

James Feng

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142
papers

6,827
citations

43
h-index

79
g-index

151
ext. papers

7,586
ext. citations

3.4
avg. IF

6.14
L-index

#	Paper	IF	Citations
142	A diffuse-interface method for simulating two-phase flows of complex fluids. <i>Journal of Fluid Mechanics</i> , 2004 , 515, 293-317	3.7	629
141	Direct simulation of initial value problems for the motion of solid bodies in a Newtonian fluid Part 1. Sedimentation. <i>Journal of Fluid Mechanics</i> , 1994 , 261, 95-134	3.7	351
140	Direct simulation of initial value problems for the motion of solid bodies in a Newtonian fluid. Part 2. Couette and Poiseuille flows. <i>Journal of Fluid Mechanics</i> , 1994 , 277, 271-301	3.7	289
139	Phase-field simulations of interfacial dynamics in viscoelastic fluids using finite elements with adaptive meshing. <i>Journal of Computational Physics</i> , 2006 , 219, 47-67	4.1	271
138	The stretching of an electrified non-Newtonian jet: A model for electrospinning. <i>Physics of Fluids</i> , 2002 , 14, 3912-3926	4.4	271
137	Sharp-interface limit of the Cahn-Hilliard model for moving contact lines. <i>Journal of Fluid Mechanics</i> , 2010 , 645, 279-294	3.7	237
136	Numerical simulations of jet pinching-off and drop formation using an energetic variational phase-field method. <i>Journal of Computational Physics</i> , 2006 , 218, 417-428	4.1	163
135	Numerical simulations of self-propelled jumping upon drop coalescence on non-wetting surfaces. <i>Journal of Fluid Mechanics</i> , 2014 , 752, 39-65	3.7	162
134	Stretching of a straight electrically charged viscoelastic jet. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2003 , 116, 55-70	2.7	157
133	Spontaneous shrinkage of drops and mass conservation in phase-field simulations. <i>Journal of Computational Physics</i> , 2007 , 223, 1-9	4.1	153
132	Formation of simple and compound drops in microfluidic devices. <i>Physics of Fluids</i> , 2006 , 18, 092105	4.4	152
131	Aggregation and dispersion of spheres falling in viscoelastic liquids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1994 , 54, 45-86	2.7	119
130	Flow patterns in the sedimentation of an elliptical particle. <i>Journal of Fluid Mechanics</i> , 2009 , 625, 249-273	3.7	115
129	How malaria parasites reduce the deformability of infected red blood cells. <i>Biophysical Journal</i> , 2012 , 103, 1-10	2.9	112
128	A particle-based model for the transport of erythrocytes in capillaries. <i>Chemical Engineering Science</i> , 2009 , 64, 4488-4497	4.4	106
127	Diffuse-interface simulations of drop coalescence and retraction in viscoelastic fluids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2005 , 129, 163-176	2.7	101
126	Direct simulation of the motion of solid particles in Couette and Poiseuille flows of viscoelastic fluids. <i>Journal of Fluid Mechanics</i> , 1997 , 343, 73-94	3.7	100

