Eric S G Shaqfeh

List of Publications by Year in descending order

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57758 69250 6,686 137 44 77 citations h-index g-index papers 140 140 140 3582 docs citations times ranked citing authors all docs

#	Article	IF	Citations
1	A theory for the coexistence of coiled and stretched configurational phases in the extensional flow of entangled polymer melts. Journal of Chemical Physics, 2021, 154, 204907.	3.0	2
2	Self-propulsion of a freely suspended swimmer by a swirling tail in a viscoelastic fluid. Physical Review Fluids, 2021, 6, .	2.5	22
3	Transient and steady shear rheology of particle-laden viscoelastic suspensions. Journal of Rheology, 2021, 65, 1269-1295.	2.6	10
4	Swimming with swirl in a viscoelastic fluid. Journal of Fluid Mechanics, 2020, 900, .	3.4	23
5	A system for the high-throughput measurement of the shear modulus distribution of human red blood cells. Lab on A Chip, 2020, 20, 2927-2936.	6.0	19
6	Oscillatory spontaneous dimpling in evaporating curved thin films. Journal of Fluid Mechanics, 2020, 889, .	3.4	7
7	Lift and drag force on a spherical particle in a viscoelastic shear flow. Journal of Non-Newtonian Fluid Mechanics, 2020, 280, 104279.	2.4	24
8	Extravasation of PEGylated Spherical Nanoparticles through a Circular Pore of Similar Size. Macromolecules, 2020, 53, 2991-3006.	4.8	1
9	Collective effects in the sedimentation of particles in a viscoelastic fluid. Physical Review Fluids, 2020, 5, .	2.5	8
10	Three-dimensional simulations of undulatory and amoeboid swimmers in viscoelastic fluids. Soft Matter, 2019, 15, 4836-4855.	2.7	13
11	InÂVitro Measurement and Modeling of Platelet Adhesion on VWF-Coated Surfaces in Channel Flow. Biophysical Journal, 2019, 116, 1136-1151.	0.5	16
12	On the rheology of particle suspensions in viscoelastic fluids. AICHE Journal, 2019, 65, e16575.	3 . 6	33
13	Pressure-driven flow of a vesicle through a square microchannel. Journal of Fluid Mechanics, 2019, 861, 447-483.	3.4	9
14	Evaporation-driven solutocapillary flow of thin liquid films over curved substrates. Physical Review Fluids, 2019, 4, .	2.5	13
15	Drag coefficient for a sedimenting and rotating sphere in a viscoelastic fluid. Physical Review Fluids, 2019, 4, .	2.5	17
16	Extensional rheology of a dilute particle-laden viscoelastic solution. Physical Review Fluids, 2019, 4, .	2.5	8
17	Taylor dispersion in the presence of cross flow and interfacial mass transfer. Physical Review Fluids, 2019, 4, .	2.5	8
18	Simulation of microparticle inhalation in rhesus monkey airways. Physical Review Fluids, 2019, 4, .	2.5	2

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19	Suspension flow through an asymmetric T-junction. Journal of Fluid Mechanics, 2018, 844, 247-273.	3.4	9
20	Effect of Length on the Dynamics of Wall Tethered Polymers in Shear Flow. Macromolecules, 2018, 51, 254-265.	4.8	4
21	The steady motion of a closely fitting vesicle in a tube. Journal of Fluid Mechanics, 2018, 835, 721-761.	3.4	15
22	Immersed-finite-element method for deformable particle suspensions in viscous and viscoelastic media. Physical Review E, $2018, 98, .$	2.1	31
23	Mechanism of shear thickening in suspensions of rigid spheres in Boger fluids. Part I: Dilute suspensions. Journal of Rheology, 2018, 62, 1363-1377.	2.6	30
24	Mechanism of shear thickening in suspensions of rigid spheres in Boger fluids. Part II: Suspensions at finite concentration. Journal of Rheology, 2018, 62, 1379-1396.	2.6	33
25	Extravasation of Brownian Spheroidal Nanoparticles through Vascular Pores. Biophysical Journal, 2018, 115, 1103-1115.	0.5	19
26	Stokes flow of vesicles in a circular tube. Journal of Fluid Mechanics, 2018, 851, 606-635.	3.4	11
27	Einstein viscosity with fluid elasticity. Physical Review Fluids, 2018, 3, .	2,5	40
28	Fully resolved viscoelastic particulate simulations using unstructured grids. Journal of Computational Physics, 2017, 338, 313-338.	3.8	38
29	Heat/mass transport in shear flow over a reactive surface with inert defects. Journal of Fluid Mechanics, 2017, 811, 372-399.	3.4	4
30	Study of the flow unsteadiness in the human airway using large eddy simulation. Physical Review Fluids, $2017, 2, \ldots$	2.5	18
31	Theory to predict particle migration and margination in the pressure-driven channel flow of blood. Physical Review Fluids, 2017, 2, .	2.5	51
32	Growth of viscoelastic wings and the reduction of particle mobility in a viscoelastic shear flow. Physical Review Fluids, 2017 , 2 , .	2.5	8
33	The Effect of Hematocrit on Platelet Adhesion: Experiments and Simulations. Biophysical Journal, 2016, 111, 577-588.	0.5	59
34	Experimental observation of the asymmetric instability of intermediate-reduced-volume vesicles in extensional flow. Soft Matter, 2016, 12, 3787-3796.	2.7	32
35	Numerical simulation of the deterministic vector separation of particles flowing over slanted open cavities. Physical Review Fluids, $2016,1,.$	2.5	0
36	Pearling, wrinkling, and buckling of vesicles in elongational flows. Journal of Fluid Mechanics, 2015, 777, 1-26.	3.4	41

