Chunggi Baig

List of Publications by Year
in descending order

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62 papers	2,310 citations	249298 26 h-index	242451 47 g-index
64 all docs	64 docs citations	64 times ranked	2532 citing authors

#	Article	IF	Citations
1	Intrinsic chain stiffness in flexible linear polymers under extreme confinement. Polymer, 2021, 213, 123308.	1.8	8
2	Bioinspired Gradient Conductivity and Stiffness for Ultrasensitive Electronic Skins. ACS Nano, 2021, 15, 1795-1804.	7.3	104
3	Intrinsic structure and dynamics of monolayer ring polymer melts. Soft Matter, 2021, 17, 10703-10715.	1.2	3
4	Melt Rheology of Short-Chain Branched Ring Polymers in Shear Flow. Macromolecules, 2021, 54, 10350-10359.	2.2	5
5	Intrinsic Surface Characteristics and Dynamic Mechanisms of Ring Polymers in Solution and Melt under Shear Flow. Macromolecules, 2020, 53, 10051-10060.	2.2	9
6	Molecular process of stress relaxation for sheared polymer melts. Polymer, 2020, 202, 122683.	1.8	9
7	Mussel-Inspired Copolyether Loop with Superior Antifouling Behavior. Macromolecules, 2020, 53, 3551-3562.	2.2	47
8	Scaling Characteristics of Rotational Dynamics and Rheology of Linear Polymer Melts in Shear Flow. Macromolecules, 2020, 53, 3030-3041.	2.2	7
9	Structural and Dynamical Characteristics of Short-Chain Branched Ring Polymer Melts at Interface under Shear Flow. Polymers, 2020, 12, 3068.	2.0	6
10	Nonequilibrium Monte Carlo simulations of entangled polymer melts under steady shear flow. Soft Matter, 2019, 15, 5271-5281.	1.2	4
11	Molecular dynamics study on the structure and relaxation of short-chain branched ring polymer melts. Polymer, 2019, 175, 107-117.	1.8	15
12	A Hierarchical Nanoparticleâ€inâ€Micropore Architecture for Enhanced Mechanosensitivity and Stretchability in Mechanochromic Electronic Skins. Advanced Materials, 2019, 31, e1808148.	11.1	113
13	Skin-Inspired Hierarchical Polymer Architectures with Gradient Stiffness for Spacer-Free, Ultrathin, and Highly Sensitive Triboelectric Sensors. ACS Nano, 2018, 12, 3964-3974.	7.3	218
14	Flexible Ferroelectric Sensors with Ultrahigh Pressure Sensitivity and Linear Response over Exceptionally Broad Pressure Range. ACS Nano, 2018, 12, 4045-4054.	7.3	360
15	Distinct gating mechanism of SOC channel involving STIMâ€“Orai coupling and an intramolecular interaction of Orai in Caenorhabditis elegans. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E4623-E4632.	3.3	13
16	Anisotropic and amphoteric characteristics of diverse carbenes. Physical Chemistry Chemical Physics, 2018, 20, 13722-13733.	1.3	4
17	Rheological behaviors of H-shaped polymers incorporated with short branches under shear and elongational flows via FENE-Rouse model. Journal of Rheology, 2018, 62, 1115-1124.	1.3	6
18	Interfacial Molecular Structure and Dynamics of Confined Ring Polymer Melts under Shear Flow. Macromolecules, 2018, 51, 4670-4677.	2.2	16

