Aditya Bandopadhyay

List of Publications by Year
in descending order

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63 papers	1,639 citations	257450 24 h-index	302126 39 g-index
64 all docs	64 docs citations	64 times ranked	883 citing authors

#	Article	IF	Citations
1	Electroosmosis-modulated peristaltic transport in microfluidic channels. Physics of Fluids, 2016, 28, .	4.0	125
2	Electrokinetics in polyelectrolyte grafted nanofluidic channels modulated by the ion partitioning effect. Soft Matter, 2016, 12, 5968-5978.	2.7	80
3	Electrokinetically modulated peristaltic transport of power-law fluids. Microvascular Research, 2016, 103, 41-54.	2.5	80
4	Steric-Effect Induced Alterations in Streaming Potential and Energy Transfer Efficiency of Non-Newtonian Fluids in Narrow Confinements. Langmuir, 2011, 27, 12243-12252.	3.5	75
5	Giant augmentations in electro-hydro-dynamic energy conversion efficiencies of nanofluidic devices using viscoelastic fluids. Applied Physics Letters, 2012, 101, 043905.	3.3	72
6	Uniform electric-field-induced lateral migration of a sedimenting drop. Journal of Fluid Mechanics, 2016, 792, 553-589.	3.4	66
7	Electrical Power Generation from Wet Textile Mediated by Spontaneous Nanoscale Evaporation. Nano Letters, 2019, 19, 7191-7200.	9.1	66
8	Electro-osmosis of superimposed fluids in the presence of modulated charged surfaces in narrow confinements. Journal of Fluid Mechanics, 2015, 776, 390-429.	3.4	60
9	Electric-field-driven contact-line dynamics of two immiscible fluids over chemically patterned surfaces in narrow confinements. Physical Review E, 2013, 88, 023022.	2.1	59
10	Electrokinetically induced alterations in dynamic response of viscoelastic fluids in narrow confinements. Physical Review E, 2012, 85, 056302.	2.1	48
11	Enhanced reaction kinetics and reactive mixing scale dynamics in mixing fronts under shear flow for arbitrary DamkÃ¶hler numbers. Advances in Water Resources, 2017, 100, 78-95.	3.8	46
12	Combined Effects of Interfacial Permittivity Variations and Finite Ionic Sizes on Streaming Potentials in Nanochannels. Langmuir, 2012, 28, 17552-17563.	3.5	43
13	The effect of uniform electric field on the cross-stream migration of a drop in plane Poiseuille flow. Journal of Fluid Mechanics, 2016, 809, 726-774.	3.4	38
14	Time periodic electroosmosis of linear viscoelastic liquids over patterned charged surfaces in microfluidic channels. Journal of Non-Newtonian Fluid Mechanics, 2013, 202, 1-11.	2.4	37
15	Ionic size dependent electroosmosis in ionâ€selective microchannels and nanochannels. Electrophoresis, 2013, 34, 2193-2198.	2.4	36
16	Instant power generation from an air-breathing paper and pencil based bacterial bio-fuel cell. Lab on A Chip, 2015, 15, 2580-2583.	6.0	35
17	Effect of interfacial slip on the cross-stream migration of a drop in an unbounded Poiseuille flow. Physical Review E, 2015, 92, 023002.	2.1	33
18	Contact line dynamics of electroosmotic flows of incompressible binary fluid system with density and viscosity contrasts. Physics of Fluids, 2015, 27, 032109.	4.0	31

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19	Universality in coalescence of polymeric fluids. Soft Matter, 2020, 16, 10921-10927.	2.7	30
20	Capillary filling dynamics of viscoelastic fluids. Physical Review E, 2014, 89, 053024.	2.1	29
21	Drop deformation and emulsion rheology under the combined influence of uniform electric field and linear flow. Journal of Fluid Mechanics, 2018, 841, 408-433.	3.4	29
22	Electroosmosis of a viscoelastic fluid over non-uniformly charged surfaces: Effect of fluid relaxation and retardation time. Physics of Fluids, 2020, 32, .	4.0	27
23	Numerical analysis of combined electroosmotic-pressure driven flow of a viscoelastic fluid over high zeta potential modulated surfaces. Physics of Fluids, 2021, 33, .	4.0	27
24	Pulsating electric field modulated contact line dynamics of immiscible binary systems in narrow confinements under an electrical double layer phenomenon. Soft Matter, 2014, 10, 8512-8523.	2.7	25
25	Sedimentation of a surfactant-laden drop under the influence of an electric field. Journal of Fluid Mechanics, 2018, 849, 277-311.	3.4	24
26	Effect of surface charge convection and shape deformation on the dielectrophoretic motion of a liquid drop. Physical Review E, 2016, 93, 043127.	2.1	23
27	Streaming potential-modulated capillary filling dynamics of immiscible fluids. Soft Matter, 2016, 12, 2056-2065.	2.7	23
28	The effect of surface charge convection and shape deformation on the settling velocity of drops in nonuniform electric field. Physics of Fluids, 2017, 29, .	4.0	23
29	Regimes of streaming potential in cylindrical nano-pores in presence of finite sized ions and charge induced thickening: An analytical approach. Journal of Chemical Physics, 2013, 139, 224503.	3.0	22
30	Dielectrophoresis of a surfactant-laden viscous drop. Physics of Fluids, 2016, 28, .	4.0	22
31	Stability of horizontal viscous fluid layers in a vertical arbitrary time periodic electric field. Physics of Fluids, 2017, 29, .	4.0	22
32	Development of the Reduced Chemical Kinetic Mechanism for Combustion of H₂/CO/C₁â€“C₄ Hydrocarbons. Energy & Fuels, 2021, 35, 718-742.	5.1	21
33	Ionic Size Dependent Electroviscous Effects in Ion-Selective Nanopores. Langmuir, 2014, 30, 7251-7258.	3.5	19
34	Shear Flows Accelerate Mixing Dynamics in Hyporheic Zones and Hillslopes. Geophysical Research Letters, 2018, 45, 11,659.	4.0	18
35	Electrical switching of a surfactant coated drop in Poiseuille flow. Journal of Fluid Mechanics, 2019, 870, 27-66.	3.4	18
36	Near-wall hydrodynamic slip triggers swimming state transition of micro-organisms. Journal of Fluid Mechanics, 2020, 894, .	3.4	18

