James Feng

List of Publications by Year
in descending order

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144 papers	8,356 citations	47006 47 h-index	48315 88 g-index
151 all docs	151 docs citations	151 times ranked	5706 citing authors

#	Article	IF	Citations
1	An arbitrary Lagrangian-Eulerian method for simulating interfacial dynamics between a hydrogel and a fluid. Journal of Computational Physics, 2022, 451, 110851.	3.8	4
2	Particle trapped at the isotropic-nematic liquid crystal interface: Elastocapillary phenomena and drag forces. Physical Review E, 2022, 105, 044607.	2.1	1
3	Phase-field model for elastocapillary flows of liquid crystals. Physical Review E, 2021, 103, 022706.	2.1	3
4	Long term sedimentation of an elliptic disc subject to an electrostatic field using smoothed particle hydrodynamics method. International Journal of Multiphase Flow, 2021, 135, 103524.	3.4	1
5	Particle rotation speeds up capillary interactions. European Physical Journal E, 2021, 44, 30.	1.6	2
6	A three-dimensional vertex model for Drosophila salivary gland invagination. Physical Biology, 2021, 18, 046005.	1.8	4
7	A mechanical test of the tenertaxis hypothesis for leukocyte diapedesis. European Physical Journal E, 2021, 44, 93.	1.6	0
8	Tear-film breakup: The role of membrane-associated mucin polymers. Physical Review E, 2021, 103, 013108.	2.1	7
9	Simulation of nanoparticle transport and adsorption in a microfluidic lung-on-a-chip device. Biomicrofluidics, 2020, 14, 044117.	2.4	18
10	A model of tear-film breakup with continuous mucin concentration and viscosity profiles â€“ CORRIGENDUM. Journal of Fluid Mechanics, 2020, 889, .	3.4	2
11	A biomechanical model for the transendothelial migration of cancer cells. Physical Biology, 2020, 17, 036004.	1.8	7
12	Drag force on a particle straddling a fluid interface: Influence of interfacial deformations. European Physical Journal E, 2020, 43, 13.	1.6	18
13	A Rho-GTPase based model explains group advantage in collective chemotaxis of neural crest cells. Physical Biology, 2020, 17, 036002.	1.8	9
14	Modeling of van der Waals force with smoothed particle hydrodynamics: Application to the rupture of thin liquid films. Applied Mathematical Modelling, 2020, 83, 719-735.	4.2	8
15	Boundary conditions at a gel-fluid interface. Physical Review Fluids, 2020, 5, .	2.5	10
16	Dielectrophoretic interaction of circular particles in a uniform electric field. European Journal of Mechanics, B/Fluids, 2019, 78, 194-202.	2.5	2
17	A fate-alternating transitional regime in contracting liquid filaments. Journal of Fluid Mechanics, 2019, 860, 640-653.	3.4	31
18	A model of tear-film breakup with continuous mucin concentration and viscosity profiles. Journal of Fluid Mechanics, 2019, 858, 352-376.	3.4	16

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19	Forced dewetting in a capillary tube. Journal of Fluid Mechanics, 2019, 859, 308-320.	3.4	12
20	A Rho-GTPase based model explains spontaneous collective migration of neural crest cell clusters. Developmental Biology, 2018, 444, S262-S273.	2.0	23
21	Interaction of a pair of ferrofluid drops inÂaÂrotating magnetic field. Journal of Fluid Mechanics, 2018, 846, 121-142.	3.4	20
22	Hydrodynamic Interactions Among Bubbles, Drops, and Particles in Non-Newtonian Liquids. Annual Review of Fluid Mechanics, 2018, 50, 505-534.	25.0	101
23	Dynamics of PAR Proteins Explain the Oscillation and Ratcheting Mechanisms in Dorsal Closure. Biophysical Journal, 2018, 115, 2230-2241.	0.5	13