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37	Heat/mass transport in shear flow over a heterogeneous surface with first-order surface-reactive domains. Journal of Fluid Mechanics, 2015, 782, 260-299.	3.4	12
38	InÂVitro Measurement of Particle Margination in the Microchannel Flow: Effect of Varying Hematocrit. Biophysical Journal, 2015, 108, 2601-2608.	0.5	50
39	Examining platelet adhesion via Stokes flow simulations and microfluidic experiments. Soft Matter, 2015, 11, 355-367.	2.7	15
40	Singular perturbation theory for predicting extravasation of Brownian particles. Journal of Engineering Mathematics, 2014, 84, 155-171.	1.2	3
41	Loop subdivision surface boundary integral method simulations of vesicles at low reduced volume ratio in shear and extensional flow. Physics of Fluids, 2014, 26, .	4.0	23
42	The mechanism of shape instability for a vesicle in extensional flow. Journal of Fluid Mechanics, 2014, 750, 144-190.	3.4	28
43	Nonlinear instability of a supersonic boundary layer with two-dimensional roughness. Journal of Fluid Mechanics, 2014, 752, 497-520.	3.4	12
44	Coarse-grained theory to predict the concentration distribution of red blood cells in wall-bounded Couette flow at zero Reynolds number. Physics of Fluids, 2013, 25, 061901.	4.0	33
45	The effect of shear thinning and walls on the sedimentation of a sphere in an elastic fluid under orthogonal shear. Journal of Non-Newtonian Fluid Mechanics, 2013, 201, 120-129.	2.4	24
46	Simulations of a sphere sedimenting in a viscoelastic fluid with cross shear flow. Journal of Non-Newtonian Fluid Mechanics, 2013, 197, 48-60.	2.4	44
47	The dynamics of a non-dilute vesicle suspension in a simple shear flow. Journal of Fluid Mechanics, 2013, 725, 709-731.	3.4	47
48	The shape stability of a lipid vesicle in a uniaxial extensional flow. Journal of Fluid Mechanics, 2013, 719, 345-361.	3.4	34
49	A Conversation with Andreas Acrivos. Annual Review of Chemical and Biomolecular Engineering, 2013, 4, 1-21.	6.8	4
50	Buckling transitions of an elastic filament in a viscous stagnation point flow. Physics of Fluids, 2012, 24, .	4.0	40
51	Effects of viscoelasticity in the high Reynolds number cylinder wake. Journal of Fluid Mechanics, 2012, 693, 297-318.	3.4	23
52	Flow of power-law fluids in fixed beds of cylinders or spheres. Journal of Fluid Mechanics, 2012, 713, 491-527.	3.4	8
53	Shear-induced particle migration and margination in a cellular suspension. Physics of Fluids, 2012, 24, .	4.0	156
54	Shear-induced platelet margination in a microchannel. Physical Review E, 2011, 83, 061924.	2.1	115