125	Direct numerical simulation of the sedimentation of solid particles with thermal convection. <i>Journal of Fluid Mechanics</i> , 2003 , 481, 385-411	3.7	97
124	Prediction of bubble growth and size distribution in polymer foaming based on a new heterogeneous nucleation model. <i>Journal of Rheology</i> , 2004 , 48, 439-462	4.1	94
123	Viscoelastic effects on drop deformation in steady shear. <i>Journal of Fluid Mechanics</i> , 2005 , 540, 427	3.7	86
122	3D phase-field simulations of interfacial dynamics in Newtonian and viscoelastic fluids. <i>Journal of Computational Physics</i> , 2010 , 229, 498-511	4.1	85
121	Closure approximations for the Doi theory: Which to use in simulating complex flows of liquid-crystalline polymers?. <i>Journal of Rheology</i> , 1998 , 42, 1095-1119	4.1	82
120	Self-propelled sweeping removal of dropwise condensate. <i>Applied Physics Letters</i> , 2015 , 106, 221601	3.4	80
119	Wall energy relaxation in the Cahn-Hilliard model for moving contact lines. <i>Physics of Fluids</i> , 2011 , 23, 012106	4.4	75
118	Pressure boundary conditions for computing incompressible flows with SPH. <i>Journal of Computational Physics</i> , 2011 , 230, 7473-7487	4.1	72
117	Simulation of malaria-infected red blood cells in microfluidic channels: Passage and blockage. <i>Biomicrofluidics</i> , 2013 , 7, 44115	3.2	70
116	Dynamic simulation of sedimentation of solid particles in an Oldroyd-B fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1996 , 63, 63-88	2.7	70
115	A theory for flowing nematic polymers with orientational distortion. <i>Journal of Rheology</i> , 2000 , 44, 1085-1101	4.1	69
114	Self-propelled jumping upon drop coalescence on Leidenfrost surfaces. <i>Journal of Fluid Mechanics</i> , 2014 , 752, 22-38	3.7	68
113	The unsteady motion of solid bodies in creeping flows. <i>Journal of Fluid Mechanics</i> , 1995 , 303, 83-102	3.7	68
112	Hydrodynamic Interactions Among Bubbles, Drops, and Particles in Non-Newtonian Liquids. <i>Annual Review of Fluid Mechanics</i> , 2018 , 50, 505-534	2.2	63
111	A computational study of the coalescence between a drop and an interface in Newtonian and viscoelastic fluids. <i>Physics of Fluids</i> , 2006 , 18, 102102	4.4	63
110	Wall effects on the flow of viscoelastic fluids around a circular cylinder. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1995 , 60, 179-198	2.7	62
109	Self-Propelled Droplet Removal from Hydrophobic Fiber-Based Coalescers. <i>Physical Review Letters</i> , 2015 , 115, 074502	7.4	59
108	Enhanced slip on a patterned substrate due to depinning of contact line. <i>Physics of Fluids</i> , 2009 , 21, 102102	4.2	54

107	The turning couples on an elliptic particle settling in a vertical channel. <i>Journal of Fluid Mechanics</i> , 1994 , 271, 1-16	3.7	54
106	Partial coalescence between a drop and a liquid-liquid interface. <i>Physics of Fluids</i> , 2006 , 18, 051705	4.4	53
105	A computational model of cell polarization and motility coupling mechanics and biochemistry. <i>Multiscale Modeling and Simulation</i> , 2011 , 9, 1420-1443	1.8	50
104	Deformation of a compound drop through a contraction in a pressure-driven pipe flow. <i>International Journal of Multiphase Flow</i> , 2008 , 34, 102-109	3.6	49
103	Plasticization effects on bubble growth during polymer foaming. <i>Polymer Engineering and Science</i> , 2006 , 46, 97-107	2.3	49
102	Hydrodynamic interaction between a pair of bubbles ascending in shear-thinning inelastic fluids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2011 , 166, 118-132	2.7	48
101	Liquid crystal droplet production in a microfluidic device. <i>Liquid Crystals</i> , 2007 , 34, 861-870	2.3	45
100	The shear flow behavior of LCPs based on a generalized Doi model with distortional elasticity. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2002 , 102, 361-382	2.7	44
99	Spreading and breakup of a compound drop on a partially wetting substrate. <i>Journal of Fluid Mechanics</i> , 2011 , 682, 415-433	3.7	43
98	A general criterion for viscoelastic secondary flow in pipes of noncircular cross section. <i>Journal of Rheology</i> , 2008 , 52, 315-332	4.1	43
97	An incompressible smoothed particle hydrodynamics method for the motion of rigid bodies in fluids. <i>Journal of Computational Physics</i> , 2015 , 297, 207-220	4.1	42
96	Wicking flow through microchannels. <i>Physics of Fluids</i> , 2011 , 23, 122108	4.4	42
95	Can diffuse-interface models quantitatively describe moving contact lines?. <i>European Physical Journal: Special Topics</i> , 2011 , 197, 37-46	2.3	41
94	Dynamic simulation of the motion of capsules in pipelines. <i>Journal of Fluid Mechanics</i> , 1995 , 286, 201-227	3.7	41
93	Simulating complex flows of liquid-crystalline polymers using the Doi theory. <i>Journal of Rheology</i> , 1997 , 41, 1317-1335	4.1	40
92	Dynamic evolution of topological defects around drops and bubbles rising in a nematic liquid crystal. <i>Physical Review Letters</i> , 2007 , 99, 237802	7.4	40
91	A note on the forces that move particles in a second-order fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1996 , 64, 299-302	2.7	40
90	The rise of Newtonian drops in a nematic liquid crystal. <i>Journal of Fluid Mechanics</i> , 2007 , 593, 385-404	3.7	39

