Zhen-Gang Wang

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/4005308/publications.pdf

Version: 2024-02-01

105 papers	4,021 citations	94433 37 h-index	133252 59 g-index
105 all docs	105 docs citations	105 times ranked	3269 citing authors

#	Article	IF	Citations
1	Thermodynamics of Electrolyte Solutions Near Charged Surfaces: Constant Surface Charge vs. Constant Surface Potential. Journal of Chemical Physics, 2022, 156, 174704.	3.0	2
2	A coarse-grained model of room-temperature ionic liquids between metal electrodes: a molecular dynamics study. Physical Chemistry Chemical Physics, 2022, 24, 11573-11584.	2.8	3
3	Mechanisms of Flow-Induced Polymer Translocation. Macromolecules, 2022, 55, 3602-3612.	4.8	9
4	Local-Average Free Volume Correlates with Dynamics in Glass Formers. Journal of Physical Chemistry Letters, 2022, 13, 3957-3964.	4.6	6
5	Supernatant Phase in Polyelectrolyte Complex Coacervation: Cluster Formation, Binodal, and Nucleation. Macromolecules, 2022, 55, 3910-3923.	4.8	12
6	Complexation between Oppositely Charged Polyelectrolytes in Dilute Solution: Effects of Charge Asymmetry. Macromolecules, 2022, 55, 3898-3909.	4.8	15
7	Surface Charge Density in Electrical Double Layer Capacitors with Nanoscale Cathodeâ€“Anode Separation. Journal of Physical Chemistry B, 2021, 125, 625-636.	2.6	20
8	Like dissolves like: A first-principles theory for predicting liquid miscibility and mixture dielectric constant. Science Advances, 2021, 7, .	10.3	47
9	Nonelectrostatic Adsorption of Polyelectrolytes and Mediated Interactions between Solid Surfaces. Langmuir, 2021, 37, 5483-5493.	3.5	8
10	Image-charge effects on ion adsorption near aqueous interfaces. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	36
11	Preferential Ion Adsorption in Blue Energy Applications. ACS Sustainable Chemistry and Engineering, 2021, 9, 9230-9239.	6.7	7
12	Effects of Confinement and Ion Adsorption in Ionic Liquid Supercapacitors with Nanoporous Electrodes. ACS Nano, 2021, 15, 11724-11733.	14.6	24
13	Salt-Induced Liquidâ€“Liquid Phase Separation: Combined Experimental and Theoretical Investigation of Waterâ€“Acetonitrileâ€“Salt Mixtures. Journal of the American Chemical Society, 2021, 143, 773-784.	13.7	35
14	Shear Banding in Entangled Polymers: Stress Plateau, Banding Location, and Lever Rule. ACS Macro Letters, 2021, 10, 1517-1523.	4.8	8
15	Interfacial Structure and Tension of Polyelectrolyte Complex Coacervates. Macromolecules, 2021, 54, 10994-11007.	4.8	15
16	Coil-to-Globule Transition in Polymeric Solvents. Macromolecules, 2021, 54, 10984-10993.	4.8	8
17	Electrostatic Correlations and Temperature-Dependent Dielectric Constant Can Model LCST in Polyelectrolyte Complex Coacervation. Macromolecules, 2021, 54, 11326-11337.	4.8	20
18	Ion transport in small-molecule and polymer electrolytes. Journal of Chemical Physics, 2020, 153, 100903.	3.0	53