24	Modeling cell intercalation during<i>Drosophila</i>germband extension. Physical Biology, 2018, 15, 066008.	1.8	11
25	Asymmetric drop coalescence launches fungal ballistospores with directionality. Journal of the Royal Society Interface, 2017, 14, 20170083.	3.4	34
26	Capillary-inertial colloidal catapults upon drop coalescence. Applied Physics Letters, 2016, 109, 011601.	3.3	18
27	Film deposition and transition on a partially wetting plate in dip coating â€“ CORRIGENDUM. Journal of Fluid Mechanics, 2016, 796, 789-789.	3.4	0
28	Film deposition and transition on a partially wetting plate in dip coating. Journal of Fluid Mechanics, 2016, 791, 358-383.	3.4	36
29	Interfacial dynamics in complex fluids. Journal of Fluid Science and Technology, 2016, 11, JFST0021-JFST0021.	0.6	3
30	The effect of normal electric field on the evolution of immiscible Rayleigh-Taylor instability. Theoretical and Computational Fluid Dynamics, 2016, 30, 469-483.	2.2	6
31	10.1063/1.4955085.1. , 2016, , .		1
32	Self-Propelled Droplet Removal from Hydrophobic Fiber-Based Coalescers. Physical Review Letters, 2015, 115, 074502.	7.8	73
33	Modeling the Mechanosensitivity of Neutrophils Passing through aÂNarrowÂChannel. Biophysical Journal, 2015, 109, 2235-2245.	0.5	11
34	Temporal evolution of microstructure and rheology of sheared two-dimensional foams. Journal of Non-Newtonian Fluid Mechanics, 2015, 223, 1-8.	2.4	1
35	The critical pressure for driving a red blood cell through a contracting microfluidic channel. Theoretical and Applied Mechanics Letters, 2015, 5, 227-230.	2.8	15
36	A Biomechanical Model for Fluidization of Cells under Dynamic Strain. Biophysical Journal, 2015, 108, 43-52.	0.5	18

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37	An incompressible smoothed particle hydrodynamics method for the motion of rigid bodies in fluids. Journal of Computational Physics, 2015, 297, 207-220.	3.8	46
38	Self-propelled sweeping removal of dropwise condensate. Applied Physics Letters, 2015, 106, .	3.3	95
39	A biomechanical model for cell polarization and intercalation during<i>Drosophila</i>germband extension. Physical Biology, 2015, 12, 056011.	1.8	29
40	Self-propelled jumping upon drop coalescence on Leidenfrost surfaces. Journal of Fluid Mechanics, 2014, 752, 22-38.	3.4	80
41	Numerical simulations of self-propelled jumping upon drop coalescence on non-wetting surfaces. Journal of Fluid Mechanics, 2014, 752, 39-65.	3.4	209
42	Bubble migration in two-dimensional foam sheared in a wide-gap Couette device: Effects of non-Newtonian rheology. Journal of Rheology, 2014, 58, 1809-1827.	2.6	4
43	Comment on Machado et al., â€œCytoskeletal turnover and myosin contractility drive cell autonomous oscillations in a model of Drosophila dorsal closureâ€. European Physical Journal: Special Topics, 2014, 223, 1437-1439.	2.6	3
44	Motion and coalescence of sessile drops driven by substrate wetting gradient and external flow. Journal of Fluid Mechanics, 2014, 746, 214-235.	3.4	28
45	Auto-ejection of liquid drops from capillary tubes. Journal of Fluid Mechanics, 2014, 752, 670-692.	3.4	11
46	Simulation of malaria-infected red blood cells in microfluidic channels: Passage and blockage. Biomicrofluidics, 2013, 7, 44115.	2.4	85
47	Occlusion of Micro-Capillaries by Malaria Infected Red Blood Cells. Biophysical Journal, 2013, 104, 150a.	0.5	0
48	Size Segregation in Sheared Two-Dimensional Polydisperse Foam. Langmuir, 2013, 29, 1370-1378.	3.5	10