89	Simulation of the sedimentation of melting solid particles. <i>International Journal of Multiphase Flow</i> , 2003 , 29, 751-769	3.6	39
88	Transient drop deformation upon startup of shear in viscoelastic fluids. <i>Physics of Fluids</i> , 2005 , 17, 12310-14	4.4	38
87	An arbitrary Lagrangian-Eulerian method for simulating bubble growth in polymer foaming. <i>Journal of Computational Physics</i> , 2007 , 226, 2229-2249	4.1	36
86	Bazooka inhibits aPKC to limit antagonism of actomyosin networks during amnioserosa apical constriction. <i>Development (Cambridge)</i> , 2013 , 140, 4719-29	6.6	35
85	A numerical investigation of the propulsion of water walkers. <i>Journal of Fluid Mechanics</i> , 2011 , 668, 363-383	3.7	35
84	Pressure-driven channel flows of a model liquid-crystalline polymer. <i>Physics of Fluids</i> , 1999 , 11, 2821-2834	4.4	35
83	Dynamic simulation of droplet interaction and self-assembly in a nematic liquid crystal. <i>Langmuir</i> , 2008 , 24, 3099-110	4	34
82	Constitutive modeling and flow simulation of polytetrafluoroethylene (PTFE) paste extrusion. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006 , 139, 44-53	2.7	34
81	Anomalous rolling of spheres down an inclined plane. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1993 , 50, 305-329	2.7	33
80	Capillary breakup of a liquid torus. <i>Journal of Fluid Mechanics</i> , 2013 , 717, 281-292	3.7	31
79	A cell-level biomechanical model of Drosophila dorsal closure. <i>Biophysical Journal</i> , 2012 , 103, 2265-74	2.9	30
78	A three-dimensional computation of the force and torque on an ellipsoid settling slowly through a viscoelastic fluid. <i>Journal of Fluid Mechanics</i> , 1995 , 283, 1-16	3.7	30
77	The motion of solid particles suspended in viscoelastic liquids under torsional shear. <i>Journal of Fluid Mechanics</i> , 1996 , 324, 199-222	3.7	30
76	An experimental study of the coalescence between a drop and an interface in Newtonian and polymeric liquids. <i>Physics of Fluids</i> , 2006 , 18, 092103	4.4	29
75	An Energetic Variational Formulation with Phase Field Methods for Interfacial Dynamics of Complex Fluids: Advantages and Challenges. <i>The IMA Volumes in Mathematics and Its Applications</i> , 2005 , 1-26	0.5	27
74	Simulation of neutrophil deformation and transport in capillaries using newtonian and viscoelastic drop models. <i>Annals of Biomedical Engineering</i> , 2007 , 35, 766-80	4.7	26
73	Interfacial forces and Marangoni flow on a nematic drop retracting in an isotropic fluid. <i>Journal of Colloid and Interface Science</i> , 2005 , 290, 281-8	9.3	26
72	Film deposition and transition on a partially wetting plate in dip coating. <i>Journal of Fluid Mechanics</i> , 2016 , 791, 358-383	3.7	26

