Sandip Ghosal

List of Publications by Year
in descending order

72 papers	3,838 citations	136950 32 h-index	123424 61 g-index
72 all docs	72 docs citations	72 times ranked	2543 citing authors

#	Article	IF	Citations
1	Packing a flexible fiber into a cavity. Physical Review E, 2022, 105, 035002.	2.1	1
2	Charge Selectivity of an Ionic Transistor. Langmuir, 2021, 37, 4571-4577.	3.5	1
3	Electrophoresis of tightly fitting spheres along a circular cylinder of finite length. Journal of Fluid Mechanics, 2021, 929, .	3.4	4
4	The effect of the finite size of ions and Debye layer overspill on the screened Coulomb interactions between charged flat plates. Electrophoresis, 2020, 41, 607-614.	2.4	5
5	Exclusion-Enrichment Effect in Ionic Transistors. Langmuir, 2020, 36, 3308-3314.	3.5	2
6	Effect of Nonzero Solid Permittivity on the Electrical Repulsion between Charged Surfaces. Langmuir, 2020, 36, 2592-2600.	3.5	1
7	Anomalous diffusion in an electrolyte saturated paper matrix. Electrophoresis, 2020, 41, 678-683.	2.4	0
8	A numerical study of the selectivity of an isolated cylindrical or conical nanopore to a charged macro-ion. Biomicrofluidics, 2019, 13, 054108.	2.4	3
9	Solid-state nanopore hydrodynamics and transport. Biomicrofluidics, 2019, 13, 011301.	2.4	32
10	Band Broadening Theories in Capillary Electrophoresis. Methods in Molecular Biology, 2019, 1906, 143-166.	0.9	3
11	Nonlinear electrophoresis of a tightly fitting sphere in a cylindrical tube. Journal of Fluid Mechanics, 2018, 843, 847-871.	3.4	9
12	A mechanical model of bacteriophage DNA ejection. Physics Letters, Section A: General, Atomic and Solid State Physics, 2017, 381, 2386-2390.	2.1	4
13	Screened Coulomb interactions with non-uniform surface charge. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20160906.	2.1	10
14	Asymmetric dynamics of DNA entering and exiting a strongly confining nanopore. Nature Communications, 2017, 8, 380.	12.8	59
15	Repulsion Between Finite Charged Plates with Strongly Overlapped Electric Double Layers. Langmuir, 2016, 32, 9445-9450.	3.5	8
16	AC Electric Field-Induced Trapping of Microparticles in Pinched Microconfinements. Langmuir, 2015, 31, 5952-5961.	3.5	9
17	Electrically generated eddies at an eightfold stagnation point within a nanopore. Physics of Fluids, 2014, 26, 112004.	4.0	9
18	Electro-osmotic flow through a nanopore. Journal of Fluid Mechanics, 2014, 749, 167-183.	3.4	42

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19	Electroosmosis in a Finite Cylindrical Pore: Simple Models of End Effects. Langmuir, 2014, 30, 9261-9272.	3.5	35
20	DNA Interactions in Crowded Nanopores. Nano Letters, 2013, 13, 2798-2802.	9.1	36
21	Electrophoretic Forces on Multiple DNA Molecules in a Nanopore. Biophysical Journal, 2013, 104, 517a.	0.5	0
22	A Landauâ€“Squire Nanojet. Nano Letters, 2013, 13, 5141-5146.	9.1	40
23	Hydrodynamic flow in the vicinity of a nanopore induced by an applied voltage. Nanotechnology, 2013, 24, 245202.	2.6	34
24	Electrokinetic Flow and Ion Transport in Nanochannels. , 2013, , 1-15.		0
25	Studying DNA translocation in nanocapillaries using single molecule fluorescence. Applied Physics Letters, 2012, 101, 223704.	3.3	41
26	Capstan Friction Model for DNA Ejection from Bacteriophages. Physical Review Letters, 2012, 109, 248105.	7.8	21
27	Strongly nonlinear waves in capillary electrophoresis. Physical Review E, 2012, 85, 051918.	2.1	7
28	Ion transport through a graphene nanopore. Nanotechnology, 2012, 23, 395501.	2.6	53
29	Electromigration Dispersion in Capillary Electrophoresis. Bulletin of Mathematical Biology, 2012, 74, 346-355.	1.9	16
30	The nonlinear electromigration of analytes into confined spaces. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 3139-3152.	2.1	3
31	Electromigration dispersion in a capillary in the presence of electro-osmotic flow. Journal of Fluid Mechanics, 2012, 697, 436-454.	3.4	21
32	Does buckling instability of the pseudopodium limit how well an amoeba can climb?. Journal of Theoretical Biology, 2011, 271, 202-204.	1.7	1
33	Nonlinear Waves in Capillary Electrophoresis. Bulletin of Mathematical Biology, 2010, 72, 2047-2066.	1.9	19
34	A nonlinear equation for ionic diffusion in aÂstrong binary electrolyte. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 2145-2154.	2.1	3
35	Mathematical Modeling of Electrokinetic Effects in Micro and Nano Fluidics. , 2010, , 87-112.		2
36	Characterizing dispersion in microfluidic channels. Lab on A Chip, 2009, 9, 2537.	6.0	51