#	Article	IF	Citations
19	Effects of Surface Transition and Adsorption on Ionic Liquid Capacitors. Journal of Physical Chemistry Letters, 2020, 11, 1767-1772.	4.6	15
20	Microscopic origins of the swim pressure and the anomalous surface tension of active matter. Physical Review E, 2020, 101, 012604.	2.1	37
21	Revisiting the Î˜ Point. Macromolecules, 2020, 53, 10409-10420.	4.8	12
22	Two-step relaxation and the breakdown of the Stokes-Einstein relation in glass-forming liquids. Physical Review E, 2019, 100, 052607.	2.1	10
23	Nonlinear Rheological Behaviors in Polymer Melts after Step Shear. Macromolecules, 2019, 52, 4103-4110.	4.8	8
24	Food Polyelectrolytes Compress the Colonic Mucus Hydrogel by a Donnan Mechanism. Biomacromolecules, 2019, 20, 2675-2683.	5.4	11
25	On the origin of oscillatory interactions between surfaces mediated by polyelectrolyte solution. Journal of Chemical Physics, 2019, 151, 214901.	3.0	12
26	Swimming to Stability: Structural and Dynamical Control via Active Doping. ACS Nano, 2019, 13, 560-572.	14.6	27
27	Nonphysical Behavior in Several Statistical Mechanically Based Equations of State. Industrial & Engineering Chemistry Research, 2019, 58, 1382-1395.	3.7	8
28	Polyelectrolyte Chain Structure and Solution Phase Behavior. Macromolecules, 2018, 51, 1706-1717.	4.8	60
29	Improved local lattice Monte Carlo simulation for charged systems. Journal of Chemical Physics, 2018, 148, 114105.	3.0	5
30	Mechanisms of Diffusion in Associative Polymer Networks: Evidence for Chain Hopping. Journal of the American Chemical Society, 2018, 140, 14185-14194.	13.7	30
31	Statistical field theory for polar fluids. Journal of Chemical Physics, 2018, 149, 124108.	3.0	9
32	Polyelectrolyte complex coacervation: Effects of concentration asymmetry. Journal of Chemical Physics, 2018, 149, 163303.	3.0	71
33	Salt Partitioning in Complex Coacervation of Symmetric Polyelectrolytes. Macromolecules, 2018, 51, 5586-5593.	4.8	83
34	Globally Suppressed Dynamics in Ion-Doped Polymers. ACS Macro Letters, 2018, 7, 734-738.	4.8	20
35	Density functional theory for charged fluids. Soft Matter, 2018, 14, 5878-5887.	2.7	28
36	A priori determination of the region of the three physical volume root loci in the Perturbed-Chain SAFT EOS. Fluid Phase Equilibria, 2017, 434, 152-166.	2.5	8

#	Article	IF	Citations
37	Analysis and Control of Chain Mobility in Protein Hydrogels. Journal of the American Chemical Society, 2017, 139, 3796-3804.	13.7	33
38	Electrostatic correlations and the polyelectrolyte self energy. Journal of Chemical Physics, 2017, 146, 084901.	3.0	69
39	Accurate Determination of Ion Polarizabilities in Aqueous Solutions. Journal of Physical Chemistry B, 2017, 121, 6416-6424.	2.6	42
40	Designing Polymer Electrolytes for Safe and High Capacity Rechargeable Lithium Batteries. Accounts of Chemical Research, 2017, 50, 590-593.	15.6	149
41	Variational Methods in Statistical Thermodynamicsâ€"A Pedagogical Introduction. Molecular Modeling and Simulation, 2017, , 1-29.	0.2	3
42	Shear-Induced Heterogeneity in Associating Polymer Gels: Role of Network Structure and Dilatancy. Physical Review Letters, 2017, 119, 117801.	7.8	16
43	50th Anniversary Perspective: Polymer Conformationâ€"A Pedagogical Review. Macromolecules, 2017, 50, 9073-9114.	4.8	113
44	Salting-Out and Salting-In of Polyelectrolyte Solutions: A Liquid-State Theory Study. Macromolecules, 2016, 49, 9720-9730.	4.8	63
45	Inhomogeneous screening near the dielectric interface. Journal of Chemical Physics, 2016, 144, 134902.	3.0	16
46	Molecular-Based Theory for Electron-Transfer Reorganization Energy in Solvent Mixtures. Journal of Physical Chemistry B, 2016, 120, 6373-6382.	2.6	3
47	Effects of Ion-Induced Cross-Linking on the Phase Behavior in Salt-Doped Polymer Blends. Macromolecules, 2016, 49, 425-431.	4.8	35
48	The scaling behavior of the second virial coefficient of linear and ring polymer. Science China Chemistry, 2016, 59, 619-623.	8.2	10
49	A molecularly based theory for electron transfer reorganization energy. Journal of Chemical Physics, 2015, 143, 224502.	3.0	4
50	On the theoretical description of weakly charged surfaces. Journal of Chemical Physics, 2015, 142, 104705.	3.0	36
51	Celebrating Soft Matter's 10th Anniversary: Chain configuration and rate-dependent mechanical properties in transient networks. Soft Matter, 2015, 11, 2085-2096.	2.7	32
52	Density-Functional Theory for Mixtures of AB Random Copolymer and CO₂. Macromolecules, 2015, 48, 6035-6046.	4.8	10
53	Combined Theoretical and Experimental Study of Refractive Indices of Waterâ€"Acetonitrileâ€"Salt Systems. Journal of Physical Chemistry B, 2015, 119, 10701-10709.	2.6	60
54	Systematic Computational and Experimental Investigation of Lithium-Ion Transport Mechanisms in Polyester-Based Polymer Electrolytes. ACS Central Science, 2015, 1, 198-205.	11.3	162

