

David R Nelson

List of Publications by Year in descending order

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278
papers

38,480
citations

3531

90
h-index

2684

193
g-index

287
all docs

287
docs citations

287
times ranked

15206
citing authors

#	ARTICLE	IF	CITATIONS
1	Bond-orientational order in liquids and glasses. <i>Physical Review B</i> , 1983, 28, 784-805.	3.2	2,840
2	Dislocation-mediated melting in two dimensions. <i>Physical Review B</i> , 1979, 19, 2457-2484.	3.2	2,074
3	Renormalization, vortices, and symmetry-breaking perturbations in the two-dimensional planar model. <i>Physical Review B</i> , 1977, 16, 1217-1241.	3.2	1,752
4	Theory of Two-Dimensional Melting. <i>Physical Review Letters</i> , 1978, 41, 121-124.	7.8	1,680
5	Two-dimensional quantum Heisenberg antiferromagnet at low temperatures. <i>Physical Review B</i> , 1989, 39, 2344-2371.	3.2	1,276
6	Universal Jump in the Superfluid Density of Two-Dimensional Superfluids. <i>Physical Review Letters</i> , 1977, 39, 1201-1205.	7.8	1,173
7	Large-distance and long-time properties of a randomly stirred fluid. <i>Physical Review A</i> , 1977, 16, 732-749.	2.5	1,145
8	Localization Transitions in Non-Hermitian Quantum Mechanics. <i>Physical Review Letters</i> , 1996, 77, 570-573.	7.8	951
9	Boson localization and correlated pinning of superconducting vortex arrays. <i>Physical Review B</i> , 1993, 48, 13060-13097.	3.2	932
10	Vortex Entanglement in High-Tc Superconductors. <i>Physical Review Letters</i> , 1988, 60, 1973-1976.	7.8	871
11	Low-temperature behavior of two-dimensional quantum antiferromagnets. <i>Physical Review Letters</i> , 1988, 60, 1057-1060.	7.8	824
12	Resistive transition in superconducting films. <i>Journal of Low Temperature Physics</i> , 1979, 36, 599-616.	1.4	808
13	Theory of melted flux liquids. <i>Physical Review B</i> , 1989, 39, 9153-9174.	3.2	610
14	Genetic drift at expanding frontiers promotes gene segregation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 19926-19930.	7.1	601
15	Boson localization and pinning by correlated disorder in high-temperature superconductors. <i>Physical Review Letters</i> , 1992, 68, 2398-2401.	7.8	570
16	Dynamics of superfluid films. <i>Physical Review B</i> , 1980, 21, 1806-1826.	3.2	553
17	Order, frustration, and defects in liquids and glasses. <i>Physical Review B</i> , 1983, 28, 5515-5535.	3.2	513
18	Defects in flexible membranes with crystalline order. <i>Physical Review A</i> , 1988, 38, 1005-1018.	2.5	463

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19	Vortex pinning and non-Hermitian quantum mechanics. <i>Physical Review B</i> , 1997, 56, 8651-8673.	3.2	435
20	Driven Polymer Translocation Through a Narrow Pore. <i>Biophysical Journal</i> , 1999, 77, 1824-1838.	0.5	396
21	Bond-orientational order, dislocation loops, and melting of solids and smectic-liquid crystals. <i>Physical Review B</i> , 1981, 24, 363-387.	3.2	373
22	Virus shapes and buckling transitions in spherical shells. <i>Physical Review E</i> , 2003, 68, 051910.	2.1	365
23	Icosahedral Bond Orientational Order in Supercooled Liquids. <i>Physical Review Letters</i> , 1981, 47, 1297-1300.	7.8	362
24	Spin Flop, Supersolids, and Bicritical and Tetracritical Points. <i>Physical Review Letters</i> , 1974, 32, 1350-1353.	7.8	336
25	Gene surfing in expanding populations. <i>Theoretical Population Biology</i> , 2008, 73, 158-170.	1.1	331
26	Toward a Tetravalent Chemistry of Colloids. <i>Nano Letters</i> , 2002, 2, 1125-1129.	9.1	317
27	Bicritical and tetracritical points in anisotropic antiferromagnetic systems. <i>Physical Review B</i> , 1976, 13, 412-432.	3.2	311
28	Orientation discrimination of single-stranded DNA inside the α -hemolysin membrane channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 12377-12382.	7.1	308
29	Statistical Mechanics of Tethered Surfaces. <i>Physical Review Letters</i> , 1986, 57, 791-794.	7.8	285
30	Dissipation in Two-Dimensional Superfluids. <i>Physical Review Letters</i> , 1978, 40, 783-786.	7.8	265
31	Equations of state and renormalization-group recursion relations. <i>Physical Review B</i> , 1976, 13, 2208-2221.	3.2	257
32	Irreversibility, mechanical entanglement and thermal melting in superconducting vortex crystals with point impurities. <i>Physica C: Superconductivity and Its Applications</i> , 1996, 272, 79-86.	1.2	257
33	Momentum-shell recursion relations, anisotropic spins, and liquid crystals in $2+\epsilon$ dimensions. <i>Physical Review B</i> , 1977, 16, 2191-2199.	3.2	252
34	Soluble renormalization groups and scaling fields for low-dimensional Ising systems. <i>Annals of Physics</i> , 1975, 91, 226-274.	2.8	251
35	Polytetrahedral Order in Condensed Matter. <i>Solid State Physics</i> , 1989, 42, 1-90.	0.5	241
36	Theory of the Structure Factor of Metallic Glasses. <i>Physical Review Letters</i> , 1984, 53, 1947-1950.	7.8	239