49	A Cell-Level Mechanobiological Model of Drosophila Dorsal Closure. Biophysical Journal, 2013, 104, 477a.	0.5	0
50	Capillary breakup of a liquid torus. Journal of Fluid Mechanics, 2013, 717, 281-292.	3.4	41
51	Simulations of the breakup of liquid filaments on a partially wetting solid substrate. Physics of Fluids, 2013, 25, .	4.0	14
52	Bazooka inhibits aPKC to limit antagonism of actomyosin networks during amnioserosa apical constriction. Development (Cambridge), 2013, 140, 4719-4729.	2.5	41
53	Anomalous coalescence in sheared two-dimensional foam. Physical Review E, 2012, 85, 066301.	2.1	7
54	A Phase-Field-Based Hybrid Lattice-Boltzmann Finite-Volume Method and Its Application to Simulate Droplet Motion under Electrowetting Control. Journal of Adhesion Science and Technology, 2012, 26, 1825-1851.	2.6	23

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55	Relative permeability for two-phase flow through corrugated tubes as model porous media. International Journal of Multiphase Flow, 2012, 47, 85-93.	3.4	27
56	A Cell-Level Biomechanical Model of Drosophila Dorsal Closure. Biophysical Journal, 2012, 103, 2265-2274.	0.5	39
57	Size-Differentiated Lateral Migration of Bubbles in Couette Flow of Two-Dimensional Foam. Physical Review Letters, 2012, 109, 084502.	7.8	8
58	How Malaria Parasites Reduce the Deformability of Infected Red BloodÂCells. Biophysical Journal, 2012, 103, 1-10.	0.5	136
59	Phase-field simulations of dynamic wetting of viscoelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2012, 189-190, 8-13.	2.4	30
60	A Computational Model of Cell Polarization and Motility Coupling Mechanics and Biochemistry. Multiscale Modeling and Simulation, 2011, 9, 1420-1443.	1.6	59
61	Spreading and breakup of a compound drop on a partially wetting substrate. Journal of Fluid Mechanics, 2011, 682, 415-433.	3.4	45
62	A numerical investigation of the propulsion of water walkers. Journal of Fluid Mechanics, 2011, 668, 363-383.	3.4	45
63	Pressure boundary conditions for computing incompressible flows with SPH. Journal of Computational Physics, 2011, 230, 7473-7487.	3.8	87
64	Interfacial flows in corrugated microchannels: Flow regimes, transitions and hysteresis. International Journal of Multiphase Flow, 2011, 37, 1266-1276.	3.4	22
65	Can diffuse-interface models quantitatively describe moving contact lines?. European Physical Journal: Special Topics, 2011, 197, 37-46.	2.6	49
66	Discussion notes on â€œSlip velocity during the flow of a liquid over a solid surfaceâ€; by E. Ruckenstein. European Physical Journal: Special Topics, 2011, 197, 211-211.	2.6	0
67	Hydrodynamic interaction between a pair of bubbles ascending in shear-thinning inelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 118-132.	2.4	65
68	Wicking flow through microchannels. Physics of Fluids, 2011, 23, .	4.0	53
69	Wall energy relaxation in the Cahnâ€“Hilliard model for moving contact lines. Physics of Fluids, 2011, 23, .	4.0	94
70	Dynamic Simulation of Capillary Breakup of Nematic Fibers: Molecular Orientation and Interfacial Rupture. Journal of Computational and Theoretical Nanoscience, 2010, 7, 683-692.	0.4	3
71	3D phase-field simulations of interfacial dynamics in Newtonian and viscoelastic fluids. Journal of Computational Physics, 2010, 229, 498-511.	3.8	108
72	Selective withdrawal of polymer solutions: Computations. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 839-851.	2.4	13