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55	The Shear Flow Processing of Controlled DNA Tethering and Stretching for Organic Molecular Electronics. ACS Nano, 2011, 5, 275-282.	14.6	10
56	The dynamics of a vesicle in a wall-bound shear flow. Physics of Fluids, 2011, 23, .	4.0	51
57	Numerical Simulation of Polymer Injection in Turbulent Flow Past a Circular Cylinder. Journal of Fluids Engineering, Transactions of the ASME, 2011, 133, .	1.5	2
58	The dynamics of a vesicle in simple shear flow. Journal of Fluid Mechanics, 2011, 674, 578-604.	3.4	104
59	Floquet stability analysis of viscoelastic flow over a cylinder. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 554-565.	2.4	21
60	A computational study of the influence of viscoelasticity on the interfacial dynamics of dip coating flow. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 614-627.	2.4	16
61	Disturbance evolution in a Mach 4.8 boundary layer with two-dimensional roughness-induced separation and shock. Journal of Fluid Mechanics, 2010, 648, 435-469.	3.4	60
62	Simulations of three-dimensional viscoelastic flows past a circular cylinder at moderate Reynolds numbers. Journal of Fluid Mechanics, 2010, 651, 415-442.	3.4	80
63	Lateral drift and concentration instability in a suspension of bubbles induced by Marangoni stresses at zero Reynolds number. Physics of Fluids, 2010, 22, 101702.	4.0	10
64	Effect of Solvent Quality on the Coilâ-'Stretch Transition. Macromolecules, 2010, 43, 10679-10691.	4.8	35
65	The conformational dynamics of λ-DNA in the anti-Brownian electrokinetic trap: Brownian dynamics and Monte Carlo simulation. Journal of Chemical Physics, 2009, 131, 224905.	3.0	3
66	Experimental and Numerical Studies of Tethered DNA Shear Dynamics in the Flow-Gradient Plane. Macromolecules, 2009, 42, 9170-9182.	4.8	23
67	Slip-Link Simulations of Entangled, Finitely Extensible, Wormlike Chains in Shear Flow. Macromolecules, 2009, 42, 7168-7183.	4.8	16
68	The effect of Brownian motion on the stability of sedimenting suspensions of polarizable rods in an electric field. Journal of Fluid Mechanics, 2009, 624, 361-388.	3.4	12
69	Brownian demixing and wall effects in sedimenting suspensions of orientable particles. Physical Review E, 2008, 78, 055301.	2.1	2
70	Ergodicity-breaking and the unraveling dynamics of a polymer in linear and nonlinear extensional flows. Journal of Rheology, 2007, 51, 561-574.	2.6	11
71	The dynamics of the coil-stretch transition for long, flexible polymers in planar mixed flows. Journal of Rheology, 2007, 51, 947-969.	2.6	14
72	Dynamics of DNA Polymers in Post Arrays:Â Comparison of Single Molecule Experiments and Simulations. Macromolecules, 2007, 40, 3848-3859.	4.8	33

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73	The Individualistic Dynamics of Entangled DNA in Solution. Macromolecules, 2007, 40, 2461-2476.	4.8	99
74	Direct numerical simulation of polymer-induced drag reduction in turbulent boundary layer flow of inhomogeneous polymer solutions. Journal of Fluid Mechanics, 2006, 566, 153.	3.4	54
75	Hydrodynamic interactions in the induced-charge electrophoresis of colloidal rod dispersions. Journal of Fluid Mechanics, 2006, 563, 223.	3.4	106
76	Effect of flexibility on the shear-induced migration of short-chain polymers in parabolic channel flow. Journal of Fluid Mechanics, 2006, 557, 297.	3.4	49
77	The growth of concentration fluctuations in dilute dispersions of orientable and deformable particles under sedimentation. Journal of Fluid Mechanics, 2006, 553, 347.	3.4	44
78	International Workshop on Mesoscale and Multiscale Description of Complex Fluids – IWMMCOF '06. Applied Rheology, 2006, 16, 340-341.	5.2	0
79	The effect of stratification on the wave number selection in the instability of sedimenting spheroids. Physics of Fluids, 2006, 18, 121503.	4.0	18
80	Stabilization of a suspension of sedimenting rods by induced-charge electrophoresis. Physics of Fluids, 2006, 18, 121701.	4.0	26
81	A smooth particle-mesh Ewald algorithm for Stokes suspension simulations: The sedimentation of fibers. Physics of Fluids, 2005, 17 , 033301.	4.0	138
82	An experimental and numerical investigation of drag reduction in a turbulent boundary layer using a rigid rodlike polymer. Physics of Fluids, 2005, 17, 085101.	4.0	41
83	The dynamic mechanism for turbulent drag reduction using rigid fibers based on Lagrangian conditional statistics. Physics of Fluids, 2005, 17, 063102.	4.0	30
84	Viscoelastic effects on interfacial dynamics in air–liquid displacement under gravity stabilization. Journal of Fluid Mechanics, 2005, 531, 59-83.	3 . 4	8
85	Dynamics of DNA in the Flow-Gradient Plane of Steady Shear Flow:Â Observations and Simulations. Macromolecules, 2005, 38, 1967-1978.	4.8	126
86	Shear Thinning and Tumbling Dynamics of Single Polymers in the Flow-Gradient Plane. Macromolecules, 2005, 38, 581-592.	4.8	154
87	Effect of Hydrodynamic Interactions on DNA Dynamics in Extensional Flow:Â Simulation and Single Molecule Experiment. Macromolecules, 2004, 37, 9242-9256.	4.8	155
88	Numerical simulation of turbulent drag reduction using rigid fibres. Journal of Fluid Mechanics, 2004, 518, 281-317.	3.4	85
89	On the coherent drag-reducing and turbulence-enhancing behaviour of polymers in wall flows. Journal of Fluid Mechanics, 2004, 514, 271-280.	3.4	224
90	On the polymer entropic force singularity and its relation to extensional stress relaxation and filament recoil. Journal of Rheology, 2004, 48, 209-221.	2.6	19

