Aditya S Khair

List of Publications by Year
in descending order

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82	1,790	257357	302012
papers	citations	24 h-index	39 g-index

83	83	83	1430
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dynamics of a viscous drop under an oscillatory uniaxial extensional Stokes flow. International Journal of Multiphase Flow, 2022, 146, 103844.	1.6	4
2	Taylor dispersion of elongated rods at small and large rotational PÃ©clet numbers. Physical Review Fluids, 2022, 7, .	1.0	1
3	Prediction and measurement of leaky dielectric drop interactions. Physical Review Fluids, 2022, 7, .	1.0	5
4	Tuning chemotactic and diffusiophoretic spreading via hydrodynamic flows. Soft Matter, 2022, 18, 1896-1910.	1.2	8
5	Nonlinear electrophoresis of colloidal particles. Current Opinion in Colloid and Interface Science, 2022, 59, 101587.	3.4	18
6	The electrochemical impedance spectrum of asymmetric electrolytes across low to moderate frequencies. Journal of Electroanalytical Chemistry, 2022, 911, 116222.	1.9	5
7	Interfacially-adsorbed particles enhance the self-propulsion of oil droplets in aqueous surfactant. Soft Matter, 2021, 17, 6742-6750.	1.2	19
8	Numerical and asymptotic analysis of the three-dimensional electrohydrodynamic interactions of drop pairs. Journal of Fluid Mechanics, 2021, 914, .	1.4	15
9	Dynamics of a sphere in inertial shear flow between parallel walls. Journal of Fluid Mechanics, 2021, 915, .	1.4	9
10	Macrotransport theory for diffusiophoretic colloids and chemotactic microorganisms. Journal of Fluid Mechanics, 2021, 917, .	1.4	14
11	Determination of the zeta potential of planar solids in nonpolar liquids. Journal of Colloid and Interface Science, 2021, 592, 271-278.	5.0	0
12	A thin double layer analysis of asymmetric rectified electric fields (AREFs). Journal of Engineering Mathematics, 2021, 129, 1.	0.6	7
13	Two-cell interactions in autologous chemotaxis. Physical Review E, 2021, 104, 024404.	0.8	1
14	Dispersion in steady and timeâ€oscillatory flows through an eccentric annulus. AICHE Journal, 2020, 66, e16831.	1.8	11
15	Advective-diffusive spreading of diffusiophoretic colloids under transient solute gradients. Soft Matter, 2020, 16, 238-246.	1.2	16
16	The force on a slender particle under oscillatory translational motion in unsteady Stokes flow. Journal of Fluid Mechanics, 2020, 884, .	1.4	3
17	Breaking electrolyte symmetry in induced-charge electro-osmosis. Journal of Fluid Mechanics, 2020, 905, .	1.4	9
18	Unsteady motion of a perfectly slipping sphere. Physical Review E, 2020, 101, 053102.	0.8	2