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73	Selective withdrawal of polymer solutions: Experiments. Journal of Non-Newtonian Fluid Mechanics, 2010, 165, 829-838.	2.4	11
74	Sharp-interface limit of the Cahnâ€“Hilliard model for moving contact lines. Journal of Fluid Mechanics, 2010, 645, 279-294.	3.4	292
75	Enhanced slip on a patterned substrate due to depinning of contact line. Physics of Fluids, 2009, 21, .	4.0	66
76	A particle-based model for the transport of erythrocytes in capillaries. Chemical Engineering Science, 2009, 64, 4488-4497.	3.8	123
77	Flow patterns in the sedimentation of an elliptical particle. Journal of Fluid Mechanics, 2009, 625, 249-272.	3.4	137
78	Viscoelastic flow simulation of polytetrafluoroethylene (PTFE) paste extrusion. Journal of Non-Newtonian Fluid Mechanics, 2008, 153, 25-33.	2.4	16
79	Deformation of a compound drop through a contraction in a pressure-driven pipe flow. International Journal of Multiphase Flow, 2008, 34, 102-109.	3.4	59
80	A general criterion for viscoelastic secondary flow in pipes of noncircular cross section. Journal of Rheology, 2008, 52, 315-332.	2.6	52
81	Viscoelastic effects on drop deformation in a converging pipe flow. Journal of Rheology, 2008, 52, 469-487.	2.6	20
82	Elastic encapsulation in bicomponent stratified flow of viscoelastic fluids. Journal of Rheology, 2008, 52, 1027-1042.	2.6	24
83	Dynamic Simulation of Droplet Interaction and Self-Assembly in a Nematic Liquid Crystal. Langmuir, 2008, 24, 3099-3110.	3.5	38
84	Liquid crystal droplet production in a microfluidic device. Liquid Crystals, 2007, 34, 861-870.	2.2	56
85	Heart-shaped bubbles rising in anisotropic liquids. Physics of Fluids, 2007, 19, 041703.	4.0	11
86	A novel low inertia shear flow instability triggered by a chemical reaction. Physics of Fluids, 2007, 19, .	4.0	14
87	Dynamic Evolution of Topological Defects around Drops and Bubbles Rising in a Nematic Liquid Crystal. Physical Review Letters, 2007, 99, 237802.	7.8	48
88	The rise of Newtonian drops in a nematic liquid crystal. Journal of Fluid Mechanics, 2007, 593, 385-404.	3.4	43
89	Rheology and relaxation processes in a melting thermotropic liquidâ€“crystalline polymer. Journal of Applied Polymer Science, 2007, 104, 3780-3787.	2.6	15
90	Spontaneous shrinkage of drops and mass conservation in phase-field simulations. Journal of Computational Physics, 2007, 223, 1-9.	3.8	201

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91	An arbitrary Lagrangianâ€“Eulerian method for simulating bubble growth in polymer foaming. Journal of Computational Physics, 2007, 226, 2229-2249.	3.8	37
92	Simulation of Neutrophil Deformation and Transport in Capillaries using Newtonian and Viscoelastic Drop Models. Annals of Biomedical Engineering, 2007, 35, 766-780.	2.5	34
93	A computational study of the coalescence between a drop and an interface in Newtonian and viscoelastic fluids. Physics of Fluids, 2006, 18, 102102.	4.0	74
94	Mathematical Simulation of Muscle Cross-Bridge Cycle and Force-Velocity Relationship. Biophysical Journal, 2006, 91, 3653-3663.	0.5	28
95	Formation of simple and compound drops in microfluidic devices. Physics of Fluids, 2006, 18, 092105.	4.0	179
96	Plasticization effects on bubble growth during polymer foaming. Polymer Engineering and Science, 2006, 46, 97-107.	3.1	56
97	Constitutive modeling and flow simulation of polytetrafluoroethylene (PTFE) paste extrusion. Journal of Non-Newtonian Fluid Mechanics, 2006, 139, 44-53.	2.4	40
