Patrick Ilg

List of Publications by Year
in descending order

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77	1,676	236925 25	330143 37
papers	citations	h-index	g-index

79	79	79	1626
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Stimuli-responsive hydrogels cross-linked by magnetic nanoparticles. Soft Matter, 2013, 9, 3465.	2.7	141
2	Adsorption of core-shell nanoparticles at liquidâ€“liquid interfaces. Soft Matter, 2011, 7, 7663.	2.7	78
3	Probing a Critical Length Scale at the Glass Transition. Physical Review Letters, 2010, 104, 205704.	7.8	62
4	Corrections and enhancements of quasi-equilibrium states. Journal of Non-Newtonian Fluid Mechanics, 2001, 96, 203-219.	2.4	54
5	Polymer Brushes under Shear: Molecular Dynamics Simulations Compared to Experiments. Langmuir, 2015, 31, 4798-4805.	3.5	53
6	Magnetoviscosity of semidilute ferrofluids and the role of dipolar interactions: Comparison of molecular simulations and dynamical mean-field theory. Physical Review E, 2005, 71, 031205.	2.1	48
7	Systematic time-scale-bridging molecular dynamics applied to flowing polymer melts. Physical Review E, 2009, 79, 011802.	2.1	48
8	Soft Modes and Nonaffine Rearrangements in the Inherent Structures of Supercooled Liquids. Physical Review Letters, 2014, 112, 105503.	7.8	46
9	Magnetization dynamics, rheology, and an effective description of ferromagnetic units in dilute suspension. Physical Review E, 2002, 66, 021501.	2.1	42
10	Driven activation vs. thermal activation. Europhysics Letters, 2007, 79, 26001.	2.0	41
11	Equilibrium magnetization and magnetization relaxation of multicore magnetic nanoparticles. Physical Review B, 2017, 95, .	3.2	41
12	Dynamics of interacting magnetic nanoparticles: effective behavior from competition between Brownian and NÃ©el relaxation. Physical Chemistry Chemical Physics, 2020, 22, 22244-22259.	2.8	41
13	Nonequilibrium Dynamics and Magnetoviscosity of Moderately Concentrated Magnetic Liquids: A dynamic Mean-field Study. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2003, 58, 589-600.	1.5	37
14	Magnetoviscosity and orientational order parameters of dilute ferrofluids. Journal of Chemical Physics, 2002, 116, 9078-9088.	3.0	34
15	Canonical distribution functions in polymer dynamics. (II). Liquid-crystalline polymers. Physica A: Statistical Mechanics and Its Applications, 2003, 319, 134-150.	2.6	34
16	Magnetoviscous model fluids. Journal of Physics Condensed Matter, 2003, 15, S1403-S1423.	1.8	34
17	Canonical distribution functions in polymer dynamics. (I). Dilute solutions of flexible polymers. Physica A: Statistical Mechanics and Its Applications, 2002, 315, 367-385.	2.6	31
18	Polymer dynamics in wall turbulent flow. Europhysics Letters, 2002, 58, 616-622.	2.0	30