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37	Foldable structures and the natural design of pollen grains. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 7635-7639.	7.1	239
38	Tethered surfaces: Statics and dynamics. Physical Review A, 1987, 35, 3056-3071.	2.5	229
39	LIFE AT THE FRONT OF AN EXPANDING POPULATION. Evolution; International Journal of Organic Evolution, 2010, 64, 193-206.	2.3	221
40	Non-Hermitian localization and population biology. Physical Review E, 1998, 58, 1383-1403.	2.1	215
41	Smectic, cholesteric, and Rayleigh-Benard order in two dimensions. Physical Review B, 1981, 23, 316-334.	3.2	210
42	Genetic demixing and evolution in linear stepping stone models. Reviews of Modern Physics, 2010, 82, 1691-1718.	45.6	208
43	Order in metallic glasses and icosahedral crystals. Physical Review B, 1985, 32, 4592-4606.	3.2	207
44	Crumpling transition in polymerized membranes. Physical Review Letters, 1987, 58, 2774-2777.	7.8	205
45	Elastic Instability of a Crystal Growing on a Curved Surface. Science, 2014, 343, 634-637.	12.6	205
46	Phase transitions in flexible polymeric surfaces. Physical Review A, 1987, 36, 4020-4032.	2.5	204
47	Flux pinning and forced vortex entanglement by splayed columnar defects. Physical Review Letters, 1993, 71, 3545-3548.	7.8	202
48	Vortex Physics in High-Temperature Superconductors. Physics Today, 1997, 50, 38-45.	0.3	198
49	Non-Hermitian delocalization and eigenfunctions. Physical Review B, 1998, 58, 8384-8390.	3.2	198
50	Solid and fluid phases in smectic layers with tilted molecules. Physical Review B, 1980, 21, 5312-5329.	3.2	189
51	Interacting topological defects on frozen topographies. Physical Review B, 2000, 62, 8738-8751.	3.2	186
52	Superfluidity and phase separation in helium films. Physical Review B, 1979, 19, 2488-2503.	3.2	184
53	Pulling Pinned Polymers and Unzipping DNA. Physical Review Letters, 2000, 85, 1572-1575.	7.8	177
54	Study of melting in two dimensions. Physical Review B, 1978, 18, 2318-2338.	3.2	176

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55	Liquids and Glasses in Spaces of Incommensurate Curvature. <i>Physical Review Letters</i> , 1983, 50, 982-985.	7.8	175
56	Genetic drift opposes mutualism during spatial population expansion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 1037-1042.	7.1	173
57	Renormalization-Group Analysis of Bicritical and Tetracritical Points. <i>Physical Review Letters</i> , 1974, 33, 813-817.	7.8	167
58	Landau Theory of the Crumpling Transition. <i>Physical Review Letters</i> , 1988, 60, 2638-2640.	7.8	166
59	Dynamics of two-dimensional melting. <i>Physical Review B</i> , 1980, 22, 2514-2541.	3.2	154
60	Long-Time Tails and the Large-Eddy Behavior of a Randomly Stirred Fluid. <i>Physical Review Letters</i> , 1976, 36, 867-870.	7.8	153
61	Dislocation loops and bond-orientational order in the Abrikosov flux-line lattice. <i>Physical Review B</i> , 1990, 41, 1910-1920.	3.2	152
62	Selective sweeps in growing microbial colonies. <i>Physical Biology</i> , 2012, 9, 026008.	1.8	150
63	DNA unzipped under a constant force exhibits multiple metastable intermediates. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 1694-1699.	7.1	147
64	Direct visualization of dislocation dynamics in grain-boundary scars. <i>Nature Materials</i> , 2005, 4, 407-411.	27.5	147
65	Vortices on curved surfaces. <i>Reviews of Modern Physics</i> , 2010, 82, 1301-1348.	45.6	146
66	Single molecule statistics and the polynucleotide unzipping transition. <i>Physical Review E</i> , 2002, 65, 031917.	2.1	144
67	[3H]-BRL 43694 (granisetron), a specific ligand for 5-HT ₃ binding sites in rat brain cortical membranes. <i>Biochemical Pharmacology</i> , 1989, 38, 1693-1695.	4.4	141
68	Order in two-dimensional binary random arrays. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , 1982, 46, 105-126.	0.6	136
69	Diffuse scattering from quasicrystals. <i>Physical Review B</i> , 1988, 37, 4458-4472.	3.2	130
70	Delayed Buckling and Guided Folding of Inhomogeneous Capsules. <i>Physical Review Letters</i> , 2012, 109, 134302.	7.8	130
71	Theory of Two-Dimensional Melting.. <i>Physical Review Letters</i> , 1978, 41, 519-519.	7.8	127
72	Hydrodynamics of flux liquids. <i>Physical Review B</i> , 1990, 42, 9938-9943.	3.2	126