98	Numerical simulations of jet pinching-off and drop formation using an energetic variational phase-field method. Journal of Computational Physics, 2006, 218, 417-428.	3.8	194
99	Phase-field simulations of interfacial dynamics in viscoelastic fluids using finite elements with adaptive meshing. Journal of Computational Physics, 2006, 219, 47-67.	3.8	345
100	Dynamic interfacial tension between a thermotropic liquid-crystalline polymer and a flexible polymer. Journal of Applied Polymer Science, 2006, 101, 3114-3120.	2.6	0
101	An analytical flow model for PTFE paste through annular dies. AIChE Journal, 2006, 52, 4028-4038.	3.6	11
102	An experimental study of the coalescence between a drop and an interface in Newtonian and polymeric liquids. Physics of Fluids, 2006, 18, 092103.	4.0	33
103	Partial coalescence between a drop and a liquid-liquid interface. Physics of Fluids, 2006, 18, 051705.	4.0	75
104	Diffuse-interface simulations of drop coalescence and retraction in viscoelastic fluids. Journal of Non-Newtonian Fluid Mechanics, 2005, 129, 163-176.	2.4	118
105	Extensional viscosity of a thermotropic liquid crystalline polymer measured by thread disintegration method. Polymer Testing, 2005, 24, 513-518.	4.8	3
106	Interfacial forces and Marangoni flow on a nematic drop retracting in an isotropic fluid. Journal of Colloid and Interface Science, 2005, 290, 281-288.	9.4	31
107	Transient drop deformation upon startup of shear in viscoelastic fluids. Physics of Fluids, 2005, 17, 123101.	4.0	42
108	An Energetic Variational Formulation with Phase Field Methods for Interfacial Dynamics of Complex Fluids: Advantages and Challenges. The IMA Volumes in Mathematics and Its Applications, 2005, , 1-26.	0.5	37

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109	Viscoelastic effects on drop deformation in steady shear. Journal of Fluid Mechanics, 2005, 540, 427.	3.4	101
110	Zieglerâ€"Natta Catalysis. , 2005, , 3247-3259.		0
111	Dynamic interfacial properties between a flexible-chain polymer and a thermotropic liquid crystalline polymer investigated by an ellipsoidal drop retraction method. Journal of Applied Polymer Science, 2004, 94, 1404-1410.	2.6	9
112	Orientational defects near colloidal particles in a nematic liquid crystal. Journal of Colloid and Interface Science, 2004, 269, 72-78.	9.4	15
113	A diffuse-interface method for simulating two-phase flows of complex fluids. Journal of Fluid Mechanics, 2004, 515, 293-317.	3.4	792
114	Prediction of bubble growth and size distribution in polymer foaming based on a new heterogeneous nucleation model. Journal of Rheology, 2004, 48, 439-462.	2.6	107
115	Simulation of the sedimentation of melting solid particles. International Journal of Multiphase Flow, 2003, 29, 751-769.	3.4	49
116	Stretching of a straight electrically charged viscoelastic jet. Journal of Non-Newtonian Fluid Mechanics, 2003, 116, 55-70.	2.4	181
117	Direct numerical simulation of the sedimentation of solid particles with thermal convection. Journal of Fluid Mechanics, 2003, 481, 385-411.	3.4	119
118	Effects of elastic anisotropy on the flow and orientation of sheared nematic liquid crystals. Journal of Rheology, 2003, 47, 1051-1070.	2.6	9
119	ORIENTATION OF SYMMETRIC BODIES FALLING IN A SECOND-ORDER LIQUID AT NONZERO REYNOLDS NUMBER. Mathematical Models and Methods in Applied Sciences, 2002, 12, 1653-1690.	3.3	28
120	The shear flow behavior of LCPs based on a generalized Doi model with distortional elasticity. Journal of Non-Newtonian Fluid Mechanics, 2002, 102, 361-382.	2.4	49