#	Article	IF	Citations
55	Chemically Specific Dynamic Bond Percolation Model for Ion Transport in Polymer Electrolytes. Macromolecules, 2015, 48, 7346-7358.	4.8	77
56	An efficient dissipative particle dynamics-based algorithm for simulating electrolyte solutions. Journal of Chemical Physics, 2015, 142, 024103.	3.0	16
57	Influence of Topology on the Free Energy and Metric Properties of an Ideal Ring Polymer Confined in a Slit. Macromolecules, 2015, 48, 8675-8680.	4.8	10
58	Continuous Self-Energy of Ions at the Dielectric Interface. Physical Review Letters, 2014, 112, 136101.	7.8	33
59	Origin of Stress Overshoot during Startup Shear of Entangled Polymer Melts. ACS Macro Letters, 2014, 3, 569-573.	4.8	41
60	Phase Behavior of a Block Copolymer/Salt Mixture through the Order-to-Disorder Transition. Macromolecules, 2014, 47, 2666-2673.	4.8	50
61	Thermodynamics of Salt-Doped Block Copolymers. ACS Macro Letters, 2014, 3, 708-711.	4.8	46
62	Theory of Polymer Chains in Poor Solvent: Single-Chain Structure, Solution Thermodynamics, and Î˜ Point. Macromolecules, 2014, 47, 4094-4102.	4.8	47
63	Effects of dielectric inhomogeneity in polyelectrolyte solutions. Soft Matter, 2013, 9, 5686.	2.7	24
64	First-Order Disordered-to-Lamellar Phase Transition in Lithium Salt-Doped Block Copolymers. ACS Macro Letters, 2013, 2, 478-481.	4.8	57
65	Evolution of Chain Conformation and Entanglements during Startup Shear. ACS Macro Letters, 2013, 2, 561-565.	4.8	22
66	Discontinuous Bubble Nucleation Due to a Metastable Condensation Transition in Polymerâ€“CO2 Mixtures. Journal of Physical Chemistry Letters, 2013, 4, 1639-1643.	4.6	13
67	Effects of image charges on double layer structure and forces. Journal of Chemical Physics, 2013, 139, 124702.	3.0	54
68	Ion Solvation in Liquid Mixtures: Effects of Solvent Reorganization. Physical Review Letters, 2012, 109, 257802.	7.8	57
69	Minimum free energy paths for a nanoparticle crossing the lipid membrane. Soft Matter, 2012, 8, 12066.	2.7	21
70	Theory of Polymers in Poor Solvent: Phase Equilibrium and Nucleation Behavior. Macromolecules, 2012, 45, 6266-6271.	4.8	28
71	Salt-doped block copolymers: ion distribution, domain spacing and effective Ï‡ parameter. Soft Matter, 2012, 8, 9356.	2.7	113
72	Effects of ion solvation on phase equilibrium and interfacial tension of liquid mixtures. Journal of Chemical Physics, 2011, 135, 014707.	3.0	35