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37	Dispersion due to wall interactions in microfluidic separation systems. Physics of Fluids, 2008, 20, .	4.0	36
38	Electrokinetic-flow-induced viscous drag on a tethered DNA inside a nanopore. Physical Review E, 2007, 76, 061916.	2.1	57
39	Effect of Salt Concentration on the Electrophoretic Speed of a Polyelectrolyte through a Nanopore. Physical Review Letters, 2007, 98, 238104.	7.8	129
40	A method for characterizing adsorption of flowing solutes to microfluidic device surfaces. Lab on A Chip, 2007, 7, 281-285.	6.0	16
41	Electrophoresis of a polyelectrolyte through a nanopore. Physical Review E, 2006, 74, 041901.	2.1	62
42	ELECTROKINETIC FLOW AND DISPERSION IN CAPILLARY ELECTROPHORESIS. Annual Review of Fluid Mechanics, 2006, 38, 309-338.	25.0	153
43	Electroosmotic flow in a rectangular channel with variable wall zeta-potential: Comparison of numerical simulation with asymptotic theory. Electrophoresis, 2006, 27, 611-619.	2.4	43
44	Mathematical Model Describing Gradient Focusing Methods for Trace Analytes. Analytical Chemistry, 2005, 77, 5380-5384.	6.5	15
45	Fluid mechanics of electroosmotic flow and its effect on band broadening in capillary electrophoresis. Electrophoresis, 2004, 25, 214-228.	2.4	183
46	Peak tailing in electrophoresis due to alteration of the wall charge by adsorbed analytes a. Analytica Chimica Acta, 2004, 507, 87-93.	5.4	14
47	Flame holes and flame disks on the surface of a diffusion flame. Journal of Fluid Mechanics, 2004, 513, 287-307.	3.4	21
48	The Force Exerted by the Membrane Potential during Protein Import into the Mitochondrial Matrix. Biophysical Journal, 2004, 86, 3647-3652.	0.5	38
49	A simple model illustrating the role of turbulence on phytoplankton blooms. Journal of Mathematical Biology, 2003, 46, 333-346.	1.9	12
50	Particulate flow simulations using lubrication theory solution enrichment. International Journal for Numerical Methods in Engineering, 2003, 56, 1261-1289.	2.8	35
51	Effects of heat release in laminar diffusion flames lifted on round jets. Combustion and Flame, 2003, 134, 355-368.	5.2	69
52	The effect of wall interactions in capillary-zone electrophoresis. Journal of Fluid Mechanics, 2003, 491, 285-300.	3.4	57
53	A similarity solution describing the collision of two planar premixed flames. Combustion Theory and Modelling, 2003, 7, 645-652.	1.9	8
54	Band Broadening in a Microcapillary with a Stepwise Change in the Î¶-potential. Analytical Chemistry, 2002, 74, 4198-4203.	6.5	45

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55	Effect of Analyte Adsorption on the Electroosmotic Flow in Microfluidic Channels. Analytical Chemistry, 2002, 74, 771-775.	6.5	61
56	Lubrication theory for electro-osmotic flow in a microfluidic channel of slowly varying cross-section and wall charge. Journal of Fluid Mechanics, 2002, 459, 103-128.	3.4	182
57	Analysis and Control of Errors in the Numerical Simulation of Turbulence. , 2002, , 101-140.		2
58	Stability diagram for lift-off and blowout of a round jet laminar diffusion flame. Combustion and Flame, 2001, 124, 646-655.	5.2	58
59	Theoretical and numerical study of a symmetrical triple flame using the parabolic flame path approximation. Journal of Fluid Mechanics, 2000, 415, 227-260.	3.4	80
60	A hyperbolic equation for turbulent diffusion. Nonlinearity, 2000, 13, 1855-1866.	1.4	8
61	Mathematical and Physical Constraints on Large-Eddy Simulation of Turbulence. AIAA Journal, 1999, 37, 425-433.	2.6	101
62	Nonlinear theory of power transfer between multiple crossed laser beams in a flowing plasma. Physics of Plasmas, 1998, 5, 1461-1466.	1.9	42
63	Effect of smoothing by spectral dispersion on flow induced laser beam deflection: The random phase modulation scheme. Physics of Plasmas, 1998, 5, 775-781.	1.9	12
64	Effect of induced spatial incoherence on flow induced laser beam deflection: Analytic theory. Physics of Plasmas, 1997, 4, 4189-4191.	1.9	4
65	Two-dimensional plasma flow past a laser beam. Physics of Plasmas, 1997, 4, 2376-2396.	1.9	18
66	A numerical study of self-similarity in a turbulent plane wake using large-eddy simulation. Physics of Fluids, 1997, 9, 1729-1739.	4.0	46
67	An Analysis of Numerical Errors in Large-Eddy Simulations of Turbulence. Journal of Computational Physics, 1996, 125, 187-206.	3.8	471
68	The Basic Equations for the Large Eddy Simulation of Turbulent Flows in Complex Geometry. Journal of Computational Physics, 1995, 118, 24-37.	3.8	380
69	On the representation of backscatter in dynamic localization models. Physics of Fluids, 1995, 7, 606-616.	4.0	127
70	A dynamic localization model for large-eddy simulation of turbulent flows. Journal of Fluid Mechanics, 1995, 297, 402-402.	3.4	7
71	A dynamic localization model for large-eddy simulation of turbulent flows. Journal of Fluid Mechanics, 1995, 286, 229-255.	3.4	648
72	On thermonuclear convection: I shellular instability. Geophysical and Astrophysical Fluid Dynamics, 1991, 61, 161-178.	1.2	13