121	The stretching of an electrified non-Newtonian jet: A model for electrospinning. Physics of Fluids, 2002, 14, 3912-3926.	4.0	306
122	Roll cells and disclinations in sheared nematic polymers. Journal of Fluid Mechanics, 2001, 449, 179-200.	3.4	26
123	Transient extension and relaxation of a dilute polymer solution in a four-roll mill. Journal of Non-Newtonian Fluid Mechanics, 2000, 90, 117-123.	2.4	10
124	A theory for flowing nematic polymers with orientational distortion. Journal of Rheology, 2000, 44, 1085-1101.	2.6	78
125	Pressure-driven channel flows of a model liquid-crystalline polymer. Physics of Fluids, 1999, 11, 2821-2835.	4.0	38
126	Closure approximations for the Doi theory: Which to use in simulating complex flows of liquid-crystalline polymers?. Journal of Rheology, 1998, 42, 1095-1119.	2.6	94

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127	Direct simulation of the motion of solid particles in Couette and Poiseuille flows of viscoelastic fluids. Journal of Fluid Mechanics, 1997, 343, 73-94.	3.4	118
128	Simulating complex flows of liquid-crystalline polymers using the Doi theory. Journal of Rheology, 1997, 41, 1317-1335.	2.6	40
129	Numerical simulations of the flow of dilute polymer solutions in a four-roll mill. Journal of Non-Newtonian Fluid Mechanics, 1997, 72, 187-218.	2.4	24
130	The motion of solid particles suspended in viscoelastic liquids under torsional shear. Journal of Fluid Mechanics, 1996, 324, 199-222.	3.4	33
131	The motion of a solid sphere suspended by a Newtonian or viscoelastic jet. Journal of Fluid Mechanics, 1996, 315, 367-385.	3.4	13
132	Dynamic simulation of sedimentation of solid particles in an Oldroyd-B fluid. Journal of Non-Newtonian Fluid Mechanics, 1996, 63, 63-88.	2.4	75
133	A note on the forces that move particles in a second-order fluid. Journal of Non-Newtonian Fluid Mechanics, 1996, 64, 299-302.	2.4	44
134	The negative wake in a second-order fluid. Journal of Non-Newtonian Fluid Mechanics, 1995, 57, 313-320.	2.4	11
135	Wall effects on the flow of viscoelastic fluids around a circular cylinder. Journal of Non-Newtonian Fluid Mechanics, 1995, 60, 179-198.	2.4	70
136	The unsteady motion of solid bodies in creeping flows. Journal of Fluid Mechanics, 1995, 303, 83-102.	3.4	81
137	Dynamic simulation of the motion of capsules in pipelines. Journal of Fluid Mechanics, 1995, 286, 201-227.	3.4	48
138	A three-dimensional computation of the force and torque on an ellipsoid settling slowly through a viscoelastic fluid. Journal of Fluid Mechanics, 1995, 283, 1-16.	3.4	39
139	Aggregation and dispersion of spheres falling in viscoelastic liquids. Journal of Non-Newtonian Fluid Mechanics, 1994, 54, 45-86.	2.4	135
140	Direct simulation of initial value problems for the motion of solid bodies in a Newtonian fluid. Part 2. Couette and Poiseuille flows. Journal of Fluid Mechanics, 1994, 277, 271-301.	3.4	347
141	The turning couples on an elliptic particle settling in a vertical channel. Journal of Fluid Mechanics, 1994, 271, 1-16.	3.4	58
142	Direct simulation of initial value problems for the motion of solid bodies in a Newtonian fluid Part 1. Sedimentation. Journal of Fluid Mechanics, 1994, 261, 95-134.	3.4	433
143	Rod climbing and normal stresses in heavy crude oils at low shears. Journal of Rheology, 1994, 38, 1251-1270.	2.6	14
144	Anomalous rolling of spheres down an inclined plane. Journal of Non-Newtonian Fluid Mechanics, 1993, 50, 305-329.	2.4	41