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19	Structure and rheology of ferrofluids: simulation results and kinetic models. Journal of Physics Condensed Matter, 2006, 18, S2757-S2770.	1.8	30
20	Molecularly derived constitutive equation for low-molecular polymer melts from thermodynamically guided simulation. Journal of Rheology, 2011, 55, 69-93.	2.6	30
21	Slow relaxation in structure-forming ferrofluids. Physical Review E, 2013, 88, 042315.	2.1	30
22	Hydrodynamic theory of polydisperse chain-forming ferrofluids. Physical Review E, 2008, 77, 016305.	2.1	28
23	Anisotropy of the magnetoviscous effect in ferrofluids. Physical Review E, 2005, 71, 051201.	2.1	27
24	Non-linear response of dipolar colloidal gels to external fields. Soft Matter, 2011, 7, 163-171.	2.7	27
25	Adsorption Energies of Poly(ethylene oxide)-Based Surfactants and Nanoparticles on an Airâ€“Water Surface. Langmuir, 2014, 30, 110-119.	3.5	26
26	Structure and rheology of model-ferrofluids under shear flow. Journal of Magnetism and Magnetic Materials, 2005, 289, 325-327.	2.3	25
27	Nonaffine Deformation of Inherent Structure as a Static Signature of Cooperativity in Supercooled Liquids. Physical Review Letters, 2008, 101, 095501.	7.8	25
28	Influence of Chain Stiffness, Grafting Density and Normal Load on the Tribological and Structural Behavior of Polymer Brushes: A Nonequilibrium-Molecular-Dynamics Study. Polymers, 2016, 8, 254.	4.5	24
29	Dynamics of colloidal suspensions of ferromagnetic particles in plane Couette flow: Comparison of approximate solutions with Brownian dynamics simulations. Physical Review E, 2003, 67, 061401.	2.1	22
30	Anisotropic self-diffusion in ferrofluids studied via Brownian dynamics simulations. Physical Review E, 2005, 72, 031504.	2.1	22
31	Boundary conditions for fluids with internal orientational degrees of freedom: Apparent velocity slip associated with the molecular alignment. Physical Review E, 2007, 75, 066302.	2.1	22
32	Effect of Crosslinking on the Microtribological Behavior of Model Polymer Brushes. Tribology Letters, 2016, 63, 1.	2.6	22
33	Derivation of Frank-Ericksen elastic coefficients for polydomain nematics from mean-field molecular theory for anisotropic particles. Journal of Chemical Physics, 2007, 127, 034903.	3.0	21
34	Anisotropy of magnetoviscous effect in structure-forming ferrofluids. Physical Review E, 2015, 92, 012306.	2.1	19
35	Combined Experimental and Simulation Studies of Cross-Linked Polymer Brushes under Shear. Macromolecules, 2018, 51, 10174-10183.	4.8	19
36	Anisotropic diffusion in nematic liquid crystals and in ferrofluids. Physical Review E, 2005, 71, 051407.	2.1	18

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37	Robustness of the periodic and chaotic orientational behavior of tumbling nematic liquid crystals. Physical Review E, 2006, 73, 061710.	2.1	18
38	Deformation of inherent structures to detect long-range correlations in supercooled liquids. Journal of Chemical Physics, 2012, 137, 024504.	3.0	17
39	Magnetic susceptibility, nanorheology, and magnetoviscosity of magnetic nanoparticles in viscoelastic environments. Physical Review E, 2018, 97, 032610.	2.1	17
40	Diffusion-jump model for the combined Brownian and NÃ©el relaxation dynamics of ferrofluids in the presence of external fields and flow. Physical Review E, 2019, 100, 022608.	2.1	17
41	Validity of a macroscopic description in dilute polymeric solutions. Physical Review E, 2000, 62, 1441-1443.	2.1	16
42	Self-assembly of ellipsoidal particles at fluid-fluid interfaces with an empirical pair potential. Journal of Colloid and Interface Science, 2019, 534, 205-214.	9.4	16
43	Chain Dynamics in Polymer Melts at Flat Surfaces. Macromolecules, 2017, 50, 3703-3718.	4.8	15
44	On the theory of the shear-induced isotropic-to-nematic phase transition of side chain liquid-crystalline polymers. Rheologica Acta, 2005, 44, 465-477.	2.4	13
45	The Landau free energy of hard ellipses obtained from microscopic simulations. Journal of Chemical Physics, 2014, 140, 124901.	3.0	13
46	Influence of inherent structure shear stress of supercooled liquids on their shear moduli. Journal of Chemical Physics, 2015, 142, 144505.	3.0	12
47	Modelling the rheology of anisotropic particles adsorbed on a two-dimensional fluid interface. Soft Matter, 2015, 11, 4383-4395.	2.7	12
48	Gasâ€“liquid phase equilibrium of a model Langmuir monolayer captured by a multiscale approach. Physical Chemistry Chemical Physics, 2019, 21, 2295-2306.	2.8	11
49	Macroscopic thermodynamics of flowing polymers derived from systematic coarse-graining procedure. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 6484-6496.	2.6	10
50	Thermodynamically consistent coarse graining the non-equilibrium dynamics of unentangled polymer melts. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 973-979.	2.4	10
51	Enhanced Landauâ€“de Gennes potential for nematic liquid crystals from a systematic coarse-graining procedure. Physical Review E, 2012, 85, 061709.	2.1	10
52	Surface Disentanglement and Slip in a Polymer Melt: A Molecular Dynamics Study. Macromolecules, 2018, 51, 8996-9010.	4.8	10
53	Bridging length and time scales in sheared demixing systems: From the Cahn-Hilliard to the Doi-Ohta model. Physical Review E, 2010, 81, 011131.	2.1	9
54	Nonequilibrium thermodynamics of the soft glassy rheology model. Physical Review E, 2013, 88, 042134.	2.1	9