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73	Bending forces plastically deform growing bacterial cell walls. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 5778-5783.	7.1	123
74	Statistical mechanics of pentagonal and icosahedral order in dense liquids. Physical Review B, 1985, 32, 1480-1502.	3.2	118
75	Consensus meeting agrees distribution of 5-HT ₃ receptors in mammalian hindbrain. Trends in Pharmacological Sciences, 1990, 11, 135-137.	8.7	115
76	Turbulence in binary fluid mixtures. Physical Review A, 1981, 23, 3224-3246.	2.5	113
77	Two-dimensional XY magnets with random Dzyaloshinskii-Moriya interactions. Physical Review B, 1983, 27, 1800-1811.	3.2	109
78	Symmetry, Landau theory and polytope models of glass. Nuclear Physics B, 1984, 240, 113-139.	2.5	109
79	Interstitials, vacancies, and supersolid order in vortex crystals. Physical Review B, 1994, 49, 9723-9745.	3.2	108
80	Flux-line pinning by competing disorders. Physical Review B, 1993, 48, 1167-1174.	3.2	103
81	Renormalization-group analysis of metamagnetic tricritical behavior. Physical Review B, 1975, 11, 1030-1039.	3.2	102
82	Equations of State for Tricritical Points. Physical Review Letters, 1975, 35, 178-181.	7.8	101
83	Quantum smectic and supersolid order in helium films and vortex arrays. Physical Review B, 1995, 52, 12951-12968.	3.2	101
84	Fluctuations in the flat and collapsed phases of polymerized membranes. Journal De Physique, 1990, 51, 2653-2672.	1.8	99
85	$\hat{\mu}$ expansions for crumpled manifolds. Physical Review Letters, 1987, 58, 1289-1292.	7.8	98
86	Reentrant melting in solid films with quenched random impurities. Physical Review B, 1983, 27, 2902-2914.	3.2	97
87	Dynamics of Molecular Motors and Polymer Translocation with Sequence Heterogeneity. Biophysical Journal, 2004, 86, 3373-3391.	0.5	97
88	Commensurate-Incommensurate Transitions with Quenched Random Impurities. Physical Review Letters, 1985, 55, 1157-1160.	7.8	95
89	A Quantitative Test of Population Genetics Using Spatiogenetic Patterns in Bacterial Colonies. American Naturalist, 2011, 178, 538-552.	2.1	94
90	Crossover near fluctuation-induced first-order phase transitions in superconductors. Physical Review B, 1978, 17, 4274-4286.	3.2	93

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91	Coexistence-curve singularities in isotropic ferromagnets. <i>Physical Review B</i> , 1976, 13, 2222-2230.	3.2	92
92	Bond orientational order in smectic liquid crystals. <i>Physical Review B</i> , 1981, 23, 402-410.	3.2	92
93	Statistical mechanics of flux lines in high-T _c superconductors. <i>Journal of Statistical Physics</i> , 1989, 57, 511-530.	1.2	87
94	Crossover scaling functions and renormalization-group trajectory integrals. <i>Physical Review B</i> , 1975, 11, 3504-3519.	3.2	85
95	Correlations in flux liquids with weak disorder. <i>Physical Review B</i> , 1990, 42, 10113-10129.	3.2	83
96	Dynamics of classical XY spins in one and two dimensions. <i>Physical Review B</i> , 1977, 16, 4945-4955.	3.2	81
97	Life and death near a windy oasis. <i>Journal of Mathematical Biology</i> , 2000, 41, 1-23.	1.9	81
98	Winding Numbers, Complex Currents, and Non-Hermitian Localization. <i>Physical Review Letters</i> , 1998, 80, 5172-5175.	7.8	80
99	Response of thermalized ribbons to pulling and bending. <i>Physical Review B</i> , 2016, 93, .	3.2	80
100	Light-Induced Melting of Colloidal Crystals in Two Dimensions. <i>Physical Review Letters</i> , 1999, 83, 2977-2980.	7.8	79
101	Dynamics of flux-line liquids in high-T _c superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 1991, 174, 40-62.	1.2	77
102	Laplacian roughening models and two-dimensional melting. <i>Physical Review B</i> , 1982, 26, 269-283.	3.2	76
103	Genome Landscapes and Bacteriophage Codon Usage. <i>PLoS Computational Biology</i> , 2008, 4, e1000001.	3.2	75
104	Anomalous diffusion in steady fluid flow through a porous medium. <i>Physical Review A</i> , 1984, 30, 1948-1954.	2.5	74
105	Non-Hermitian localization in biological networks. <i>Physical Review E</i> , 2016, 93, 042310.	2.1	73
106	Fluctuations and Intrinsic Pinning in Layered Superconductors. <i>Physical Review Letters</i> , 1994, 73, 2618-2621.	7.8	70
107	Equations of state for bicritical points. I. Calculations in the disordered phase. <i>Physical Review B</i> , 1976, 13, 236-250.	3.2	68
108	Theory of transitions among tilted hexatic phases in liquid crystals. <i>Physical Review A</i> , 1989, 39, 3135-3147.	2.5	68