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19	Molecular mechanisms of interfacial slip for polymer melts under shear flow. Journal of Rheology, 2017, 61, 253-264.	1.3	20
20	Effect of Chain Orientation and Stretch on the Stress Overshoot of Entangled Polymeric Materials under Start-Up Shear. Macromolecules, 2017, 50, 3424-3429.	2.2	27
21	Size-dependent conformational change in halogenâ€“Ï€ interaction: from benzene to graphene. Chemical Communications, 2017, 53, 6140-6143.	2.2	19
22	Adsorption of Carbon Tetrahalides on Coronene and Graphene. Journal of Physical Chemistry C, 2017, 121, 14968-14974.	1.5	11
23	Rheological Influence of Short-Chain Branching for Polymeric Materials under Shear with Variable Branch Density and Branching Architecture. Macromolecules, 2017, 50, 4491-4500.	2.2	30
24	Molecular dynamics for linear polymer melts in bulk and confined systems under shear flow. Scientific Reports, 2017, 7, 9004.	1.6	31
25	Effect of short-chain branching on interfacial polymer structure and dynamics under shear flow. Soft Matter, 2017, 13, 8644-8650.	1.2	13
26	Molecular characteristics of stress overshoot for polymer melts under start-up shear flow. Journal of Chemical Physics, 2017, 147, 234901.	1.2	10
27	Nonequilibrium molecular dynamics study of ring polymer melts under shear and elongation flows: A comparison with their linear analogs. Journal of Rheology, 2016, 60, 673-685.	1.3	22
28	Communication: Role of short chain branching in polymer structure and dynamics. Journal of Chemical Physics, 2016, 144, 081101.	1.2	30
29	Torsional Linearity in Nonlinear Stress-Optical Regimes for Polymeric Materials. ACS Macro Letters, 2016, 5, 273-277.	2.3	3
30	Halogenâ˜Ï€ Interactions between Benzene and X2/CX4 (X = Cl, Br): Assessment of Various Density Functionals with Respect to CCSD(T). Journal of Physical Chemistry A, 2016, 120, 9305-9314.	1.1	32
31	Precise Analysis of Polymer Rotational Dynamics. Scientific Reports, 2016, 6, 19127.	1.6	19
32	Influence of molecular architecture on the entanglement network: topological analysis of linear, long- and short-chain branched polyethylene melts via Monte Carlo simulations. Soft Matter, 2016, 12, 3770-3786.	1.2	27
33	A hybrid kinetic Monte Carlo method for simulating silicon films grown by plasma-enhanced chemical vapor deposition. Journal of Chemical Physics, 2013, 139, 204706.	1.2	16
34	On Maxwellâ€™s Relations of Thermodynamics for Polymeric Liquids away from Equilibrium. Macromolecules, 2011, 44, 640-646.	2.2	7
35	Projection of atomistic simulation data for the dynamics of entangled polymers onto the tube theory: calculation of the segment survival probability function and comparison with modern tube models. Soft Matter, 2011, 7, 380-395.	1.2	40
36	Toward an Improved Description of Constraint Release and Contour Length Fluctuations in Tube Models for Entangled Polymer Melts Guided by Atomistic Simulations. Macromolecular Theory and Simulations, 2011, 20, 752-768.	0.6	22

