

Thomas A Witten

List of Publications by Year in descending order

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100
papers

21,574
citations

34105

52
h-index

32842

100
g-index

100
all docs

100
docs citations

100
times ranked

16647
citing authors

#	ARTICLE	IF	CITATIONS
1	Capillary flow as the cause of ring stains from dried liquid drops. <i>Nature</i> , 1997, 389, 827-829.	27.8	5,383
2	Contact line deposits in an evaporating drop. <i>Physical Review E</i> , 2000, 62, 756-765.	2.1	1,872
3	Connection between Polymer Molecular Weight, Density, Chain Dimensions, and Melt Viscoelastic Properties. <i>Macromolecules</i> , 1994, 27, 4639-4647.	4.8	1,768
4	Diffusion-limited aggregation. <i>Physical Review B</i> , 1983, 27, 5686-5697.	3.2	1,603
5	Theory of the grafted polymer brush. <i>Macromolecules</i> , 1988, 21, 2610-2619.	4.8	1,378
6	Kinetically driven self assembly of highly ordered nanoparticle monolayers. <i>Nature Materials</i> , 2006, 5, 265-270.	27.5	1,021
7	Force Fluctuations in Bead Packs. <i>Science</i> , 1995, 269, 513-515.	12.6	754
8	Model for force fluctuations in bead packs. <i>Physical Review E</i> , 1996, 53, 4673-4685.	2.1	393
9	A Parabolic Density Profile for Grafted Polymers. <i>Europhysics Letters</i> , 1988, 5, 413-418.	2.0	343
10	Stress focusing in elastic sheets. <i>Reviews of Modern Physics</i> , 2007, 79, 643-675.	45.6	334
11	Geometric origin of excess low-frequency vibrational modes in weakly connected amorphous solids. <i>Europhysics Letters</i> , 2005, 72, 486-492.	2.0	321
12	Effects of polydispersity in the end-grafted polymer brush. <i>Macromolecules</i> , 1989, 22, 853-861.	4.8	318
13	Colloid stabilization by long grafted polymers. <i>Macromolecules</i> , 1986, 19, 2509-2513.	4.8	307
14	Scaling Properties of Stretching Ridges in a Crumpled Elastic Sheet. <i>Science</i> , 1995, 270, 1482-1485.	12.6	284
15	Universal kinetics in reaction-limited aggregation. <i>Physical Review Letters</i> , 1987, 58, 274-277.	7.8	250
16	Structure of many arm star polymers: a molecular dynamics simulation. <i>Macromolecules</i> , 1987, 20, 1376-1383.	4.8	239
17	Scaling properties for the surfaces of fractal and nonfractal objects: An infinite hierarchy of critical exponents. <i>Physical Review A</i> , 1986, 34, 3325-3340.	2.5	193
18	Stress relaxation in the lamellar copolymer mesophase. <i>Macromolecules</i> , 1990, 23, 824-829.	4.8	191

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19	Polymers grafted to a convex surface. <i>Macromolecules</i> , 1991, 24, 693-703.	4.8	157
20	Stability criteria for emulsions. <i>Physical Review Letters</i> , 1992, 69, 2439-2442.	7.8	156
21	Stress propagation through frictionless granular material. <i>Physical Review E</i> , 1999, 60, 687-696.	2.1	155
22	Surfaces, interfaces, and screening of fractal structures. <i>Physical Review A</i> , 1985, 32, 2364-2369.	2.5	148
23	Reinforcement of rubber by fractal aggregates. <i>Journal De Physique II</i> , 1993, 3, 367-383.	0.9	148
24	Mesoscopic self-assembly of gold islands on diblock copolymer films. <i>Applied Physics Letters</i> , 1994, 64, 422-424.	3.3	141
25	Wrinkle to fold transition: influence of the substrate response. <i>Soft Matter</i> , 2013, 9, 8177.	2.7	139
26	Macrocystal Ordering in Star Polymer Solutions. <i>Europhysics Letters</i> , 1986, 2, 137-140.	2.0	137
27	Phase separation in a grafted polymer layer. <i>Physical Review Letters</i> , 1991, 66, 1541-1544.	7.8	136
28	Tenuous Structures from Disorderly Growth Processes. <i>Science</i> , 1986, 232, 1607-1612.	12.6	133
29	Bridging attraction by telechelic polymers. <i>Macromolecules</i> , 1992, 25, 5495-5503.	4.8	125
30	Compressing nearly hard sphere fluids increases glass fragility. <i>Europhysics Letters</i> , 2009, 86, 10001.	2.0	121
31	Properties of ridges in elastic membranes. <i>Physical Review E</i> , 1997, 55, 1577-1589.	2.1	115
32	Causality bound on the density of aggregates. <i>Physical Review A</i> , 1984, 29, 2966-2967.	2.5	112
33	Friction in Granular Flows. <i>Europhysics Letters</i> , 1990, 11, 619-624.	2.0	111
34	Equilibrium surface orientation of lamellae. <i>Macromolecules</i> , 1993, 26, 3194-3199.	4.8	109
35	Liquid behavior of cross-linked actin bundles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 2131-2136.	7.1	106
36	Space-filling constraint on transport in random aggregates. <i>Physical Review B</i> , 1984, 30, 4093-4095.	3.2	104