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109	Tricritical dynamics near four dimensions. <i>Physical Review B</i> , 1977, 15, 1427-1444.	3.2	67
110	Theory of directed polymers. <i>Physical Review A</i> , 1992, 45, 8727-8750.	2.5	67
111	Curvature-induced defect unbinding in toroidal geometries. <i>Physical Review E</i> , 2004, 69, 041102.	2.1	67
112	Incommensurate icosahedral density waves in rapidly cooled metals. <i>Physical Review B</i> , 1985, 32, 689-695.	3.2	65
113	Crystalline particle packings on a sphere with long-range power-law potentials. <i>Physical Review B</i> , 2006, 73, .	3.2	65
114	Statistical mechanics of self-avoiding tethered manifolds. <i>Physical Review A</i> , 1988, 38, 966-982.	2.5	64
115	Statistical mechanics of randomly polymerized membranes. <i>Physical Review A</i> , 1991, 44, 3525-3542.	2.5	62
116	Novel phases and reentrant melting of two-dimensional colloidal crystals. <i>Physical Review E</i> , 2001, 63, 031503.	2.1	60
117	Buckling pathways in spherical shells with soft spots. <i>Soft Matter</i> , 2013, 9, 8227.	2.7	60
118	Spatial gene drives and pushed genetic waves. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 8452-8457.	7.1	60
119	Fluctuating shells under pressure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 19551-19556.	7.1	57
120	Order and deterministic chaos in hard-disk arrays. <i>Physical Review B</i> , 1982, 26, 6254-6275.	3.2	56
121	Theory of Hexatic-to-Hexatic Transitions. <i>Physical Review Letters</i> , 1988, 61, 416-419.	7.8	55
122	Non-Hookean statistical mechanics of clamped graphene ribbons. <i>Physical Review B</i> , 2017, 95, .	3.2	55
123	Competition and Cooperation in One-Dimensional Stepping-Stone Models. <i>Physical Review Letters</i> , 2011, 107, 088103.	7.8	54
124	Turbulence in phase-separating binary mixtures. <i>Physical Review A</i> , 1984, 29, 2012-2016.	2.5	53
125	Dislocation-mediated growth of bacterial cell walls. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 9833-9838.	7.1	49
126	Quasicrystals. <i>Scientific American</i> , 1986, 255, 42-51.	1.0	48

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127	Buckling instabilities of a confined colloid crystal layer. <i>Physical Review E</i> , 1993, 48, 4611-4621.	2.1	47
128	Soft modes near the buckling transition of icosahedral shells. <i>Physical Review E</i> , 2007, 76, 031911.	2.1	47
129	Dense-packed arrays on surfaces of constant negative curvature. <i>Physical Review B</i> , 1983, 28, 6377-6386.	3.2	46
130	Interactions and pinning energies in the Bose glass phase of vortices in superconductors. <i>Physical Review B</i> , 1995, 52, 16106-16124.	3.2	46
131	Defects in chiral columnar phases: Tilt-grain boundaries and iterated moiré maps. <i>Physical Review E</i> , 1996, 53, 650-666.	2.1	46
132	Defect generation and deconfinement on corrugated topographies. <i>Physical Review E</i> , 2004, 70, 051105.	2.1	46
133	Geometric Theory of Columnar Phases on Curved Substrates. <i>Physical Review Letters</i> , 2007, 99, 017801.	7.8	46
134	Nutrient shielding in clusters of cells. <i>Physical Review E</i> , 2013, 87, 062703.	2.1	46
135	Mechanical properties of warped membranes. <i>Physical Review E</i> , 2013, 88, 012136.	2.1	46
136	Iterated Moiré Maps and Braiding of Chiral Polymer Crystals. <i>Physical Review Letters</i> , 1995, 74, 2499-2502.	7.8	45
137	Superfluid bosons and flux liquids: disorder, thermal fluctuations, and finite-size effects. <i>Physics Reports</i> , 1997, 289, 157-233.	25.6	45
138	Spinodal Decomposition in Homogeneous and Isotropic Turbulence. <i>Physical Review Letters</i> , 2014, 112, 014502.	7.8	43
139	Physical interactions reduce the power of natural selection in growing yeast colonies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 11448-11453.	7.1	43
140	Population Dynamics At High Reynolds Number. <i>Physical Review Letters</i> , 2010, 105, 144501.	7.8	42
141	Population Genetics in Compressible Flows. <i>Physical Review Letters</i> , 2012, 108, 128102.	7.8	42
142	Radial Domany-Kinzel models with mutation and selection. <i>Physical Review E</i> , 2013, 87, 012103.	2.1	42
143	Elastic Platonic Shells. <i>Physical Review Letters</i> , 2013, 111, 177801.	7.8	40
144	Two-point correlations near four dimensions. <i>Physical Review B</i> , 1976, 14, 1123-1127.	3.2	39