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91	Shear Forces between Tethered Polymer Chains as a Function of Compression, Sliding Velocity, and Solvent Quality. Macromolecules, 2003, 36, 389-398.	4.8	107
92	Visualization of Molecular Fluctuations near the Critical Point of the Coilâ [^] Stretch Transition in Polymer Elongation. Macromolecules, 2003, 36, 4544-4548.	4.8	87
93	The configurational phase transitions of flexible polymers in planar mixed flows near simple shear. Journal of Chemical Physics, 2003, 119, 2908-2914.	3.0	22
94	Observation of Polymer Conformation Hysteresis in Extensional Flow. Science, 2003, 301, 1515-1519.	12.6	321
95	A computational study of DNA separations in sparse disordered and periodic arrays of posts. Journal of Chemical Physics, 2003, 118, 2941.	3.0	50
96	Dynamic simulations of the inhomogeneous sedimentation of rigid fibres. Journal of Fluid Mechanics, 2002, 468, 205-237.	3.4	102
97	An experimental and simulation study of dilute polymer solutions in exponential shear flow: Comparison to uniaxial and planar extensional flows. Journal of Rheology, 2001, 45, 321-349.	2.6	9
98	Dynamics of dilute and semidilute DNA solutions in the start-up of shear flow. Journal of Rheology, 2001, 45, 421-450.	2.6	134
99	Electrophoresis of DNA Adsorbed to a Cationic Supported Bilayer. Langmuir, 2001, 17, 7396-7401.	3.5	39
100	Relating the Microscopic and Macroscopic Response of a Polymeric Fluid in a Shearing Flow. Physical Review Letters, 2000, 85, 2018-2021.	7.8	81
101	Observations of ribbing instabilities in elastic fluid flows with gravity stabilization. Journal of Fluid Mechanics, 1999, 399, 49-83.	3.4	29
102	Rheology of Polymer Brushes:Â A Brownian Dynamics Study. Macromolecules, 1998, 31, 5474-5486.	4.8	83
103	A numerical study of the sedimentation of fibre suspensions. Journal of Fluid Mechanics, 1998, 376, 149-182.	3.4	85
104	The conformation change of model polymers in stochastic flow fields: Flow through fixed beds. Physics of Fluids, 1997, 9, 1222-1234.	4.0	13
105	Drop breakup in the flow through fixed beds via stochastic simulation in model Gaussian fields. Physics of Fluids, 1997, 9, 3209-3226.	4.0	8
106	Dynamic simulation of freely draining flexible polymers in steady linear flows. Journal of Fluid Mechanics, 1997, 334, 251-291.	3.4	187
107	Cross-streamline migration of slender Brownian fibres in plane Poiseuille flow. Journal of Fluid Mechanics, 1997, 332, 23-39.	3.4	30
108	Oscillatory shear of a confined fiber suspension. Journal of Rheology, 1997, 41, 445-466.	2.6	8