71	Mathematical simulation of muscle cross-bridge cycle and force-velocity relationship. <i>Biophysical Journal</i> , 2006 , 91, 3653-63	2.9	25
70	Motion and coalescence of sessile drops driven by substrate wetting gradient and external flow. <i>Journal of Fluid Mechanics</i> , 2014 , 746, 214-235	3.7	23
69	Relative permeability for two-phase flow through corrugated tubes as model porous media. <i>International Journal of Multiphase Flow</i> , 2012 , 47, 85-93	3.6	23
68	Phase-field simulations of dynamic wetting of viscoelastic fluids. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2012 , 189-190, 8-13	2.7	23
67	ORIENTATION OF SYMMETRIC BODIES FALLING IN A SECOND-ORDER LIQUID AT NONZERO REYNOLDS NUMBER. <i>Mathematical Models and Methods in Applied Sciences</i> , 2002 , 12, 1653-1690	3.5	23
66	Roll cells and disclinations in sheared nematic polymers. <i>Journal of Fluid Mechanics</i> , 2001 , 449, 179-200	3.7	23
65	Asymmetric drop coalescence launches fungal ballistospores with directionality. <i>Journal of the Royal Society Interface</i> , 2017 , 14,	4.1	22
64	Interfacial flows in corrugated microchannels: Flow regimes, transitions and hysteresis. <i>International Journal of Multiphase Flow</i> , 2011 , 37, 1266-1276	3.6	21
63	Numerical simulations of the flow of dilute polymer solutions in a four-roll mill. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1997 , 72, 187-218	2.7	21
62	A biomechanical model for cell polarization and intercalation during <i>Drosophila</i> germband extension. <i>Physical Biology</i> , 2015 , 12, 056011	3	20
61	A Phase-Field-Based Hybrid Lattice-Boltzmann Finite-Volume Method and Its Application to Simulate Droplet Motion under Electrowetting Control. <i>Journal of Adhesion Science and Technology</i> , 2012 , 26, 1825-1851	2	19
60	Elastic encapsulation in bicomponent stratified flow of viscoelastic fluids. <i>Journal of Rheology</i> , 2008 , 52, 1027-1042	4.1	19
59	A fate-alternating transitional regime in contracting liquid filaments. <i>Journal of Fluid Mechanics</i> , 2019 , 860, 640-653	3.7	18
58	Interaction of a pair of ferrofluid drops in a rotating magnetic field. <i>Journal of Fluid Mechanics</i> , 2018 , 846, 121-142	3.7	16
57	Viscoelastic effects on drop deformation in a converging pipe flow. <i>Journal of Rheology</i> , 2008 , 52, 469-487	4.1	15
56	A Rho-GTPase based model explains spontaneous collective migration of neural crest cell clusters. <i>Developmental Biology</i> , 2018 , 444 Suppl 1, S262-S273	3.1	14
55	A biomechanical model for fluidization of cells under dynamic strain. <i>Biophysical Journal</i> , 2015 , 108, 43-52	2.9	13
54	Viscoelastic flow simulation of polytetrafluoroethylene (PTFE) paste extrusion. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2008 , 153, 25-33	2.7	13