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145	Coulomb Gap and Correlated Vortex Pinning in Superconductors. <i>Physical Review Letters</i> , 1995, 74, 5132-5135.	7.8	39
146	Dislocation-mediated melting near isostructural critical points. <i>Physical Review E</i> , 1996, 53, 2560-2570.	2.1	39
147	Extrinsic curvature, geometric optics, and lamellar order on curved substrates. <i>Physical Review E</i> , 2009, 80, 051703.	2.1	39
148	Early stages of spinodal decomposition in superfluid He ³ -He ⁴ mixtures. <i>Physical Review B</i> , 1979, 20, 2665-2675.	3.2	35
149	Grain-boundary buckling and spin-glass models of disorder in membranes. <i>Physical Review E</i> , 1993, 48, 3082-3090.	2.1	34
150	Dynamics of flat membranes and flickering in red blood cells. <i>Journal De Physique, I</i> , 1991, 1, 1715-1757.	1.2	33
151	Non-Hermitian Luttinger liquids and flux line pinning in planar superconductors. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2004, 2004, P10003.	2.3	32
152	Low-temperature recursion relations and high-temperature series expansions. <i>Physical Review B</i> , 1977, 16, 2300-2310.	3.2	31
153	Conditions for extreme sensitivity of protein diffusion in membranes to cell environments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 15002-15007.	7.1	31
154	How Obstacles Perturb Population Fronts and Alter Their Genetic Structure. <i>PLoS Computational Biology</i> , 2015, 11, e1004615.	3.2	29
155	Deviations from dynamic scaling at the superfluid transition in two and three dimensions. <i>Physical Review B</i> , 1980, 22, 2373-2385.	3.2	27
156	$\hat{\mu}$ Expansions for Crumpled Manifolds. <i>Physical Review Letters</i> , 1987, 58, 2280-2280.	7.8	27
157	Anomalous mixing times in turbulent binary mixtures at high Prandtl number. <i>Physical Review A</i> , 1981, 24, 2727-2734.	2.5	26
158	Vortex lattice melts like ice. <i>Nature</i> , 1995, 375, 356-357.	27.8	26
159	Orientation-dependent interactions of DNA with an $\hat{\mu}$ -hemolysin channel. <i>Physical Review E</i> , 2008, 77, 031904.	2.1	26
160	Asymmetric Mutualism in Two- and Three-Dimensional Range Expansions. <i>Physical Review Letters</i> , 2014, 112, 138102.	7.8	26
161	Line liquids. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1991, 177, 220-232.	2.6	25
162	Thermal excitations of warped membranes. <i>Physical Review E</i> , 2014, 89, 022126.	2.1	25

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163	Spatially Constrained Growth Enhances Conversional Meltdown. <i>Biophysical Journal</i> , 2016, 110, 2800-2808.	0.5	25
164	Statistical Mechanics of Thin Spherical Shells. <i>Physical Review X</i> , 2017, 7, .	8.9	25
165	Genetic drift and selection in many-allele range expansions. <i>PLoS Computational Biology</i> , 2017, 13, e1005866.	3.2	25
166	Universality of magnetic tricritical points. <i>Physical Review B</i> , 1975, 12, 263-266.	3.2	24
167	Phospholipid and detergent effects on (Ca ²⁺ + Mg ²⁺)ATPase purified from human erythrocytes. <i>Archives of Biochemistry and Biophysics</i> , 1985, 236, 720-730.	3.0	24
168	Towards engineering of splayed columnar defects in type-II superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 1994, 232, 69-74.	1.2	24
169	A quasispecies on a moving oasis. <i>Theoretical Population Biology</i> , 2005, 67, 33-45.	1.1	24
170	Survival probabilities at spherical frontiers. <i>Theoretical Population Biology</i> , 2015, 102, 26-39.	1.1	24
171	Kirigami Mechanics as Stress Relief by Elastic Charges. <i>Physical Review Letters</i> , 2019, 122, 048001.	7.8	24
172	Localization behavior of vibrational modes in granular packings. <i>Europhysics Letters</i> , 2008, 83, 44001.	2.0	23
173	Shear Unzipping of DNA. <i>Journal of Physical Chemistry B</i> , 2009, 113, 3831-3836.	2.6	23
174	Thermal crumpling of perforated two-dimensional sheets. <i>Nature Communications</i> , 2017, 8, 1381.	12.8	23
175	Structure and dynamics of topological defects in a glassy liquid on a negatively curved manifold. <i>Physical Review E</i> , 2010, 81, 031504.	2.1	22
176	Population Genetics with Fluctuating Population Sizes. <i>Journal of Statistical Physics</i> , 2017, 167, 777-791.	1.2	22
177	Longitudinal current dissipation in Bose-glass superconductors. <i>Physical Review B</i> , 1996, 54, R6845-R6848.	3.2	21
178	Fisher equation with turbulence in one dimension. <i>Physica D: Nonlinear Phenomena</i> , 2009, 238, 2003-2015.	2.8	21
179	Equations of state for bicritical points. II. Ising-like ordered phases. <i>Physical Review B</i> , 1977, 15, 3493-3509.	3.2	20
180	Grain-boundary instabilities and buckling in partially polymerized membranes. <i>Physical Review A</i> , 1992, 46, 7474-7479.	2.5	20