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37	Atomistic simulation of flow-induced crystallization at constant temperature. Europhysics Letters, 2010, 89, 36003.	0.7	20
38	Atomistic simulation of crystallization of a polyethylene melt in steady uniaxial extension. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 992-1004.	1.0	19
39	Tension thickening, molecular shape, and flow birefringence of an H-shaped polymer melt in steady shear and planar extension. Journal of Chemical Physics, 2010, 132, 014904.	1.2	15
40	Analysis of the configurational temperature of polymeric liquids under shear and elongational flows using nonequilibrium molecular dynamics and Monte Carlo simulations. Journal of Chemical Physics, 2010, 132, 184906.	1.2	10
41	Flow Effects on Melt Structure and Entanglement Network of Linear Polymers: Results from a Nonequilibrium Molecular Dynamics Simulation Study of a Polyethylene Melt in Steady Shear. Macromolecules, 2010, 43, 6886-6902.	2.2	152
42	Melt Structure and Dynamics of Unentangled Polyethylene Rings: Rouse Theory, Atomistic Molecular Dynamics Simulation, and Comparison with the Linear Analogues. Macromolecules, 2010, 43, 10692-10713.	2.2	110
43	Advanced Monte Carlo Algorithm for the Atomistic Simulation of Short- and Long-Chain Branched Polymers: Implementation for Model H-Shaped, A₃A₃ Multiarm (Pom-Pom), and Short-Chain Branched Polyethylene Melts. Macromolecules, 2010, 43, 986-1002.	2.2	29
44	Quantitative Analysis on the Validity of a Coarse-Grained Model for Nonequilibrium Polymeric Liquids under Flow. Macromolecules, 2010, 43, 3156-3160.	2.2	35
45	Understanding Dynamics in Binary Mixtures of Entangled cis-1,4-Polybutadiene Melts at the Level of Primitive Path Segments by Mapping Atomistic Simulation Data onto the Tube Model. Macromolecules, 2010, 43, 8239-8250.	2.2	29
46	Quantifying chain reptation in entangled polymer melts: Topological and dynamical mapping of atomistic simulation results onto the tube model. Journal of Chemical Physics, 2010, 132, 124904.	1.2	101
47	From atomistic trajectories to primitive paths to tube models: linking atomistic simulations with the reptation theory of polymer dynamics. Soft Matter, 2010, 6, 4603.	1.2	13
48	Multiscale simulation of polymer melt viscoelasticity: Expanded-ensemble Monte Carlo coupled with atomistic nonequilibrium molecular dynamics. Physical Review B, 2009, 79, .	1.1	28
49	A generalized differential constitutive equation for polymer melts based on principles of nonequilibrium thermodynamics. Journal of Rheology, 2009, 53, 309-337.	1.3	46
50	A generalized Hamiltonian-based algorithm for rigorous equilibrium molecular dynamics simulation in the canonical ensemble. Journal of Non-Newtonian Fluid Mechanics, 2008, 152, 129-139.	1.0	8
51	Thermodynamically-Guided Nonequilibrium Monte Carlo Method for Generating Realistic Shear Flows in Polymeric Materials. AIP Conference Proceedings, 2008, , .	0.3	0
52	Thermodynamically Guided Nonequilibrium Monte Carlo Method for Generating Realistic Shear Flows in Polymeric Systems. Physical Review Letters, 2007, 99, 257801.	2.9	23
53	A molecular dynamics study of the stressâ€“optical behavior of a linear short-chain polyethylene melt under shear. Rheologica Acta, 2007, 46, 1171-1186.	1.1	30
54	A comparison of simple rheological models and simulation data of n-hexadecane under shear and elongational flows. Journal of Rheology, 2006, 50, 625-640.	1.3	22

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55	Rheological and structural studies of linear polyethylene melts under planar elongational flow using nonequilibrium molecular dynamics simulations. Journal of Chemical Physics, 2006, 124, 084902.	1.2	51
56	Structure Formation under Steady-State Isothermal Planar Elongational Flow ofn-Eicosane: A Comparison between Simulation and Experiment. Physical Review Letters, 2006, 96, 037802.	2.9	34
57	A validation of the p-SLLOD equations of motion for homogeneous steady-state flows. Journal of Chemical Physics, 2006, 124, 194104.	1.2	41
58	A generalized Hamiltonian-based algorithm for rigorous equilibrium molecular dynamics simulation in the isobaricâ€“isothermal ensemble. Molecular Simulation, 2006, 32, 345-356.	0.9	13
59	An examination of the validity of nonequilibrium molecular-dynamics simulation algorithms for arbitrary steady-state flows. Journal of Chemical Physics, 2005, 123, 114106.	1.2	34
60	A proper approach for nonequilibrium molecular dynamics simulations of planar elongational flow. Journal of Chemical Physics, 2005, 122, 114103.	1.2	65
61	Rheological and structural studies of liquid decane, hexadecane, and tetracosane under planar elongational flow using nonequilibrium molecular-dynamics simulations. Journal of Chemical Physics, 2005, 122, 184906.	1.2	52
62	Structure of a sheared soft-disk fluid from a nonequilibrium potential. Physical Review E, 2004, 70, 061204.	0.8	4