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19	Dynamic interfacial tension measurement under electric fields allows detection of charge carriers in nonpolar liquids. Journal of Colloid and Interface Science, 2020, 567, 18-27.	5.0	7
20	Migration of an electrophoretic particle in a weakly inertial or viscoelastic shear flow. Physical Review Fluids, 2020, 5, .	1.0	17
21	Deformation of a conducting drop in a randomly fluctuating electric field. Physical Review Fluids, 2020, 5, .	1.0	1
22	Inertial bifurcation of the equilibrium position of a neutrally-buoyant circular cylinder in shear flow between parallel walls. Physical Review Research, 2020, 2, .	1.3	6
23	Dynamic double layer force between charged surfaces. Physical Review Research, 2020, 2, .	1.3	2
24	Diffusiophoresis of charged colloidal particles in the limit of very high salinity. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18257-18262.	3.3	47
25	Electric fields enable tunable surfactant transport to microscale fluid interfaces. Physical Review E, 2019, 100, 023114.	0.8	4
26	The lift force on a charged sphere that translates and rotates in an electrolyte. Electrophoresis, 2019, 40, 2407-2414.	1.3	5
27	Dispersion in steady and time-oscillatory two-dimensional flows through a parallel-plate channel. Physics of Fluids, 2019, 31, 022007.	1.6	23
28	Reduced-order model for inertial locomotion of a slender swimmer. Physical Review E, 2018, 97, 043102.	0.8	3
29	Strong Deformation of the Thick Electric Double Layer around a Charged Particle during Sedimentation or Electrophoresis. Langmuir, 2018, 34, 876-885.	1.6	28
30	Colloidal stability dictates drop breakup under electric fields. Soft Matter, 2018, 14, 9351-9360.	1.2	8
31	Nonlinear viscoelasticity of a dilute suspension of Brownian spheroids in oscillatory shear flow. Journal of Rheology, 2018, 62, 1457-1483.	1.3	3
32	A higher-order slender-body theory for axisymmetric flow past a particle at moderate Reynolds number. Journal of Fluid Mechanics, 2018, 855, 421-444.	1.4	7
33	Role of Stefanâ€“Maxwell fluxes in the dynamics of concentrated electrolytes. Soft Matter, 2018, 14, 8267-8275.	1.2	22
34	Effective viscosity of a dilute emulsion of spherical drops containing soluble surfactant. Rheologica Acta, 2018, 57, 481-491.	1.1	6
35	Partial drift volume due to a self-propelled swimmer. Physical Review Fluids, 2018, 3, .	1.0	10
36	Formation of Charge Carriers in Liquids. Advances in Colloid and Interface Science, 2017, 244, 21-35.	7.0	23

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37	Nonlinear relaxation modulus via dual-frequency medium amplitude oscillatory shear (MAOS): General framework and case study for a dilute suspension of Brownian spheroids. Journal of Rheology, 2017, 61, 67-82.	1.3	1
38	The role of surface charge convection in the electrohydrodynamics and breakup of prolate drops. Journal of Fluid Mechanics, 2017, 833, 29-53.	1.4	37
39	The effects of impurity on the stability of Horizontal Ribbon Growth. Journal of Crystal Growth, 2017, 480, 34-42.	0.7	2
40	Forced convection heat and mass transfer from a slender particle. Chemical Engineering Science, 2017, 174, 285-289.	1.9	7
41	Diffuse charge dynamics in ionic thermoelectrochemical systems. Physical Review E, 2017, 96, 022604.	0.8	24
42	Linear viscoelasticity of a dilute active suspension. Rheologica Acta, 2017, 56, 149-160.	1.1	11
43	Influence of ion sterics on diffusiophoresis and electrophoresis in concentrated electrolytes. Physical Review Fluids, 2017, 2, .	1.0	35
44	Drift volume in viscous flows. Physical Review Fluids, 2017, 2, .	1.0	8
45	Large amplitude oscillatory shear of the Giesekus model. Journal of Rheology, 2016, 60, 257-266.	1.3	21
46	A squirmer across Reynolds numbers. Journal of Fluid Mechanics, 2016, 796, 233-256.	1.4	75
47	On a suspension of nearly spherical colloidal particles under large-amplitude oscillatory shear flow. Journal of Fluid Mechanics, 2016, 791, .	1.4	10
48	A mathematical model for electrical impedance spectroscopy of zwitterionic hydrogels. Soft Matter, 2016, 12, 7028-7037.	1.2	10
49	Discharging dynamics in an electrolytic cell. Physical Review E, 2016, 94, 012601.	0.8	11
50	Self-Generated Electrokinetic Fluid Flows during Pseudomorphic Mineral Replacement Reactions. Langmuir, 2016, 32, 5233-5240.	1.6	13
51	Determination of charge carrier concentration in doped nonpolar liquids by impedance spectroscopy in the presence of charge adsorption. Journal of Colloid and Interface Science, 2016, 469, 325-337.	5.0	17
52	Relaxation or breakup of a low-conductivity drop upon removal of a uniform dc electric field. Physical Review Fluids, 2016, 1, .	1.0	4
53	Nonlinear electrohydrodynamics of slightly deformed oblate drops. Journal of Fluid Mechanics, 2015, 774, 245-266.	1.4	75
54	Moderately nonlinear diffuse-charge dynamics under an ac voltage. Physical Review E, 2015, 92, 032305.	0.8	19