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181	Free energies of isolated five- and sevenfold disclinations in hexatic membranes. <i>Physical Review E</i> , 1996, 53, 2551-2559.	2.1	20
182	Statistical mechanics of vacancy and interstitial strings in hexagonal columnar crystals. <i>Physical Review E</i> , 2000, 61, 1599-1615.	2.1	20
183	Dynamics of molecular motors with finite processivity on heterogeneous tracks. <i>Physical Review E</i> , 2005, 71, 041906.	2.1	20
184	Biophysical Dynamics in Disorderly Environments. <i>Annual Review of Biophysics</i> , 2012, 41, 371-402.	10.0	20
185	THE STATISTICAL MECHANICS OF MEMBRANES AND INTERFACES. , 2004, , 1-17.		19
186	Interstitial fractionalization and spherical crystallography. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 6304.	2.8	19
187	Evolutionary dynamics with fluctuating population sizes and strong mutualism. <i>Physical Review E</i> , 2015, 92, 022718.	2.1	19
188	Vortex pinning and the non-Hermitian Mott transition. <i>Physical Review B</i> , 1998, 58, 12385-12403.	3.2	18
189	Recent developments in phase transitions and critical phenomena. <i>Nature</i> , 1977, 269, 379-383.	27.8	17
190	Quantum hexatic order in two-dimensional dipolar and charged fluids. <i>Physical Review B</i> , 2014, 89, .	3.2	17
191	Orientational ordering in 2- and 3-dimensional systems. <i>Journal of Non-Crystalline Solids</i> , 1984, 61-62, 475-485.	3.1	16
192	Patterned geometries and hydrodynamics at the vortex Bose glass transition. <i>Physical Review B</i> , 1999, 59, 13624-13627.	3.2	16
193	Vortex physics in confined geometries. <i>Physica C: Superconductivity and Its Applications</i> , 2000, 330, 105-129.	1.2	16
194	Defect-mediated emulsification in two dimensions. <i>Physical Review E</i> , 2008, 77, 051702.	2.1	16
195	Thermal stiffening of clamped elastic ribbons. <i>Physical Review B</i> , 2017, 96, .	3.2	16
196	Directed polymer melts and quantum critical phenomena. <i>Journal of Statistical Physics</i> , 1993, 71, 23-50.	1.2	15
197	Vortex pinning by a columnar defect in planar superconductors with point disorder. <i>Physical Review B</i> , 2005, 71, .	3.2	15
198	Evolution in range expansions with competition at rough boundaries. <i>Journal of Theoretical Biology</i> , 2019, 478, 153-160.	1.7	15

#	ARTICLE	IF	CITATIONS
199	Bose glass scaling for superconducting vortex arrays revisited. <i>Physical Review B</i> , 2000, 61, 5917-5919.	3.2	14
200	Hexatic undulations in curved geometries. <i>Physical Review E</i> , 2003, 67, 031502.	2.1	14
201	Transverse Meissner physics of planar superconductors with columnar pins. <i>Physical Review B</i> , 2006, 74, .	3.2	14
202	Collapse and folding of pressurized rings in two dimensions. <i>Physical Review E</i> , 2009, 79, 056604.	2.1	14
203	Microbial Range Expansions on Liquid Substrates. <i>Physical Review X</i> , 2019, 9, .	8.9	14
204	Nonlinear mechanics of thin frames. <i>Physical Review E</i> , 2019, 99, 013002.	2.1	14
205	Thermalized buckling of isotropically compressed thin sheets. <i>Physical Review E</i> , 2021, 104, 054141.	2.1	14
206	Surface wave scattering at nonuniform fluid interfaces. <i>Journal of Chemical Physics</i> , 1994, 101, 9022-9032.	3.0	13
207	Plastic deformation of tubular crystals by dislocation glide. <i>Physical Review E</i> , 2016, 94, 033004.	2.1	13
208	Fixation probabilities in weakly compressible fluid flows. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 373-378.	7.1	13
209	A new age for type-II superconductors?. <i>Nature</i> , 1997, 385, 675-676.	27.8	12
210	Non-Hermitian quasilocalization and ring attractor neural networks. <i>Physical Review E</i> , 2019, 99, 062406.	2.1	12
211	Eigenvalue repulsion and eigenvector localization in sparse non-Hermitian random matrices. <i>Physical Review E</i> , 2019, 100, 052315.	2.1	12
212	Melted flux liquids in high- T_c superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 1989, 162-164, 1156-1161.	1.2	11
213	Translational correlations in the vortex array at the surface of a type-II superconductor. <i>Physical Review B</i> , 1993, 47, 12214-12223.	3.2	11
214	Points, lines and planes: vortex pinning in high-temperature superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 1996, 263, 12-16.	1.2	11
215	Sequence heterogeneity and the dynamics of molecular motors. <i>Journal of Physics Condensed Matter</i> , 2005, 17, S3871-S3886.	1.8	11
216	Two-parameter sequential adsorption model applied to microfiber clustering. <i>Soft Matter</i> , 2010, 6, 2421.	2.7	11

