

David C Morse

List of Publications by Year in descending order

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94433

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69
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87
all docs

87
docs citations

87
times ranked

3666
citing authors

#	ARTICLE	IF	CITATIONS
1	Strong scaling of general-purpose molecular dynamics simulations on GPUs. Computer Physics Communications, 2015, 192, 97-107.	7.5	546
2	Viscoelasticity of Concentrated Isotropic Solutions of Semiflexible Polymers. 2. Linear Response. Macromolecules, 1998, 31, 7044-7067.	4.8	294
3	Scaling Properties of Stretching Ridges in a Crumpled Elastic Sheet. Science, 1995, 270, 1482-1485.	12.6	284
4	Orthorhombic Fddd Network in Triblock and Diblock Copolymer Melts. Physical Review Letters, 2005, 94, 208302.	7.8	264
5	Viscoelasticity of Concentrated Isotropic Solutions of Semiflexible Polymers. 1. Model and Stress Tensor. Macromolecules, 1998, 31, 7030-7043.	4.8	210
6	Viscoelasticity of tightly entangled solutions of semiflexible polymers. Physical Review E, 1998, 58, R1237-R1240.	2.1	181
7	SCFT Study of Nonfrustrated ABC Triblock Copolymer Melts. Macromolecules, 2007, 40, 4654-4668.	4.8	163
8	Stability criteria for emulsions. Physical Review Letters, 1992, 69, 2439-2442.	7.8	156
9	Broadly Accessible Self-Consistent Field Theory for Block Polymer Materials Discovery. Macromolecules, 2016, 49, 4675-4690.	4.8	150
10	Semiflexible Polymers near Interfaces. Physical Review Letters, 1994, 73, 3235-3238.	7.8	105
11	Topological instabilities and phase behavior of fluid membranes. Physical Review E, 1994, 50, R2423-R2426.	2.1	102
12	Translationally Invariant Slip-Spring Model for Entangled Polymer Dynamics. Physical Review Letters, 2012, 109, 148302.	7.8	102
13	Universality of Block Copolymer Melts. Physical Review Letters, 2014, 113, 068302.	7.8	102
14	Design of ABC Triblock Copolymers near the ODT with the Random Phase Approximation. Macromolecules, 2003, 36, 782-792.	4.8	98
15	Tube diameter in tightly entangled solutions of semiflexible polymers. Physical Review E, 2001, 63, 031502.	2.1	86
16	Phase Behavior of Nonfrustrated ABC Triblock Copolymers: Weak and Intermediate Segregation. Macromolecules, 2010, 43, 5128-5136.	4.8	83
17	Universal Phenomenology of Symmetric Diblock Copolymers near the Order-Disorder Transition. Macromolecules, 2015, 48, 819-839.	4.8	83
18	Droplet Elasticity in Weakly Compressed Emulsions. Europhysics Letters, 1993, 22, 549-555.	2.0	79

#	ARTICLE	IF	CITATIONS
19	Renormalization of the one-loop theory of fluctuations in polymer blends and diblock copolymer melts. <i>Physical Review E</i> , 2007, 76, 061802.	2.1	75
20	Polymer-polymer interfacial slip in multilayered films. <i>Journal of Rheology</i> , 2009, 53, 893-915.	2.6	73
21	Linear Response and Stability of Ordered Phases of Block Copolymer Melts. <i>Macromolecules</i> , 2008, 41, 942-954.	4.8	62
22	Annealing of Cocontinuous Polymer Blends: Effect of Block Copolymer Molecular Weight and Architecture. <i>Macromolecules</i> , 2010, 43, 5024-5032.	4.8	61
23	Statistical mechanics of closed fluid membranes. <i>Physical Review E</i> , 1995, 52, 5918-5945.	2.1	58
24	Stress in Self-Consistent-Field Theory. <i>Macromolecules</i> , 2003, 36, 8184-8188.	4.8	58
25	Theory of linear viscoelasticity of semiflexible rods in dilute solution. <i>Journal of Rheology</i> , 2002, 46, 1111-1154.	2.6	56
26	Collective and Single-Chain Correlations in Disordered Melts of Symmetric Diblock Copolymers: Quantitative Comparison of Simulations and Theory. <i>Macromolecules</i> , 2014, 47, 851-869.	4.8	56
27	Shear-Induced Lamellar Rotation Observed in a Diblock Copolymer by in Situ Small-Angle X-ray Scattering. <i>Macromolecules</i> , 1999, 32, 4668-4676.	4.8	55
28	Viscoelasticity of dilute solutions of semiflexible polymers. <i>Physical Review E</i> , 2001, 64, 020802.	2.1	55
29	Fluctuations in Symmetric Diblock Copolymers: Testing Theories Old and New. <i>Physical Review Letters</i> , 2012, 108, 238301.	7.8	50
30	Renormalized one-loop theory of correlations in polymer blends. <i>Journal of Chemical Physics</i> , 2009, 130, 224902.	3.0	49
31	Fluctuations and Phase Behavior of Fluid Membrane Vesicles. <i>Europhysics Letters</i> , 1994, 26, 565-570.	2.0	47
32	Apparent Critical Micelle Concentrations in Block Copolymer/Ionic Liquid Solutions: Remarkably Weak Dependence on Solvophobic Block Molecular Weight. <i>Macromolecules</i> , 2012, 45, 4818-4829.	4.8	47
33	Entropy and fluctuations of monolayers, membranes, and microemulsions. <i>Current Opinion in Colloid and Interface Science</i> , 1997, 2, 365-372.	7.4	45
34	Brownian dynamics algorithm for bead-rod semiflexible chain with anisotropic friction. <i>Journal of Chemical Physics</i> , 2005, 122, 084903.	3.0	45
35	On the chain length dependence of local correlations in polymer melts and a perturbation theory of symmetric polymer blends. <i>Journal of Chemical Physics</i> , 2009, 130, 224901.	3.0	45
36	Ultralow Interfacial Tensions of Polymer/Polymer Interfaces with Diblock Copolymer Surfactants. <i>Macromolecules</i> , 2007, 40, 3819-3830.	4.8	39