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55	Effective interaction potentials for model amphiphilic surfactants adsorbed at fluidâ€“fluid interfaces. Physical Chemistry Chemical Physics, 2018, 20, 16238-16246.	2.8	9
56	Supersymmetry solution for finitely extensible dumbbell model. Europhysics Letters, 2000, 51, 355-360.	2.0	8
57	Dynamic electric polarization of nematic liquid crystals subjected to a shear flow. Physical Review E, 2007, 75, 040701.	2.1	8
58	Ideal contribution to the macroscopic quasiequilibrium entropy of anisotropic fluids. Physical Review E, 2011, 83, 061713.	2.1	8
59	Energetic and Entropic Contributions to the Landauâ€“de Gennes Potential for Gayâ€“Berne Models of Liquid Crystals. Polymers, 2013, 5, 328-343.	4.5	8
60	Two-alignment tensor theory for the dynamics of side chain liquid-crystalline polymers in planar shear flow. Journal of Non-Newtonian Fluid Mechanics, 2006, 134, 2-7.	2.4	7
61	Effective temperatures in a simple model of non-equilibrium, non-Markovian dynamics. Journal of Physics: Conference Series, 2006, 40, 76-85.	0.4	6
62	Transient inhomogeneous flow patterns in supercooled liquids under shear. Soft Matter, 2017, 13, 2192-2200.	2.7	6
63	Entanglement dynamics at flat surfaces: Investigations using multi-chain molecular dynamics and a single-chain slip-spring model. Journal of Chemical Physics, 2019, 150, 094906.	3.0	6
64	Combined microâ€“macro integration scheme from an invariance principle: application to ferrofluid dynamics. Journal of Non-Newtonian Fluid Mechanics, 2004, 120, 33-40.	2.4	5
65	Surface Rheology and Structure of Model Triblock Copolymers at a Liquidâ€“Vapor Interface: A Molecular Dynamics Study. Macromolecules, 2020, 53, 1245-1257.	4.8	5
66	Stochastic semi-Lagrangian microâ€“macro calculations of liquid crystalline solutions in complex flows. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 185-195.	2.4	4
67	Temperature-dependent orientational ordering on a spherical surface modeled with a lattice spin model. Physical Review E, 2014, 90, 022502.	2.1	3
68	Invariance Principle to Decide Between Micro and Macro Computations. , 2003, , 45-52.		3
69	Flow Properties Inferred from Generalized Maxwell Models. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 2009, 64, 81-95.	1.5	2
70	Multiparticle Collision Dynamics for Ferrofluids. Journal of Chemical Physics, 2022, 156, 144905.	3.0	2
71	A Stochastic Semi-Lagrangian Micro-Macro Model for Liquid Crystalline Solutions. , 2009, , .		1
72	Time correlation functions in the Lebwohl-Lasher model of liquid crystals. Physical Review E, 2017, 96, 032705.	2.1	1

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73	Systematic Coarse Graining Flowing Polymer Melts: Thermodynamically Guided Simulations and Resulting Constitutive Model. Chimia, 2011, 65, 223-227.	0.6	0
74	Reply to â€œComment on â€˜Temperature-dependent orientational ordering on a spherical surface modeled with a lattice spin modelâ€™ â€. Physical Review E, 2015, 91, 046502.	2.1	0
75	Hydrodynamics with Spin Angular Momentum from Systematic Coarse Graining: A Tutorial Example. Journal of Non-Equilibrium Thermodynamics, 2016, 41, .	4.2	0
76	Multiscale modelling of soft matter. Applied Rheology, 2010, 20, 133-133.	5.2	0
77	Viscoelastic behavior of rubbery materials (C. M. Roland). Applied Rheology, 2012, 22, 295-295.	5.2	0