#	ARTICLE	IF	CITATIONS
217	Buckling and metastability in membranes with dilation arrays. <i>Physical Review E</i> , 2020, 102, 033002.	2.1	11
218	XVI. Superfluidity and the two dimensional XY model. <i>Physics Reports</i> , 1979, 49, 255-259.	25.6	10
219	Kantor, Kardar, and Nelson Reply. <i>Physical Review Letters</i> , 1988, 60, 238-238.	7.8	10
220	Icelike Melting of Hexagonal Columnar Crystals. <i>Macromolecules</i> , 1996, 29, 8523-8529.	4.8	10
221	Vortices weave a tangled web. <i>Nature</i> , 2004, 430, 839-840.	27.8	10
222	Unzipping vortices in type-II superconductors. <i>Physical Review B</i> , 2007, 76, .	3.2	10
223	Theory of interacting dislocations on cylinders. <i>Physical Review E</i> , 2013, 87, 042314.	2.1	10
224	Thermal buckling and symmetry breaking in thin ribbons under compression. <i>Extreme Mechanics Letters</i> , 2021, 44, 101270.	4.1	10
225	Nematic to smectic-A transitions with planar director fluctuations. <i>Physical Review A</i> , 1982, 26, 2840-2853.	2.5	9
226	Pinning and sliding of tethered monolayers on disordered substrates. <i>Physical Review E</i> , 1997, 56, 797-808.	2.1	9
227	Hexatic Order and Surface Ripples in Spherical Geometries. <i>Physical Review Letters</i> , 2001, 87, 125703.	7.8	9
228	Scaling functions for multicritical phenomena. <i>AIP Conference Proceedings</i> , 1976, , .	0.4	8
229	Comment on "Icosahedral Ordering in the Lennard-Jones Liquid and Glass". <i>Physical Review Letters</i> , 1989, 62, 978-978.	7.8	8
230	Interaction effects in non-Hermitian models of vortex physics. <i>Physical Review B</i> , 2001, 64, .	3.2	8
231	Population genetics and range expansions. <i>Physics Today</i> , 2009, 62, 42-47.	0.3	8
232	Striated populations in disordered environments with advection. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2017, 465, 500-514.	2.6	8
233	Antagonism between killer yeast strains as an experimental model for biological nucleation dynamics. <i>ELife</i> , 2021, 10, .	6.0	8
234	Rabbit platelet calcium ATPase differs from the human erythrocyte (Ca ²⁺ + Mg ²⁺)-ATPase in its response to three purified phospholipases A ₂ , exogenous phospholipids and calmodulin. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 1984, 776, 259-266.	2.6	7

