Aditya S Khair

List of Publications by Year
in descending order

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82	1,790	257101	301761
papers	citations	24	39
		h-index	g-index

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

#	Article	IF	Citations
1	The influence of hydrodynamic slip on the electrophoretic mobility of a spherical colloidal particle. Physics of Fluids, 2009, 21, .	1.6	118
2	Single particle motion in colloidal dispersions: a simple model for active and nonlinear microrheology. Journal of Fluid Mechanics, 2006, 557, 73.	1.4	97
3	Nonlinear electrohydrodynamics of slightly deformed oblate drops. Journal of Fluid Mechanics, 2015, 774, 245-266.	1.4	75
4	A squirmer across Reynolds numbers. Journal of Fluid Mechanics, 2016, 796, 233-256.	1.4	75
5	Ion steric effects on electrophoresis of a colloidal particle. Journal of Fluid Mechanics, 2009, 640, 343-356.	1.4	73
6	Fundamental aspects of concentration polarization arising from nonuniform electrokinetic transport. Physics of Fluids, 2008, 20, .	1.6	56
7	Concentration polarization and second-kind electrokinetic instability at an ion-selective surface admitting normal flow. Physics of Fluids, 2011, 23, .	1.6	53
8	The influence of inertia and charge relaxation on electrohydrodynamic drop deformation. Physics of Fluids, 2013, 25, .	1.6	53
9	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
10	Expansions at small Reynolds numbers for the locomotion of a spherical squirmer. Physics of Fluids, 2014, 26, .	1.6	49
11	Surprising consequences of ion conservation in electro-osmosis over a surface charge discontinuity. Journal of Fluid Mechanics, 2008, 615, 323-334.	1.4	47
12	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
13	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
14	â€œMicroviscoelasticityâ€•of colloidal dispersions. Journal of Rheology, 2005, 49, 1449-1481.	1.3	43
15	On the bulk viscosity of suspensions. Journal of Fluid Mechanics, 2006, 554, 109.	1.4	43
16	On the hydrodynamics of â€˜slipâ€“stickâ€™ spheres. Journal of Fluid Mechanics, 2008, 606, 115-132.	1.4	40
17	Active Microrheology: A Proposed Technique to Measure Normal Stress Coefficients of Complex Fluids. Physical Review Letters, 2010, 105, 156001.	2.9	38
18	Coupling electrokinetics and rheology: Electrophoresis in non-Newtonian fluids. Physical Review E, 2012, 85, 016320.	0.8	37

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19	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
20	A continuum approach to predicting electrophoretic mobility reversals. Journal of Fluid Mechanics, 2014, 752, .	1.4	36
21	Influence of ion sterics on diffusiophoresis and electrophoresis in concentrated electrolytes. Physical Review Fluids, 2017, 2, .	1.0	35
22	Diffusiophoresis of colloidal particles in neutral solute gradients at finite PÃ©clet number. Journal of Fluid Mechanics, 2013, 731, 64-94.	1.4	32
23	Strong Deformation of the Thick Electric Double Layer around a Charged Particle during Sedimentation or Electrophoresis. Langmuir, 2018, 34, 876-885.	1.6	28
24	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
25	Diffuse charge dynamics in ionic thermoelectrochemical systems. Physical Review E, 2017, 96, 022604.	0.8	24
26	Formation of Charge Carriers in Liquids. Advances in Colloid and Interface Science, 2017, 244, 21-35.	7.0	23
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	Dynamics of a self-diffusiophoretic particle in shear flow. Physical Review E, 2014, 90, 013030.	0.8	22
29	Role of Stefanâ€“Maxwell fluxes in the dynamics of concentrated electrolytes. Soft Matter, 2018, 14, 8267-8275.	1.2	22
30	Large amplitude oscillatory shear of the Giesekus model. Journal of Rheology, 2016, 60, 257-266.	1.3	21
31	Moderately nonlinear diffuse-charge dynamics under an ac voltage. Physical Review E, 2015, 92, 032305.	0.8	19
32	Interfacially-adsorbed particles enhance the self-propulsion of oil droplets in aqueous surfactant. Soft Matter, 2021, 17, 6742-6750.	1.2	19
33	Electrostatic forces on two almost touching nonspherical charged conductors. Journal of Applied Physics, 2013, 114, 134906.	1.1	18
34	Nonlinear electrophoresis of colloidal particles. Current Opinion in Colloid and Interface Science, 2022, 59, 101587.	3.4	18
35	A theoretical bridge between linear and nonlinear microrheology. Physics of Fluids, 2011, 23, .	1.6	17
36	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