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37	Relaxation of self-entangled many-arm star polymers. <i>Macromolecules</i> , 1989, 22, 1904-1910.	4.8	102
38	Compression Induced Folding of a Sheet: An Integrable System. <i>Physical Review Letters</i> , 2011, 107, 164302.	7.8	96
39	Stress Condensation in Crushed Elastic Manifolds. <i>Physical Review Letters</i> , 1997, 78, 1303-1306.	7.8	89
40	Structure and Viscosity of Interpenetrating Polyelectrolyte Chains. <i>Europhysics Letters</i> , 1987, 3, 315-320.	2.0	86
41	Asymptotic Shape of a Fullerene Ball. <i>Europhysics Letters</i> , 1993, 23, 51-55.	2.0	80
42	Droplet Elasticity in Weakly Compressed Emulsions. <i>Europhysics Letters</i> , 1993, 22, 549-555.	2.0	79
43	Polymers grafted to convex surfaces: a variational approach. <i>Macromolecules</i> , 1994, 27, 449-457.	4.8	73
44	Forces between mica surfaces across hydrocarbon liquids: effects of branching and polydispersity. <i>Macromolecules</i> , 1989, 22, 4247-4253.	4.8	72
45	Insights from soft condensed matter. <i>Reviews of Modern Physics</i> , 1999, 71, S367-S373.	45.6	71
46	Diffusion near absorbing fractals: Harmonic measure exponents for polymers. <i>Physical Review A</i> , 1987, 35, 1809-1824.	2.5	70
47	Correlations in grafted polymer layers. <i>Macromolecules</i> , 1992, 25, 296-307.	4.8	65
48	Shear of Telechelic Brushes. <i>Physical Review Letters</i> , 1999, 82, 5076-5079.	7.8	62
49	Lateral stress relaxation and collapse in lipid monolayers. <i>Soft Matter</i> , 2008, 4, 2019.	2.7	62
50	Chain conformation and solubility of associating polymers. <i>Macromolecules</i> , 1986, 19, 732-739.	4.8	59
51	Fluctuations and Persistence Length of Charged Flexible Polymers. <i>Macromolecules</i> , 1995, 28, 5921-5927.	4.8	57
52	Anomalous Strength of Membranes with Elastic Ridges. <i>Physical Review Letters</i> , 2001, 87, 206105.	7.8	55
53	Theory of size distribution of associating polymer aggregates. I. Spherical aggregates. <i>Journal of Chemical Physics</i> , 1987, 87, 1824-1833.	3.0	50
54	End-confined polymers: corrections to the Newtonian limit. <i>Macromolecules</i> , 1989, 22, 489-490.	4.8	49

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55	Unstable topography of biphasic surfactant monolayers. <i>Europhysics Letters</i> , 2000, 52, 171-177.	2.0	46
56	Stress in frictionless granular material: Adaptive network simulations. <i>Physical Review E</i> , 2000, 62, 2510-2516.	2.1	44
57	Self-organizing motors divide active liquid droplets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 11125-11130.	7.1	44
58	Microscopic Folds and Macroscopic Jerks in Compressed Lipid Monolayers. <i>Journal of Physical Chemistry B</i> , 2006, 110, 10220-10223.	2.6	43
59	Particle aggregation versus cluster aggregation in high dimensions. <i>Journal of Statistical Physics</i> , 1984, 36, 873-879.	1.2	41
60	Self-folding origami at any energy scale. <i>Nature Communications</i> , 2017, 8, 15477.	12.8	41
61	Anisotropy in turbulent drag reduction. <i>Physical Review Letters</i> , 1990, 65, 2780-2783.	7.8	39
62	Concentration dependence of static and dynamic properties for polymeric stars in a good solvent. <i>Macromolecules</i> , 1991, 24, 2434-2440.	4.8	39
63	Geometrical frustration yields fibre formation in self-assembly. <i>Nature Physics</i> , 2017, 13, 1100-1104.	16.7	39
64	Family of Exponents for Laplace's Equation near a Polymer. <i>Physical Review Letters</i> , 1986, 56, 2497-2500.	7.8	37
65	Polymer solutions: A geometric introduction. <i>Reviews of Modern Physics</i> , 1998, 70, 1531-1544.	45.6	36
66	Lifetime Effects of Positronium in Powders. <i>Physical Review Letters</i> , 1976, 36, 1269-1272.	7.8	32
67	The interpenetration of two chain polymers in a good solvent. <i>Journal of Chemical Physics</i> , 1982, 77, 4247-4253.	3.0	32
68	Adsorption of end-functionalized polymers on colloidal spheres. <i>Macromolecules</i> , 1993, 26, 4632-4639.	4.8	31
69	Quenched Degrees of Freedom in Symmetric Diblock Copolymer Thin Films. <i>Macromolecules</i> , 1998, 31, 3130-3135.	4.8	28
70	Robust fadeout profile of an evaporation stain. <i>Europhysics Letters</i> , 2009, 86, 64002.	2.0	28
71	Phase Separation of Grafted Copolymers. <i>Macromolecules</i> , 1994, 27, 6428-6442.	4.8	26
72	Chloride Enhances Fluoride Mobility in Anion Exchange Membrane/Polycationic Systems. <i>Journal of Physical Chemistry C</i> , 2014, 118, 845-853.	3.1	24