53	Oriental defects near colloidal particles in a nematic liquid crystal. <i>Journal of Colloid and Interface Science</i> , 2004 , 269, 72-8	9.3	13
52	Rheology and relaxation processes in a melting thermotropic liquid crystalline polymer. <i>Journal of Applied Polymer Science</i> , 2007 , 104, 3780-3787	2.9	12
51	Capillary-inertial colloidal catapults upon drop coalescence. <i>Applied Physics Letters</i> , 2016 , 109, 011601	3.4	12
50	Simulations of the breakup of liquid filaments on a partially wetting solid substrate. <i>Physics of Fluids</i> , 2013 , 25, 072102	4.4	11
49	Selective withdrawal of polymer solutions: Computations. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010 , 165, 839-851	2.7	11
48	An analytical flow model for PTFE paste through annular dies. <i>AIChE Journal</i> , 2006 , 52, 4028-4038	3.6	11
47	A novel low inertia shear flow instability triggered by a chemical reaction. <i>Physics of Fluids</i> , 2007 , 19, 083102	4.4	11
46	Rod climbing and normal stresses in heavy crude oils at low shears. <i>Journal of Rheology</i> , 1994 , 38, 1251-1270	4.7	11
45	A model of tear-film breakup with continuous mucin concentration and viscosity profiles. <i>Journal of Fluid Mechanics</i> , 2019 , 858, 352-376	3.7	11
44	Transient extension and relaxation of a dilute polymer solution in a four-roll mill. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2000 , 90, 117-123	2.7	10
43	Drag force on a particle straddling a fluid interface: Influence of interfacial deformations. <i>European Physical Journal E</i> , 2020 , 43, 13	1.5	9
42	Auto-ejection of liquid drops from capillary tubes. <i>Journal of Fluid Mechanics</i> , 2014 , 752, 670-692	3.7	9
41	Size segregation in sheared two-dimensional polydisperse foam. <i>Langmuir</i> , 2013 , 29, 1370-8	4	9
40	Modeling the Mechanosensitivity of Neutrophils Passing through a Narrow Channel. <i>Biophysical Journal</i> , 2015 , 109, 2235-45	2.9	9
39	Heart-shaped bubbles rising in anisotropic liquids. <i>Physics of Fluids</i> , 2007 , 19, 041703	4.4	9
38	The motion of a solid sphere suspended by a Newtonian or viscoelastic jet. <i>Journal of Fluid Mechanics</i> , 1996 , 315, 367-385	3.7	9
37	The negative wake in a second-order fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1995 , 57, 313-320	2.7	9
36	Selective withdrawal of polymer solutions: Experiments. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010 , 165, 829-838	2.7	8

35	Dynamic interfacial properties between a flexible-chain polymer and a thermotropic liquid crystalline polymer investigated by an ellipsoidal drop retraction method. <i>Journal of Applied Polymer Science</i> , 2004 , 94, 1404-1410	2.9	8
34	Effects of elastic anisotropy on the flow and orientation of sheared nematic liquid crystals. <i>Journal of Rheology</i> , 2003 , 47, 1051-1070	4.1	8
33	Dynamics of PAR Proteins Explain the Oscillation and Ratcheting Mechanisms in Dorsal Closure. <i>Biophysical Journal</i> , 2018 , 115, 2230-2241	2.9	8
32	Modeling cell intercalation during <i>Drosophila</i> germband extension. <i>Physical Biology</i> , 2018 , 15, 066008	3	7
31	The critical pressure for driving a red blood cell through a contracting microfluidic channel. <i>Theoretical and Applied Mechanics Letters</i> , 2015 , 5, 227-230	1.8	7
30	Size-differentiated lateral migration of bubbles in Couette flow of two-dimensional foam. <i>Physical Review Letters</i> , 2012 , 109, 084502	7.4	7
29	Anomalous coalescence in sheared two-dimensional foam. <i>Physical Review E</i> , 2012 , 85, 066301	2.4	7
28	The nucleation and growth of gas bubbles in a Newtonian fluid: an energetic variational phase field approach. <i>Contemporary Mathematics</i> , 2008 , 95-120	1.6	6
27	Simulation of nanoparticle transport and adsorption in a microfluidic lung-on-a-chip device. <i>Biomicrofluidics</i> , 2020 , 14, 044117	3.2	6
26	Forced dewetting in a capillary tube. <i>Journal of Fluid Mechanics</i> , 2019 , 859, 308-320	3.7	6
25	A biomechanical model for the transendothelial migration of cancer cells. <i>Physical Biology</i> , 2020 , 17, 036004	3	4
24	The effect of normal electric field on the evolution of immiscible Rayleigh-Taylor instability. <i>Theoretical and Computational Fluid Dynamics</i> , 2016 , 30, 469-483	2.3	4
23	Boundary conditions at a gel-fluid interface. <i>Physical Review Fluids</i> , 2020 , 5,	2.8	4
22	Interfacial dynamics in complex fluids. <i>Journal of Fluid Science and Technology</i> , 2016 , 11, JFST0021-JFST0021	2.1	3
21	Extensional viscosity of a thermotropic liquid crystalline polymer measured by thread disintegration method. <i>Polymer Testing</i> , 2005 , 24, 513-518	4.5	3
20	A model of tear-film breakup with continuous mucin concentration and viscosity profiles □ CORRIGENDUM. <i>Journal of Fluid Mechanics</i> , 2020 , 889,	3.7	2
19	A Rho-GTPase based model explains group advantage in collective chemotaxis of neural crest cells. <i>Physical Biology</i> , 2020 , 17, 036002	3	2
18	Modeling of van der Waals force with smoothed particle hydrodynamics: Application to the rupture of thin liquid films. <i>Applied Mathematical Modelling</i> , 2020 , 83, 719-735	4.5	2

