ASI Series Series B: Physics</i> , <b>1991</b> , 3-20		
2	Measuring Fractals: Comparison of Theory and Experiment on the Global Properties of a Strange Attractor <b>1987</b> , 313-314		
1	Entropy is in flux V3.4. <i>International Journal of Modern Physics B</i> , <b>2016</b> , 1630004	1.1	