John G Curro

List of Publications by Year
in descending order

111 papers	4,990 citations	71004 43 h-index	116156 66 g-index
112 all docs	112 docs citations	112 times ranked	2145 citing authors

#	Article	IF	Citations
1	Gruneisen parameters of bead-spring chains: MD simulation and theory. Journal of Chemical Physics, 2020, 153, 244903.	1.2	0
2	The glass transition temperature of thin films: A molecular dynamics study for a bead-spring model. Journal of Chemical Physics, 2017, 146, 203322.	1.2	8
3	Van der Waals model for phase transitions in thermoresponsive surface films. Journal of Chemical Physics, 2009, 130, 194708.	1.2	5
4	Understanding the Force-vs-Distance Profiles of Terminally Attached Poly(N-isopropyl) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 622 T	1.6	23
5	X-ray Scattering of Vinyl Polyolefin Liquids and Random Copolymers: Theory and Experiment. Macromolecules, 2008, 41, 2694-2700.	2.2	16
6	A New Constitutive Model for the Chemical Aging of Rubber Networks in Deformed States. Macromolecules, 2008, 41, 9896-9903.	2.2	17
7	Connectivity and Entanglement Stress Contributions in Strained Polymer Networks. Macromolecules, 2008, 41, 4920-4928.	2.2	50
8	Packing of poly(tetrafluoroethylene) in the liquid state: Molecular dynamics simulation and theory. Journal of Chemical Physics, 2008, 129, 214901.	1.2	11
9	Molecular Dynamics Simulations of Polymer Networks Undergoing Sequential Cross-Linking and Scission Reactions. Macromolecules, 2007, 40, 131-139.	2.2	71
10	Structure of Poly(dialkylsiloxane) Melts:â€‰ Comparisons of Wide-Angle X-ray Scattering, Molecular Dynamics Simulations, and Integral Equation Theory. Macromolecules, 2007, 40, 7036-7043.	2.2	20
11	Permanent Set of Cross-Linking Networks:Â Comparison of Theory with Molecular Dynamics Simulations. Macromolecules, 2006, 39, 5521-5530.	2.2	50
12	The structure of poly(ethylene oxide) liquids: comparison of integral equation theory with molecular dynamics simulations and neutron scattering. Polymer, 2005, 46, 6500-6506.	1.8	17
13	The colloidal force of bead-spring chains in a good solvent. Journal of Chemical Physics, 2005, 122, 164905.	1.2	9
14	Density Functional Theory of Realistic Models of Polyethylene Liquids in Slit Pores:Â Comparison with Monte Carlo Simulationsâ€. Journal of Physical Chemistry B, 2005, 109, 6620-6628.	1.2	4
15	Computational Modeling of the Temperature-Induced Structural Changes of Tethered Poly(N-isopropylacrylamide) with Self-Consistent Field Theory. Macromolecules, 2005, 38, 174-181.	2.2	65
16	Density Functional Theory and Molecular Dynamics Simulation of Poly(dimethylsiloxane) Melts near Silica Surfaces. Macromolecules, 2005, 38, 8562-8573.	2.2	7
17	Comparison of random-walk density functional theory to simulation for bead-spring homopolymer melts. Journal of Chemical Physics, 2004, 121, 2788.	1.2	12
18	Anomalous mixing behavior of polyisobutylene/polypropylene blends: Molecular dynamics simulation study. Journal of Chemical Physics, 2004, 120, 8883-8886.	1.2	36