17	Dielectrophoretic interaction of circular particles in a uniform electric field. <i>European Journal of Mechanics, B/Fluids</i> , 2019 , 78, 194-202	2.4	2
16	Bubble migration in two-dimensional foam sheared in a wide-gap Couette device: Effects of non-Newtonian rheology. <i>Journal of Rheology</i> , 2014 , 58, 1809-1827	4.1	2
15	Dynamic Simulation of Capillary Breakup of Nematic Fibers: Molecular Orientation and Interfacial Rupture. <i>Journal of Computational and Theoretical Nanoscience</i> , 2010 , 7, 683-692	0.3	2
14	An arbitrary Lagrangian-Eulerian method for simulating interfacial dynamics between a hydrogel and a fluid. <i>Journal of Computational Physics</i> , 2021 , 110851	4.1	2
13	Phase-field model for elastocapillary flows of liquid crystals. <i>Physical Review E</i> , 2021 , 103, 022706	2.4	2
12	Comment on Machado et al., Cytoskeletal turnover and myosin contractility drive cell autonomous oscillations in a model of <i>Drosophila</i> dorsal closure. <i>European Physical Journal: Special Topics</i> , 2014 , 223, 1437-1439	2.3	1
11	Temporal evolution of microstructure and rheology of sheared two-dimensional foams. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2015 , 223, 1-8	2.7	1
10	Tear-film breakup: The role of membrane-associated mucin polymers. <i>Physical Review E</i> , 2021 , 103, 013108	2.4	1
9	Long term sedimentation of an elliptic disc subject to an electrostatic field using smoothed particle hydrodynamics method. <i>International Journal of Multiphase Flow</i> , 2021 , 135, 103524	3.6	0
8	Particle rotation speeds up capillary interactions. <i>European Physical Journal E</i> , 2021 , 44, 30	1.5	0
7	Sensitivity Analysis of Adhesion in Computational Model of Elastic Doublet. <i>Lecture Notes in Computer Science</i> , 2022 , 220-233	0.9	0
6	Discussion notes on Slip velocity during the flow of a liquid over a solid surface by E. Ruckenstein. <i>European Physical Journal: Special Topics</i> , 2011 , 197, 211-211	2.3	0
5	Dynamic interfacial tension between a thermotropic liquid-crystalline polymer and a flexible polymer. <i>Journal of Applied Polymer Science</i> , 2006 , 101, 3114-3120	2.9	0
4	Ziegler-Natta Catalysis 2005 , 3247-3259		0
3	Film deposition and transition on a partially wetting plate in dip coating [CORRIGENDUM]. <i>Journal of Fluid Mechanics</i> , 2016 , 796, 789-789	3.7	0
2	A mechanical test of the tenertaxis hypothesis for leukocyte diapedesis. <i>European Physical Journal E</i> , 2021 , 44, 93	1.5	0
1	Particle trapped at the isotropic-nematic liquid crystal interface: Elastocapillary phenomena and drag forces.. <i>Physical Review E</i> , 2022 , 105, 044607	2.4	0