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37	Renormalized one-loop theory of correlations in disordered diblock copolymers. <i>Journal of Chemical Physics</i> , 2011, 135, 084902.	3.0	38
38	Wetting description of block copolymer thin films. <i>Physical Review E</i> , 1996, 54, 3793-3810.	2.1	37
39	Linear Elasticity of Cubic Phases in Block Copolymer Melts by Self-Consistent Field Theory. <i>Macromolecules</i> , 2003, 36, 3764-3774.	4.8	37
40	Landau theory of the orthorhombic phase. <i>Physical Review E</i> , 2006, 74, 011803.	2.1	35
41	Theory of Constrained Brownian Motion. <i>Advances in Chemical Physics</i> , 2004, , 65-189.	0.3	34
42	Test of a scaling hypothesis for the structure factor of disordered diblock copolymer melts. <i>Soft Matter</i> , 2012, 8, 11310.	2.7	34
43	An efficient algorithm for metric correction forces in simulations of linear polymers with constrained bond lengths. <i>Journal of Chemical Physics</i> , 2002, 116, 1834-1838.	3.0	33
44	Fluctuations, Phase Transitions, and Latent Heat in Short Diblock Copolymers: Comparison of Experiment, Simulation, and Theory. <i>Macromolecules</i> , 2015, 48, 2801-2811.	4.8	33
45	Curvature disorder in tethered membranes: A new flat phase at $T=0$. <i>Physical Review A</i> , 1992, 46, 1751-1768.	2.5	32
46	Accelerating self-consistent field theory of block polymers in a variable unit cell. <i>Journal of Chemical Physics</i> , 2017, 146, 244902.	3.0	31
47	Phase Behavior of Diblock Copolymer-Homopolymer Ternary Blends: Congruent First-Order Lamellar-Disorder Transition. <i>Macromolecules</i> , 2016, 49, 7928-7944.	4.8	30
48	Viscoelasticity of Concentrated Isotropic Solutions of Semiflexible Polymers. 3. Nonlinear Rheology. <i>Macromolecules</i> , 1999, 32, 5934-5943.	4.8	28
49	Simulations of dynamics and viscoelasticity in highly entangled solutions of semiflexible rods. <i>Physical Review E</i> , 2007, 76, 010501.	2.1	25
50	Diblock Copolymer Surfactants in Immiscible Homopolymer Blends: Swollen Micelles and Interfacial Tension. <i>Macromolecules</i> , 2006, 39, 7746-7756.	4.8	24
51	Open-source code for self-consistent field theory calculations of block polymer phase behavior on graphics processing units. <i>European Physical Journal E</i> , 2020, 43, 15.	1.6	24
52	Mechanism of Micelle Birth and Death. <i>Physical Review Letters</i> , 2019, 123, 038003.	7.8	23
53	Commensurability and finite size effects in lattice simulations of diblock copolymers. <i>Soft Matter</i> , 2015, 11, 4862-4867.	2.7	22
54	Statistical mechanics of microemulsions: Droplet phases and macroscopic interfaces. <i>Journal of Chemical Physics</i> , 1996, 105, 11147-11174.	3.0	21