#	ARTICLE	IF	CITATIONS
235	Theory of double-sided flux decorations. <i>Physical Review B</i> , 1995, 52, 7720-7726.	3.2	7
236	Population dynamics and non-Hermitian localization. , 1999, , 124-151.		7
237	Anomalous Thermal Expansion in Ising-like Puckered Sheets. <i>Physical Review Letters</i> , 2022, 128, 075902.	7.8	7
238	B(H) constitutive relations near H_{c1} in disordered superconductors. <i>Physica C: Superconductivity and Its Applications</i> , 2000, 331, 317-336.	1.2	6
239	Nucleation of antagonistic organisms and cellular competitions on curved, inflating substrates. <i>Physical Review E</i> , 2019, 100, 042406.	2.1	6
240	THEORY OF THE CRUMPLING TRANSITION. , 2004, , 131-148.		6
241	Population dynamics and Burgers's equation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 274, 85-90.	2.6	5
242	Population Dynamics near an Oasis with Time-Dependent Convection. <i>Journal of Statistical Physics</i> , 2000, 99, 1021-1030.	1.2	5
243	Vortex wandering among splayed columnar defects. <i>Physical Review B</i> , 2001, 64, .	3.2	5
244	Rotational invariance and the theory of directed nematic polymers. <i>Physical Review E</i> , 1993, 48, 4116-4117.	2.1	4
245	Statistical Physics of Unzipping DNA. , 2004, , 65-92.		4
246	Cumulative compressibility effects on slow reactive dynamics in turbulent flows. <i>Journal of Turbulence</i> , 2013, 14, 161-169.	1.4	3
247	Statistical Mechanics of Low Angle Grain Boundaries in Two Dimensions. <i>Physical Review Letters</i> , 2020, 125, 215503.	7.8	3
248	ICOSAHEDRAL ORDER IN UNDERCOOLED LIQUIDS AND METALLIC GLASSES. , 1986, , 28-44.		3
249	The collective effect of finite-sized inhomogeneities on the spatial spread of populations in two dimensions. <i>Journal of the Royal Society Interface</i> , 2021, 18, 20210579.	3.4	3
250	Fractional defect charges in liquid crystals with p -fold rotational symmetry on cones. <i>Physical Review E</i> , 2022, 105, .	2.1	3
251	Dynamics of classical XY spins far from equilibrium. <i>Journal of Applied Physics</i> , 1978, 49, 2142-2143.	2.5	2
252	Two-dimensional XY magnets with annealed non-magnetic impurities. <i>Journal of Applied Physics</i> , 1979, 50, 1799-1801.	2.5	2

#	ARTICLE	IF	CITATIONS
253	Icosahedral order in glassy metals. <i>Journal of Non-Crystalline Solids</i> , 1985, 75, 77-78.	3.1	2
254	Vortex pinning by meandering line defects in planar superconductors. <i>Physical Review B</i> , 2006, 73, .	3.2	2
255	Vortex Line Fluctuations in Superconductors from Elementary Quantum Mechanics. , 1993, , 95-117.		2
256	Phonon eigenfunctions of inhomogeneous lattices: Can you hear the shape of a cone?. <i>Physical Review E</i> , 2021, 104, 065005.	2.1	2
257	Two-dimensional melting. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1981, 106, 108-109.	2.6	1
258	Bond orientational order in liquids and amorphous solids. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1983, 118, 315-316.	2.6	1
259	Polytope Models of Metallic Glasses: S-Band Electronic Properties. <i>Materials Research Society Symposia Proceedings</i> , 1985, 57, 185.	0.1	1
260	Icosahedral Order in Glassy Metalsa. <i>Annals of the New York Academy of Sciences</i> , 1986, 484, 264-270.	3.8	1
261	Ice-Like Melting of Flexible Line Crystals. <i>Molecular Crystals and Liquid Crystals</i> , 1996, 288, 1-6.	0.3	1
262	Polymer winding numbers and quantum mechanics. , 1997, , 276-297.		1
263	Channel flow of smectic films. <i>Physical Review E</i> , 2000, 61, 3942-3950.	2.1	1
264	Statistics of population dynamics in turbulence. <i>Journal of Physics: Conference Series</i> , 2011, 318, 092025.	0.4	1
265	Statistical mechanics of dislocation pileups in two dimensions. <i>Physical Review E</i> , 2021, 103, 022139.	2.1	1
266	The structure and statistical mechanics of glass. , 1985, , 13-30.		1
267	Effects of Acute Hyperbaric Exposure on the Concentration of Alanine and Other Metabolites in Mouse Tissues. <i>Biochemical Society Transactions</i> , 1978, 6, 1022-1025.	3.4	0
268	ANOMALOUS MIXING TIMES IN TURBULENT BINARY MIXTURES AT HIGH PRANDTL NUMBER. <i>Annals of the New York Academy of Sciences</i> , 1983, 404, 85-86.	3.8	0
269	Conformations of Crumpled Sheet Polymers. <i>Materials Research Society Symposia Proceedings</i> , 1992, 272, 301.	0.1	0
270	Extended Abstract: Plateaus and Jumps in Single-Molecule DNA Unzipping Experiments. <i>Journal of Biological Physics</i> , 2005, 31, 241-242.	1.5	0

#	ARTICLE	IF	CITATIONS
271	Virus Shapes and Buckling Transitions in Spherical Shells. Journal of Theoretical Medicine, 2005, 6, 137-137.	0.5	0
272	Statistical Mechanics of Specular Reflections from Fluctuating Membranes and Interfaces. Journal of Statistical Physics, 2019, 175, 578-597.	1.2	0
273	Icosahedral Crystals in Perspective. Science, 1990, 249, 111-111.	12.6	0
274	Interstitial and Vacancy Proliferation in Flux Line Lattices. , 1993, , 123-127.		0
275	Statistical Mechanics of Directed Polymers. , 1995, , 293-335.		0
276	Boson Physics and Vortex Pinning Via Splayed Columnar Defects in Superconductors. , 1996, , 21-26.		0
277	Order and frustration on a random topography. , 1985, , 227-230.		0
278	Rocket yeast. Physical Review Fluids, 2021, 6, .	2.5	0