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73	Screening, Hyperuniformity, and Instability in the Sedimentation of Irregular Objects. <i>Physical Review Letters</i> , 2017, 118, 158005.	7.8	24
74	A review of shaped colloidal particles in fluids: anisotropy and chirality. <i>Reports on Progress in Physics</i> , 2020, 83, 116601.	20.1	22
75	Architecture-controlled interaction between associating polymers. <i>Macromolecules</i> , 1992, 25, 2969-2976.	4.8	21
76	Individual entanglements in a simulated polymer melt. <i>Physical Review E</i> , 1996, 53, 1816-1822.	2.1	21
77	End-grafted polymer melt with nematic interaction. <i>Macromolecules</i> , 1992, 25, 4569-4574.	4.8	20
78	Limitations on the smooth confinement of an unstretchable manifold. <i>Journal of Mathematical Physics</i> , 2000, 41, 5107-5128.	1.1	19
79	Microscopic wrinkles on supported surfactant monolayers. <i>Physical Review E</i> , 2007, 76, 041608.	2.1	19
80	Shape and symmetry of a fluid-supported elastic sheet. <i>Physical Review E</i> , 2013, 88, 012401.	2.1	18
81	Comparison of light scattering of colloidal dispersions with direct force measurements between analogous macroscopic surfaces. <i>Journal of Chemical Physics</i> , 1990, 93, 6057-6064.	3.0	16
82	Cyclic annealing as an iterated random map. <i>Physical Review E</i> , 2019, 99, 052132.	2.1	16
83	Chiral sedimentation of extended objects in viscous media. <i>Physical Review E</i> , 2009, 79, 056307.	2.1	15
84	Hydrodynamic interactions between two forced objects of arbitrary shape. I. Effect on alignment. <i>Physics of Fluids</i> , 2015, 27, .	4.0	15
85	Water uptake profile in a model ion-exchange membrane: Conditions for water-rich channels. <i>Journal of Chemical Physics</i> , 2015, 142, 114906.	3.0	15
86	Shapeable sheet without plastic deformation. <i>Physical Review E</i> , 2015, 92, 052401.	2.1	13
87	Ion mixing, hydration, and transport in aqueous ionic systems. <i>Journal of Chemical Physics</i> , 2015, 142, 184905.	3.0	13
88	Full Alignment of Colloidal Objects by Programed Forcing. <i>Physical Review Letters</i> , 2013, 110, 028301.	7.8	12
89	Hydrodynamic interactions between two forced objects of arbitrary shape. II. Relative translation. <i>Physical Review E</i> , 2016, 93, 042609.	2.1	11
90	Self-Organizing Arrays of Size Scalable Nanoparticle Rings. <i>ACS Nano</i> , 2016, 10, 8947-8955.	14.6	10

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91	Orientational ordering of colloidal dispersions by application of time-dependent external forces. <i>Physical Review E</i> , 2013, 88, 022307.	2.1	8
92	Anomalous fast kinetics of lipid monolayer buckling. <i>Physical Review E</i> , 2013, 88, 022405.	2.1	6
93	Conserved linking in single- and double-stranded polymers. <i>Journal of Chemical Physics</i> , 2000, 112, 10042-10048.	3.0	5
94	Criterion for noise-induced synchronization: Application to colloidal alignment. <i>Physical Review E</i> , 2016, 94, 032207.	2.1	5
95	Singular electrostatic energy of nanoparticle clusters. <i>Physical Review E</i> , 2016, 93, 022603.	2.1	5
96	Predicting tensorial electrophoretic effects in asymmetric colloids. <i>Physical Review E</i> , 2017, 96, 062613.	2.1	4
97	Engineering single-polymer micelle shape using nonuniform spontaneous surface curvature. <i>Physical Review E</i> , 2018, 97, 032505.	2.1	3
98	Nucleation and shape dynamics of model nematic tactoids around adhesive colloids. <i>Journal of Chemical Physics</i> , 2020, 152, 084901.	3.0	3
99	Chiral motion in colloidal electrophoresis. <i>Physical Review E</i> , 2020, 101, 062608.	2.1	2
100	Excess semiannual variation in historical temperature records. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2021, 147, 764-772.	2.7	1