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37	Migration of an electrophoretic particle in a weakly inertial or viscoelastic shear flow. Physical Review Fluids, 2020, 5, .	1.0	17
38	Advective-diffusive spreading of diffusiophoretic colloids under transient solute gradients. Soft Matter, 2020, 16, 238-246.	1.2	16
39	Numerical and asymptotic analysis of the three-dimensional electrohydrodynamic interactions of drop pairs. Journal of Fluid Mechanics, 2021, 914, .	1.4	15
40	Transient phoretic migration of a permselective colloidal particle. Journal of Colloid and Interface Science, 2012, 381, 183-188.	5.0	14
41	Macrotransport theory for diffusiophoretic colloids and chemotactic microorganisms. Journal of Fluid Mechanics, 2021, 917, .	1.4	14
42	Self-Generated Electrokinetic Fluid Flows during Pseudomorphic Mineral Replacement Reactions. Langmuir, 2016, 32, 5233-5240.	1.6	13
43	Discharging dynamics in an electrolytic cell. Physical Review E, 2016, 94, 012601.	0.8	11
44	Linear viscoelasticity of a dilute active suspension. Rheologica Acta, 2017, 56, 149-160.	1.1	11
45	Dispersion in steady and timeâ€oscillatory flows through an eccentric annulus. AICHE Journal, 2020, 66, e16831.	1.8	11
46	On a suspension of nearly spherical colloidal particles under large-amplitude oscillatory shear flow. Journal of Fluid Mechanics, 2016, 791, .	1.4	10
47	A mathematical model for electrical impedance spectroscopy of zwitterionic hydrogels. Soft Matter, 2016, 12, 7028-7037.	1.2	10
48	Partial drift volume due to a self-propelled swimmer. Physical Review Fluids, 2018, 3, .	1.0	10
49	Breaking electrolyte symmetry in induced-charge electro-osmosis. Journal of Fluid Mechanics, 2020, 905, .	1.4	9
50	Dynamics of a sphere in inertial shear flow between parallel walls. Journal of Fluid Mechanics, 2021, 915, .	1.4	9
51	The â€˜Einstein correctionâ€™ to the bulk viscosity in n dimensions. Journal of Colloid and Interface Science, 2006, 302, 702-703.	5.0	8
52	Colloidal stability dictates drop breakup under electric fields. Soft Matter, 2018, 14, 9351-9360.	1.2	8
53	Drift volume in viscous flows. Physical Review Fluids, 2017, 2, .	1.0	8
54	Tuning chemotactic and diffusiophoretic spreading via hydrodynamic flows. Soft Matter, 2022, 18, 1896-1910.	1.2	8

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55	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
56	Forced convection heat and mass transfer from a slender particle. Chemical Engineering Science, 2017, 174, 285-289.	1.9	7
57	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
58	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
59	A thin double layer analysis of asymmetric rectified electric fields (AREFs). Journal of Engineering Mathematics, 2021, 129, 1.	0.6	7
60	The bulk electroviscous effect. Rheologica Acta, 2013, 52, 255-269.	1.1	6
61	Effective viscosity of a dilute emulsion of spherical drops containing soluble surfactant. Rheologica Acta, 2018, 57, 481-491.	1.1	6
62	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
63	Irreversible Electrokinetic Repulsion at Zero-Reynolds-Number Sedimentation. Physical Review Letters, 2011, 107, 278301.	2.9	5
64	Moving ion fronts in mixed ionicâ€electronic conducting polymer films. AICHE Journal, 2015, 61, 1447-1454.	1.8	5
65	The lift force on a charged sphere that translates and rotates in an electrolyte. Electrophoresis, 2019, 40, 2407-2414.	1.3	5
66	Prediction and measurement of leaky dielectric drop interactions. Physical Review Fluids, 2022, 7, .	1.0	5
67	The electrochemical impedance spectrum of asymmetric electrolytes across low to moderate frequencies. Journal of Electroanalytical Chemistry, 2022, 911, 116222.	1.9	5
68	Electric fields enable tunable surfactant transport to microscale fluid interfaces. Physical Review E, 2019, 100, 023114.	0.8	4
69	Relaxation or breakup of a low-conductivity drop upon removal of a uniform dc electric field. Physical Review Fluids, 2016, 1, .	1.0	4
70	Dynamics of a viscous drop under an oscillatory uniaxial extensional Stokes flow. International Journal of Multiphase Flow, 2022, 146, 103844.	1.6	4
71	Reduced-order model for inertial locomotion of a slender swimmer. Physical Review E, 2018, 97, 043102.	0.8	3
72	Nonlinear viscoelasticity of a dilute suspension of Brownian spheroids in oscillatory shear flow. Journal of Rheology, 2018, 62, 1457-1483.	1.3	3

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73	The force on a slender particle under oscillatory translational motion in unsteady Stokes flow. Journal of Fluid Mechanics, 2020, 884, .	1.4	3
74	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
75	The effects of impurity on the stability of Horizontal Ribbon Growth. Journal of Crystal Growth, 2017, 480, 34-42.	0.7	2
76	Unsteady motion of a perfectly slipping sphere. Physical Review E, 2020, 101, 053102.	0.8	2
77	Dynamic double layer force between charged surfaces. Physical Review Research, 2020, 2, .	1.3	2
78	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
79	Two-cell interactions in autologous chemotaxis. Physical Review E, 2021, 104, 024404.	0.8	1
80	Deformation of a conducting drop in a randomly fluctuating electric field. Physical Review Fluids, 2020, 5, .	1.0	1
81	Taylor dispersion of elongated rods at small and large rotational PÃ©clet numbers. Physical Review Fluids, 2022, 7, .	1.0	1
82	Determination of the zeta potential of planar solids in nonpolar liquids. Journal of Colloid and Interface Science, 2021, 592, 271-278.	5.0	0