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19	Effects of chain stiffness and penetrant size on penetrant diffusion in simple polymers: deduced relations from simulation and PRISM theory. Polymer, 2004, 45, 3923-3932.	1.8	17
20	Effect of Strain History on Stress and Permanent Set in Cross-Linking Networks:Â A Molecular Dynamics Study. Macromolecules, 2004, 37, 5468-5473.	2.2	58
21	Integral Equation Theory of Polymer Solutions:â€‰ Application to Polyethylene/Benzene Solutions. Macromolecules, 2004, 37, 1980-1986.	2.2	10
22	Improved United Atom Force Field for Poly(dimethylsiloxane). Macromolecules, 2003, 36, 2122-2129.	2.2	58
23	Role of intramolecular energy on polyolefin miscibility: Isotactic polypropylene/polyethylene blends. Journal of Chemical Physics, 2003, 118, 914-924.	1.2	56
24	Molecular Dynamics Simulations and Integral Equation Theory of Alkane Chains:Â Comparison of Explicit and United Atom Models. Macromolecules, 2003, 36, 2158-2164.	2.2	22
25	Application of density functional theory to tethered polymer chains: Effect of intermolecular attractions. Journal of Chemical Physics, 2003, 119, 555-564.	1.2	43
26	Density functional theory for inhomogeneous polymer systems. I. Numerical methods. Journal of Chemical Physics, 2002, 117, 10385-10397.	1.2	43
27	Density functional theory for inhomogeneous polymer systems. II. Application to block copolymer thin films. Journal of Chemical Physics, 2002, 117, 10398-10411.	1.2	57
28	Conjectures on the glass transition of polymers in confined geometries. Journal of Chemical Physics, 2002, 116, 9154-9157.	1.2	81
29	Application of density functional theory to tethered polymer chains: Athermal systems. Journal of Chemical Physics, 2002, 117, 2975-2986.	1.2	43
30	Structure of Poly(dimethylsiloxane) Melts:Â Theory, Simulation, and Experiment. Macromolecules, 2002, 35, 6455-6465.	2.2	47
31	An integral equation theory for polymer solutions: Explicit inclusion of the solvent molecules. Journal of Chemical Physics, 2001, 115, 5669-5678.	1.2	32
32	Self-consistent integral equation theory for polyolefins: Comparison to molecular dynamics simulations and x-ray scattering. Journal of Chemical Physics, 2001, 114, 2847-2860.	1.2	64
33	Polymeric contributions to entropic surface forces. Journal of Chemical Physics, 2001, 114, 4289-4295.	1.2	25
34	Density functional theory of simple polymers in a slit pore. II. The role of compressibility and field type. Journal of Chemical Physics, 2000, 112, 3094-3103.	1.2	39
35	Density functional theory of simple polymers in a slit pore. III. Surface tension. Journal of Chemical Physics, 2000, 113, 2021-2024.	1.2	30
36	Density functional theory of simple polymers in a slit pore. I. Theory and efficient algorithm. Journal of Chemical Physics, 2000, 112, 3090-3093.	1.2	65

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37	Mixing of Isotactic and Syndiotactic Polypropylenes in the Melt. Macromolecules, 2000, 33, 9452-9463.	2.2	58
38	Comparisons between integral equation theory and molecular dynamics simulations for realistic models of polyethylene liquids. Journal of Chemical Physics, 1999, 111, 9073-9081.	1.2	25
39	The effect of attractions on the structure of fused sphere chains confined between surfaces. Journal of Chemical Physics, 1999, 111, 1608-1614.	1.2	21
40	The diffusion of simple penetrants in tangent site polymer melts. Journal of Chemical Physics, 1999, 111, 9822-9831.	1.2	7
41	Self-Consistent Integral Equation Theory of Polyolefins and Comparison to X-ray Scattering Experimentsâ€. Macromolecules, 1999, 32, 7276-7288.	2.2	24
42	The structure of amorphous polymers near surfaces: athermal systems. Computational and Theoretical Polymer Science, 1998, 8, 159-168.	1.1	14
43	The structure and thermodynamics of energetically and structurally asymmetric polymer blends. Journal of Chemical Physics, 1998, 109, 806-814.	1.2	8
44	The Solubility of Gases in Polyethylene:Â Integral Equation Study of Standard Molecular Models. Macromolecules, 1998, 31, 6669-6675.	2.2	10
45	Mapping of Explicit Atom onto United Atom Potentials. Macromolecules, 1998, 31, 9362-9368.	2.2	61
46	The interfacial thickness of symmetric diblock copolymers: Theory and experiment. Journal of Chemical Physics, 1998, 108, 3023-3027.	1.2	19
47	The effect of attractions on the structure and thermodynamics of model polymer blends. Journal of Chemical Physics, 1997, 107, 4024-4032.	1.2	7
48	The ordering of symmetric diblock copolymers: A comparison of self-consistent-field and density functional approaches. Journal of Chemical Physics, 1997, 106, 1950-1960.	1.2	26
49	Theory for the Solubility of Gases in Polymers:Â Application to Monatomic Solutes. Macromolecules, 1997, 30, 145-152.	2.2	22
50	Intermolecular Packing in Stereoregular Polypropylene Liquids:â€‰ Comparison between Theory and X-ray Scattering Experiments. Macromolecules, 1997, 30, 6264-6273.	2.2	19
51	Density functional theory of polymer-polymer phase separation behavior. Journal of Polymer Science, Part B: Polymer Physics, 1995, 33, 2307-2317.	2.4	11
52	Thermodynamics and local structure of vinyl polymer melts. Journal of Chemical Physics, 1995, 103, 2229-2236.	1.2	8
53	Molecular dynamics simulations of athermal polymer blends: Finite system size considerations. Journal of Chemical Physics, 1995, 103, 1200-1207.	1.2	20
54	Microscopic approach to inhomogeneous polymeric liquids. Journal of Chemical Physics, 1995, 103, 5061-5069.	1.2	37