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37	Electro-osmotic flows through topographically complicated porous media: Role of electropermeability tensor. Physical Review E, 2013, 87, .	2.1	17
38	Consistent prediction of streaming potential in non-Newtonian fluids: the effect of solvent rheology and confinement on ionic conductivity. Physical Chemistry Chemical Physics, 2015, 17, 7282-7290.	2.8	16
39	Effects of finite ionic size and solvent polarization on the dynamics of electrolytes probed through harmonic disturbances. Physical Review E, 2015, 91, 042307.	2.1	15
40	Electrorheology of a dilute emulsion of surfactant-covered drops. Journal of Fluid Mechanics, 2019, 881, 524-550.	3.4	12
41	Electrohydrodynamic Phenomena. Journal of the Indian Institute of Science, 2018, 98, 201-225.	1.9	11
42	Activated micromotor propulsion by enzyme catalysis in a biofluid medium. Applied Physics Letters, 2019, 114, .	3.3	11
43	Microconfined electroosmotic flow of a complex fluid with asymmetric charges: Interplay of fluid rheology and physicochemical heterogeneity. Journal of Non-Newtonian Fluid Mechanics, 2021, 289, 104479.	2.4	11
44	Efficacy of microconfined fluid mixing in a combined electroosmotic and pressure driven transport of complex fluid over discrete electrodes. Physics of Fluids, 2022, 34, .	4.0	11
45	Piecewise Isothermal Nucleic Acid Testing (PINAT) for Infectious Disease Detection with Sample-to-Result Integration at the Point-of-Care. ACS Sensors, 2021, 6, 3753-3764.	7.8	10
46	Hydrodynamic Dispersion and Lamb Surfaces in Darcy Flow. Transport in Porous Media, 2019, 130, 903-922.	2.6	9
47	Electric-Field-Induced Pattern Formation in Layers of DNA Molecules at the Interface between Two Immiscible Liquids. Physical Review Letters, 2020, 124, 064501.	7.8	9
48	Electrokinetics of non-Newtonian fluids in poly-electrolyte grafted nanochannels: Effects of ion-partitioning and confinement. Journal of Non-Newtonian Fluid Mechanics, 2020, 283, 104348.	2.4	7
49	The spatial structure of electrostatically forced Faraday waves. Journal of Fluid Mechanics, 2022, 939, .	3.4	7
50	Steering a thermally activated micromotor with a nearby isothermal wall. Journal of Fluid Mechanics, 2021, 915, .	3.4	6
51	Computation of streaming potential in porous media: Modified permeability tensor. Journal of Computational Physics, 2015, 300, 53-69.	3.8	5
52	The Lagrangian kinematics of three-dimensional Darcy flow. Journal of Fluid Mechanics, 2021, 918, .	3.4	5
53	Effect of skimming layer in an electroosmotically driven viscoelastic fluid flow over charge modulated walls. Electrophoresis, 2022, 43, 724-731.	2.4	5
54	Smartphone-Integrated Label-Free Rapid Screening of Anemia from the Pattern Formed by One Drop of Blood on a Wet Paper Strip. ACS Sensors, 2022, 7, 2028-2036.	7.8	5

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55	Effect of streaming current on helical flows of power law fluids. Physics of Fluids, 2014, 26, 122003.	4.0	4
56	Taylorâ€“Couette flow of electrorheological fluids under electrical double layer phenomenon. Journal of Non-Newtonian Fluid Mechanics, 2015, 223, 165-175.	2.4	3
57	Capillary transport of two immiscible fluids in presence of electroviscous retardation. Electrophoresis, 2017, 38, 747-754.	2.4	3
58	The impact of stretching-enhanced mixing and coalescence on reactivity in mixing-limited reactive flows. Physics of Fluids, 2020, 32, .	4.0	3
59	Rheology modulated non-equilibrium fluctuations in time-dependent diffusion processes. Physica A: Statistical Mechanics and Its Applications, 2016, 462, 654-666.	2.6	1
60	Liquidâ€“Liquid Mass Transfer Enhancement Due to T-Junction Modified with an Air Damper. Industrial & Engineering Chemistry Research, 2019, 58, 18810-18821.	3.7	1
61	Electrokinetic Maneuvering of Bubble-Driven Inertial Micro-Pumping Systems. International Journal of Micro-nano Scale Transport, 2014, 5, 13-22.	0.2	1
62	Reply to comments by A. Pantokratoras on â€œâ€œElectrokinetically modulated peristaltic transport of power-law fluidsâ€•by Prakash Goswami, Jeevanjyoti Chakraborty, Aditya Bandopadhyay, Suman Chakraborty, Microvascular Research 103 (2016) 41-54â€, Microvascular Research (2019). Microvascular Research, 2020, 129, 103964.	2.5	0
63	Optimization of semiâ€pulsatile liquidâ€liquid extraction operations in milliâ€channels. Canadian Journal of Chemical Engineering, 2021, 99, 2035-2051.	1.7	0