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109	Rheology of "Wet―Polymer Brushes via Brownian Dynamics Simulation: Steady vs Oscillatory Shear. Physical Review Letters, 1997, 78, 1182-1185.	7.8	62
110	A numerical study of the rheological properties of suspensions of rigid, non-Brownian fibres. Journal of Fluid Mechanics, 1996, 329, 155-186.	3.4	99
111	Experimental Investigation of the Sedimentation of a Dilute Fiber Suspension. Physical Review Letters, 1996, 77, 290-293.	7.8	82
112	The effect of hydrodynamic interactions on the orientation distribution in a fiber suspension subject to simple shear flow. Physics of Fluids, 1995, 7, 487-506.	4.0	117
113	A nonlocal theory for stress in bound, Brownian suspensions of slender, rigid fibres. Journal of Fluid Mechanics, 1995, 296, 271-324.	3.4	40
114	The extensional viscosity and effective thermal conductivity of a dispersion of aligned disks. Physics of Fluids, 1994, 6, 1955-1962.	4.0	6
115	Observations of polymer conformation during flow through a fixed fibre bed. Journal of Fluid Mechanics, 1994, 281, 319-356.	3.4	20
116	Observations of purely elastic instabilities in the Taylor–Dean flow of a Boger fluid. Journal of Fluid Mechanics, 1994, 262, 27-73.	3.4	70
117	Effect of surface reâ€emission on the surface roughness of film growth in low pressure chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1993, 11, 557-568.	2.1	21
118	The effects of inertia on the viscoelastic Dean and Taylor–Couette flow instabilities with application to coating flows. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2415-2431.	1.6	56
119	Averagedâ€equation and diagrammatic approximations to the average concentration of a tracer dispersed by a Gaussian random velocity field. Physics of Fluids A, Fluid Dynamics, 1992, 4, 887-894.	1.6	20
120	A purely elastic instability in Dean and Taylor–Dean flow. Physics of Fluids A, Fluid Dynamics, 1992, 4, 524-543.	1.6	92
121	Polymer stretch in dilute fixed beds of fibres or spheres. Journal of Fluid Mechanics, 1992, 244, 17.	3.4	20
122	The effects of gap width and dilute solution properties on the viscoelastic Taylor-Couette instability. Journal of Fluid Mechanics, 1992, 235, 285.	3.4	100
123	Viscoelastic Poiseuille flow through a curved channel: A new elastic instability. Physics of Fluids A, Fluid Dynamics, 1991, 3, 1691-1694.	1.6	35
124	Viscoelastic Poiseuille flow through a curved channel: A new elastic instability. Physics of Fluids A, Fluid Dynamics, 1991, 3, 2043-2046.	1.6	24
125	Observations of axisymmetric tracer particle orientation during flow through a dilute fixed bed of fibers. Physics of Fluids A, Fluid Dynamics, 1991, 3, 2516-2528.	1.6	12
126	Orientational dispersion of fibers in extensional flows. Physics of Fluids A, Fluid Dynamics, 1990, 2, 1077-1093.	1.6	44

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127	The hydrodynamic stress in a suspension of rods. Physics of Fluids A, Fluid Dynamics, 1990, 2, 7-24.	1.6	271
128	A purely elastic instability in Taylor–Couette flow. Journal of Fluid Mechanics, 1990, 218, 573.	3.4	449
129	The average rotation rate of a fiber in the linear flow of a semidilute suspension. Physics of Fluids A, Fluid Dynamics, 1990, 2, 2093-2102.	1.6	41
130	Simulation of reactive ion etching pattern transfer. Journal of Applied Physics, 1989, 66, 4664-4675.	2.5	107
131	Factors controlling the etching rate and etching profile in the O2 reactive ion etching pattern transfer step in multilevel lithography. Polymer Engineering and Science, 1989, 29, 878-881.	3.1	10
132	The instability of a dispersion of sedimenting spheroids. Journal of Fluid Mechanics, 1989, 209, 521-542.	3.4	134
133	Heat and mass transport in composites of aligned slender fibers. Physics of Fluids A, Fluid Dynamics, 1989, 1, 3-20.	1.6	35
134	Nonlocal transport models of the selfâ€consistent potential distribution in a plasma sheath with charge transfer collisions. Journal of Applied Physics, 1988, 64, 6200-6209.	2.5	31
135	The combined effects of hydrodynamic interactions and Brownian motion on the orientation of particles flowing through fixed beds. Physics of Fluids, 1988, 31, 2769.	1.4	13
136	A nonlocal theory for the heat transport in composites containing highly conducting fibrous inclusions. Physics of Fluids, 1988, 31, 2405-2425.	1.4	29
137	Effect of elasticity on mixing torque requirements for rushton turbine impellers. AICHE Journal, 1984, 30, 485-486.	3.6	13