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55	Diagrammatic analysis of correlations in polymer fluids: Cluster diagrams via Edwards's field theory. <i>Annals of Physics</i> , 2006, 321, 2318-2389.	2.8	21
56	Instabilities of the Fermi-liquid and staggered flux phases in the large- N_t -Jmodel. <i>Physical Review B</i> , 1991, 43, 10436-10444.	3.2	20
57	Diblock Copolymer Surfactants in Immiscible Homopolymer Blends: Interfacial Bending Elasticity. <i>Macromolecules</i> , 2006, 39, 7397-7406.	4.8	20
58	A Rouse-like model of liquid crystalline polymer melts: Director dynamics and linear viscoelasticity. <i>Journal of Rheology</i> , 2002, 46, 49-92.	2.6	17
59	Elastic screening of surface vibrations: Surface phonons on As:Si(111)(1 $\bar{1}$ -1). <i>Physical Review B</i> , 1989, 40, 3465-3468.	3.2	16
60	Dynamics of Kink Bands in Layered Liquids: Theory and in Situ SAXS Experiments on a Block Copolymer Melt. <i>Macromolecules</i> , 2001, 34, 7858-7867.	4.8	15
61	Relationships among coarse-grained field theories of fluctuations in polymer liquids. <i>Journal of Chemical Physics</i> , 2011, 134, 084902.	3.0	15
62	Absence of the nematic phase in symmetric diblock copolymers. <i>Physical Review E</i> , 1993, 47, 1119-1125.	2.1	14
63	Linear viscoelasticity and director dynamics of nematic liquid crystalline polymer melts. <i>Europhysics Letters</i> , 2000, 49, 255-261.	2.0	14
64	Interfacial Tension Measurement and Micellization in a Polymer Blend with Copolymer Surfactant: A False Critical Micelle Concentration. <i>Macromolecules</i> , 2015, 48, 8154-8168.	4.8	13
65	Correlations in Disordered Melts of Asymmetric Diblock Copolymers. <i>Macromolecules</i> , 2018, 51, 2335-2348.	4.8	13
66	Network Model of the Disordered Phase in Symmetric Diblock Copolymer Melts. <i>Physical Review Letters</i> , 2018, 121, 127802.	7.8	13
67	Influence of charge sequence on the adsorption of polyelectrolytes to oppositely-charged polyelectrolyte brushes. <i>Soft Matter</i> , 2019, 15, 5431-5442.	2.7	13
68	Order-Disorder Transitions and Free Energies in Asymmetric Diblock Copolymers. <i>Macromolecules</i> , 2020, 53, 7399-7409.	4.8	13
69	Disorder in polymerized fluid membranes. <i>Physical Review A</i> , 1992, 46, 6745-6747.	2.5	12
70	Equilibration of Micelle-Polyelectrolyte Complexes: Mechanistic Differences between Static and Annealed Charge Distributions. <i>Journal of Physical Chemistry B</i> , 2017, 121, 4631-4641.	2.6	12
71	Incommensurate flux phases on a square lattice. <i>Physical Review B</i> , 1990, 42, 7994-8007.	3.2	11
72	Brownian dynamics algorithm for entangled wormlike threads. <i>Journal of Chemical Physics</i> , 2007, 126, 094906.	3.0	11

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73	Effects of Segment Length Asymmetry in Ternary Diblock Co-polymer-Homopolymer Mixtures. <i>Macromolecules</i> , 2019, 52, 4091-4102.	4.8	11
74	Simulation of diblock copolymer surfactants. I. Micelle free energies. <i>Physical Review E</i> , 2019, 100, 012602.	2.1	10
75	Simulation of diblock copolymer surfactants. II. Micelle kinetics. <i>Physical Review E</i> , 2019, 100, 012603.	2.1	10
76	Chiral liquid states in a spin-free representation for the diluted Mott insulator. <i>Physical Review B</i> , 1990, 42, 150-166.	3.2	7
77	Diffusion of Copolymer Surfactant to a Polymer/Polymer Interface. <i>Macromolecules</i> , 2007, 40, 3831-3839.	4.8	7
78	A Reptation Model of Slip at Entangled Polymer-Polymer Interfaces. <i>Macromolecules</i> , 2016, 49, 7032-7044.	4.8	7
79	2D crystalline order and defects in a stack of membranes. <i>Journal De Physique II</i> , 1993, 3, 531-546.	0.9	7
80	Micellization kinetics of diblock copolymers in a homopolymer matrix: a self-consistent field study. <i>Journal of Physics Condensed Matter</i> , 2011, 23, 284109.	1.8	6
81	Dynamics and Viscoelasticity of Disordered Melts of Symmetric Diblock Copolymers. <i>Macromolecules</i> , 2019, 52, 7762-7778.	4.8	5
82	Simulation of diblock copolymer surfactants. III. Equilibrium interfacial adsorption. <i>Physical Review E</i> , 2020, 102, 022605.	2.1	5
83	Identifying a critical micelle temperature in simulations of disordered asymmetric diblock copolymer melts. <i>Physical Review Materials</i> , 2021, 5, .	2.4	3
84	Nonlinear dynamics in micellar surfactant solutions. I. Kinetics. <i>Physical Review E</i> , 2022, 105, 034602.	2.1	3
85	Nonlinear dynamics in micellar surfactant solutions. II. Diffusion. <i>Physical Review E</i> , 2022, 105, 034603.	2.1	2
86	Adsorption of Charge Sequence-Specific Polydisperse Polyelectrolytes. <i>Macromolecules</i> , 2022, 55, 3030-3038.	4.8	2
87	Particle-directed assembly of semiflexible polymer chains. <i>Soft Matter</i> , 2016, 12, 6214-6222.	2.7	1