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55	Compressibility-Based Hard-Site Models of Linear Polyethylene and the Normal Alkanes. Macromolecules, 1995, 28, 3275-3281.	2.2	3
56	Molecular dynamics simulations of athermal polymer blends: Comparison with integral equation theory. Journal of Chemical Physics, 1995, 103, 1208-1215.	1.2	25
57	Theory for the Phase Behavior of Polyolefin Blends: Application to the Polyethylene/Isotactic Polypropylene Blend. Macromolecules, 1995, 28, 6843-6853.	2.2	46
58	The role of excluded volume in polyethylene intermolecular potentials. Journal of Chemical Physics, 1995, 102, 8635-8642.	1.2	15
59	Intermolecular packing of freely jointed branched polyalkene melts: a microscopic approach. Journal of the Chemical Society, Faraday Transactions, 1995, 91, 2427.	1.7	12
60	A modified selfâ€consistentâ€field theory: Application to a homopolymer melt near a hard wall. Journal of Chemical Physics, 1995, 103, 1635-1640.	1.2	20
61	The structure of a rotational isomeric state alkane melt near a hard wall: Comparison of density functional theory with related theories. Journal of Chemical Physics, 1995, 102, 3431-3439.	1.2	20
62	The structure of a rotational isomeric state alkane melt near a hard wall. Journal of Chemical Physics, 1994, 101, 9010-9015.	1.2	52
63	Intermolecular structure in a single component polymer glass: Towards high resolution measurements of the sidechain pair correlation function. Journal of Chemical Physics, 1994, 100, 9156-9169.	1.2	12
64	A density functional theory for pair correlation functions in molecular liquids. Journal of Chemical Physics, 1994, 101, 3205-3215.	1.2	62
65	Intermolecular Structure and Thermodynamics of Vinyl Polymer Liquids: Freely-Jointed Chains. Macromolecules, 1994, 27, 4665-4672.	2.2	29
66	Microscopic equations of state of polyethylene: Hardâ€chain contribution to the pressure. Journal of Chemical Physics, 1993, 98, 1635-1646.	1.2	49
67	Microscopic equations-of-state for hydrocarbon fluids: effect of attractions and comparison with polyethylene experiments. Macromolecules, 1993, 26, 2655-2662.	2.2	27
68	Reference interaction site model theory of polymeric liquids: Selfâ€consistent formulation and nonideality effects in dense solutions and melts. Journal of Chemical Physics, 1992, 96, 3211-3225.	1.2	89
69	Diffraction by macromolecular fluids. Journal of the Chemical Society, Faraday Transactions, 1992, 88, 1791.	1.7	32
70	Single-chain structure in model polyethylene melts. Macromolecules, 1992, 25, 4905-4910.	2.2	27
71	Integral equation theory for compressible polymer alloys: thermodynamics, scattering, and miscibility of Gaussian chains. Macromolecules, 1991, 24, 6736-6747.	2.2	38
72	Analytic reference interaction site modelâ€mean spherical approximation theory of flexible polymer blends: Effects of spatial and fractal dimensions. Journal of Chemical Physics, 1991, 94, 3986-4000.	1.2	32

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73	Polymer crystallization: density functional theory and application to polyethylene. Chemical Physics Letters, 1991, 179, 374-378.	1.2	7
74	Local structure of polyethylene melts. Journal of Chemical Physics, 1991, 94, 4659-4662.	1.2	93
75	Crystallization of polyethylene and polytetrafluoroethylene by densityâ€functional methods. Journal of Chemical Physics, 1991, 95, 9348-9366.	1.2	45
76	RISM theory of polymer liquids: Analytical results for continuum models of melts and alloys. Chemical Physics, 1990, 149, 105-127.	0.9	104
77	An integral equation theory of polymer blends: athermal mixtures. Macromolecules, 1990, 23, 1402-1411.	2.2	58
78	Local structure of semiflexible polymer melts. Macromolecules, 1990, 23, 3496-3505.	2.2	185
79	A comparison between integral equation theory and molecular dynamics simulations of dense, flexible polymer liquids. Journal of Chemical Physics, 1989, 91, 1357-1364.	1.2	95
80	Integral equation theory of the structure and thermodynamics of polymer blends. Journal of Chemical Physics, 1989, 91, 5059-5081.	1.2	148
81	Integral equation theory of polymer melts: density fluctuations, static structure factor, and comparison with incompressible and continuum limit models. Macromolecules, 1988, 21, 3082-3087.	2.2	48
82	Multiple-temperature steps: a further test of an aging theory for polymer glasses. Macromolecules, 1988, 21, 3216-3220.	2.2	19
83	Integral equation theory of polymer melts: intramolecular structure, local order, and the correlation hole. Macromolecules, 1988, 21, 3070-3081.	2.2	103
84	Theory for the chi parameter of polymer blends: Effect of attractive interactions. Journal of Chemical Physics, 1988, 88, 7242-7243.	1.2	33
85	Equation of state of polymer melts: General formulation of a microscopic integral equation theory. Journal of Chemical Physics, 1988, 89, 3342-3349.	1.2	68
86	Microscopic theory of the structure, thermodynamics, and apparentï‡parameter of polymer blends. Physical Review Letters, 1988, 60, 809-812.	2.9	74
87	Equation of state of polymer melts: Numerical results for athermal freely jointed chain fluids. Journal of Chemical Physics, 1988, 89, 3350-3362.	1.2	56
88	Equilibrium theory of polymer liquids: Linear chains. Journal of Chemical Physics, 1987, 87, 1842-1846.	1.2	212
89	Integral-equation theory of the structure of polymer melts. Physical Review Letters, 1987, 58, 246-249.	2.9	306
90	Theory of polymer melts: an integral equation approach. Macromolecules, 1987, 20, 1928-1934.	2.2	136