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55	Moving ion fronts in mixed ionicâ€electronic conducting polymer films. AIChE Journal, 2015, 61, 1447-1454.	1.8	5
56	Use of electrochemical impedance spectroscopy to determine double-layer capacitance in doped nonpolar liquids. Journal of Colloid and Interface Science, 2015, 449, 2-12.	5.0	50
57	Expansions at small Reynolds numbers for the locomotion of a spherical squirmer. Physics of Fluids, 2014, 26, .	1.6	49
58	Dynamics of a self-diffusiophoretic particle in shear flow. Physical Review E, 2014, 90, 013030.	0.8	22
59	A continuum approach to predicting electrophoretic mobility reversals. Journal of Fluid Mechanics, 2014, 752, .	1.4	36
60	Electrostatic forces on two almost touching nonspherical charged conductors. Journal of Applied Physics, 2013, 114, 134906.	1.1	18
61	Diffusiophoresis of colloidal particles in neutral solute gradients at finite PÃ©clet number. Journal of Fluid Mechanics, 2013, 731, 64-94.	1.4	32
62	The bulk electroviscous effect. Rheologica Acta, 2013, 52, 255-269.	1.1	6
63	The influence of inertia and charge relaxation on electrohydrodynamic drop deformation. Physics of Fluids, 2013, 25, .	1.6	53
64	Asymptotic analysis of double-carrier, space-charge-limited transport in organic light-emitting diodes. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20130263.	1.0	2
65	Coupling electrokinetics and rheology: Electrophoresis in non-Newtonian fluids. Physical Review E, 2012, 85, 016320.	0.8	37
66	Transient phoretic migration of a permselective colloidal particle. Journal of Colloid and Interface Science, 2012, 381, 183-188.	5.0	14
67	Concentration polarization and second-kind electrokinetic instability at an ion-selective surface admitting normal flow. Physics of Fluids, 2011, 23, .	1.6	53
68	Efficiently accounting for ion correlations in electrokinetic nanofluidic devices using density functional theory. Journal of Colloid and Interface Science, 2011, 359, 520-529.	5.0	45
69	Irreversible Electrokinetic Repulsion at Zero-Reynolds-Number Sedimentation. Physical Review Letters, 2011, 107, 278301.	2.9	5
70	A theoretical bridge between linear and nonlinear microrheology. Physics of Fluids, 2011, 23, .	1.6	17
71	Active Microrheology: A Proposed Technique to Measure Normal Stress Coefficients of Complex Fluids. Physical Review Letters, 2010, 105, 156001.	2.9	38
72	The influence of hydrodynamic slip on the electrophoretic mobility of a spherical colloidal particle. Physics of Fluids, 2009, 21, .	1.6	118

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73	The dynamics and rheology of a dilute suspension of hydrodynamically Janus spheres in a linear flow. Journal of Fluid Mechanics, 2009, 633, 233-269.	1.4	25
74	Ion steric effects on electrophoresis of a colloidal particle. Journal of Fluid Mechanics, 2009, 640, 343-356.	1.4	73
75	Fundamental aspects of concentration polarization arising from nonuniform electrokinetic transport. Physics of Fluids, 2008, 20, .	1.6	56
76	On the hydrodynamics of â€˜slipâ€“stickâ€™ spheres. Journal of Fluid Mechanics, 2008, 606, 115-132.	1.4	40
77	Surprising consequences of ion conservation in electro-osmosis over a surface charge discontinuity. Journal of Fluid Mechanics, 2008, 615, 323-334.	1.4	47
78	Single particle motion in colloidal dispersions: a simple model for active and nonlinear microrheology. Journal of Fluid Mechanics, 2006, 557, 73.	1.4	97
79	On the bulk viscosity of suspensions. Journal of Fluid Mechanics, 2006, 554, 109.	1.4	43
80	The â€˜Einstein correctionâ€™ to the bulk viscosity in n dimensions. Journal of Colloid and Interface Science, 2006, 302, 702-703.	5.0	8
81	A new resistance function for two rigid spheres in a uniform compressible low-Reynolds-number flow. Physics of Fluids, 2006, 18, 043102.	1.6	7
82	â€œMicroviscoelasticityâ€•of colloidal dispersions. Journal of Rheology, 2005, 49, 1449-1481.	1.3	43