#	Article	IF	Citations
73	Thermodynamics of Ion-Containing Polymer Blends and Block Copolymers. Physical Review Letters, 2011, 107, 198301.	7.8	129
74	Thermodynamic basis for the genome to capsid charge relationship in viral encapsidation. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 16986-16991.	7.1	56
75	Coil-to-globule transition by dissipative particle dynamics simulation. Journal of Chemical Physics, 2011, 134, 244904.	3.0	52
76	Monte Carlo simulation of a single ring among linear chains: Structural and dynamic heterogeneity. Journal of Chemical Physics, 2010, 133, 064901.	3.0	39
77	Fluctuation in electrolyte solutions: The self energy. Physical Review E, 2010, 81, 021501.	2.1	170
78	A simple model for the anomalous intrinsic viscosity of dendrimers. Soft Matter, 2010, 6, 2619.	2.7	26
79	Theory of Side-Chain Liquid Crystal Polymers: Bulk Behavior and Chain Conformation. Macromolecules, 2010, 43, 10096-10106.	4.8	22
80	Thermodynamic Properties of Block Copolymer Electrolytes Containing Imidazolium and Lithium Salts. Macromolecules, 2010, 43, 8282-8289.	4.8	131
81	Electrostatic Regulation of Genome Packaging in Human Hepatitis B Virus. Biophysical Journal, 2009, 96, 3065-3073.	0.5	27
82	Effects of Ion Solvation on the Miscibility of Binary Polymer Blends. Journal of Physical Chemistry B, 2008, 112, 16205-16213.	2.6	96
83	VARIATIONAL ELECTROSTATICS FOR CHARGE SOLVATION. Journal of Theoretical and Computational Chemistry, 2008, 07, 397-419.	1.8	15
84	Nucleation of membrane adhesions. Physical Review E, 2008, 77, 021906.	2.1	23
85	Metastable cluster intermediates in the condensation of charged macromolecule solutions. Journal of Chemical Physics, 2007, 127, 084912.	3.0	51
86	Polymer-Tethered Ligand-Receptor Interactions between Surfaces II. Langmuir, 2007, 23, 13024-13039.	3.5	18
87	Polymer-tethered ligand-receptor interactions between surfaces. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 2621-2637.	2.1	12
88	Challenges and opportunities in polymer theory. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 3445-3447.	2.1	1
89	End-to-end distance vector distribution with fixed end orientations for the wormlike chain model. Physical Review E, 2005, 72, 041802.	2.1	56
90	Nature of Disordered Micelles in Sphere-Forming Block Copolymer Melts. Macromolecules, 2005, 38, 1979-1988.	4.8	47

#	Article	IF	Citations
91	DNA Packaging in Bacteriophage: Is Twist Important?. Biophysical Journal, 2005, 88, 3912-3923.	0.5	98
92	Exact Results for a Semiflexible Polymer Chain in an Aligning Field. Macromolecules, 2004, 37, 5814-5823.	4.8	73
93	Dynamics of Water near a Protein Surface. Journal of Physical Chemistry B, 2003, 107, 13218-13228.	2.6	100
94	Semiflexible polymer solutions. I. Phase behavior and single-chain statistics. Journal of Chemical Physics, 2003, 119, 13113-13128.	3.0	42
95	Nucleation of stable cylinders from a metastable lamellar phase in a diblock copolymer melt. Journal of Chemical Physics, 2003, 118, 10293-10305.	3.0	45
96	Nucleation in binary polymer blends:â€,Effects of adding diblock copolymers. Journal of Chemical Physics, 2003, 118, 8997-9006.	3.0	11
97	Nucleation in binary polymer blends: A self-consistent field study. Journal of Chemical Physics, 2002, 116, 2289-2300.	3.0	67
98	Concentration fluctuation in binary polymer blends: Ï‡ parameter, spinodal and Ginzburg criterion. Journal of Chemical Physics, 2002, 117, 481-500.	3.0	111
99	Computationally focusing the directed evolution of proteins. Journal of Cellular Biochemistry, 2001, 84, 58-63.	2.6	29
100	On the direct evaluation of the equilibrium distribution of clusters by simulation. II. Journal of Chemical Physics, 2001, 115, 6898-6906.	3.0	6
101	Transient instability upon temperature quench in weakly ordered block copolymers. Journal of Chemical Physics, 1999, 111, 10681-10688.	3.0	16
102	On the direct evaluation of the equilibrium distribution of clusters by simulation. Journal of Chemical Physics, 1999, 111, 9958-9964.	3.0	19
103	Interfacial Curvature in Graft and Diblock Copolymers and Implications for Long-Range Order in Cylindrical Morphologies. Macromolecules, 1997, 30, 6771-6782.	4.8	31
104	Chain Dimensions in Amorphous Polymer Melts. Macromolecules, 1995, 28, 570-576.	4.8	19
105	Chiral Symmetry Breaking and Pattern Formation in Two-Dimensional Films. Materials Research Society Symposia Proceedings, 1992, 292, 235.	0.1	1