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91	Viscoelasticity of randomly crosslinked polymer networks. Relaxation of dangling chains. Macromolecules, 1985, 18, 1157-1162.	2.2	71
92	Effects of pressure on volume-recovery experiments. Macromolecules, 1985, 18, 2239-2246.	2.2	41
93	A nonâ€Gaussian theory of rubberlike elasticity based on rotational isomeric state simulations of network chain configurations. II. Bimodal poly(dimethylsiloxane) networks. Journal of Chemical Physics, 1984, 80, 4521-4525.	1.2	94
94	A nonâ€Gaussian theory of rubberlike elasticity based on rotational isomeric state simulations of network chain configurations. III. Networks prepared from the extraordinarily flexible chains of polymeric sulfur and polymeric selenium. Journal of Chemical Physics, 1984, 80, 5262-5265.	1.2	31
95	Molecular dynamics of physical aging in the glassy state. Polymer Engineering and Science, 1984, 24, 1071-1078.	1.5	29
96	Free volume and the kinetics of aging of polymer glasses. Macromolecules, 1984, 17, 911-919.	2.2	124
97	A theoretical basis for viscoelastic relaxation of elastomers in the long-time limit. Macromolecules, 1983, 16, 559-562.	2.2	141
98	Diffusion model for volume recovery in glasses. Macromolecules, 1982, 15, 1621-1626.	2.2	136
99	Statistics of a single polymer chain*. Ferroelectrics, 1980, 30, 49-56.	0.3	15
100	Computer Simulation of Chains in Dilute Solution. Crossover from Î¸ to Good Solvent Behavior. Macromolecules, 1980, 13, 1199-1203.	2.2	20
101	Monte-Carlo Simulation of Multiple Chain Systems. Second and Fourth Moments. Macromolecules, 1979, 12, 463-466.	2.2	23
102	Physical and chemical stress relaxation of a fluoroelastomer. Journal of Applied Polymer Science, 1977, 21, 1597-1605.	1.3	15
103	Computer simulation of multiple chain systemsâ€"equation of state of hard sphere chains. Journal of Chemical Physics, 1976, 64, 2496.	1.2	35
104	Physical and chemical stress relaxation of elastomers. Journal of Applied Polymer Science, 1975, 19, 2571-2581.	1.3	30
105	Computer simulation of multiple chain systemsâ€"the effect of density on the average chain dimensions. Journal of Chemical Physics, 1974, 61, 1203-1207.	1.2	60
106	Raman scattering in uniaxially oriented samples of planar zigzag poly(vinylidiene fluoride). Journal of Polymer Science, Polymer Physics Edition, 1974, 12, 695-702.	1.0	26
107	Polymeric Equations of State. Journal of Macromolecular Science - Reviews in Macromolecular Chemistry and Physics, 1974, 11, 321-366.	2.2	40
108	Calculation of GrÃ¼neisen parameters of polymers. Journal of Chemical Physics, 1973, 58, 374-380.	1.2	37

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109	Cell Model for Amorphous Polymers. Journal of Chemical Physics, 1972, 56, 5739-5741.	1.2	6
110	Theoretical Basis for the Viscoelastic Response of a Polymeric Network. Journal of Chemical Physics, 1971, 55, 2642-2646.	1.2	1
111	Percusâ€“Yevick Type of Integral Equation for the Excluded Volume Problem. Journal of Chemical Physics, 1969, 50, 2199-2206.	1.2	26