Sanjoy Banerjee

List of Publications by Year
in descending order

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Version: 2024-02-01

102	4,482	71102	110387
papers	citations	41 h-index	64 g-index

103	103	103	3785
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Hydroxyl Conducting Hydrogels Enable Low-Maintenance Commercially Sized Rechargeable Znâ€“MnO2 Batteries for Use in Solar Microgrids. Polymers, 2022, 14, 417.	4.5	6
2	Driving Zn-MnO2 grid-scale batteries: A roadmap to cost-effective energy storage. MRS Energy & Sustainability, 2022, 9, 13-18.	3.0	8
3	Electroactive ZnO: Mechanisms, Conductivity, and Advances in Zn Alkaline Battery Cycling. Advanced Energy Materials, 2022, 12, .	19.5	20
4	The advent of membrane-less zinc-anode aqueous batteries with lithium battery-like voltage. Materials Horizons, 2022, 9, 2160-2171.	12.2	4
5	Aqueous Mn-Zn and Ni-Zn Batteries for Sustainable Energy Storage. , 2021, , 1-26.		1
6	Glassy dynamics and equilibrium state on the honeycomb lattice: Role of surface diffusion and desorption on surface crowding. Physical Review E, 2021, 103, 022801.	2.1	6
7	Adsorption kinetics and thermodynamic properties of a binary mixture of hard-core particles on a square lattice. Journal of Chemical Physics, 2021, 154, 074705.	3.0	6
8	Reducing Zinc Redistribution and Extending Cycle Life Via Electrochemical Synthesis of Zinc/Zinc Oxide Anodes in Rechargeable Alkaline Batteries. Journal of the Electrochemical Society, 2021, 168, 040514.	2.9	5
9	Material Failure Mechanisms of Alkaline Zn Rechargeable Conversion Electrodes. ACS Applied Energy Materials, 2021, 4, 3381-3392.	5.1	17
10	Structureâ€“Dynamic Function Relations of Asphaltenes. Energy & Fuels, 2021, 35, 13610-13632.	5.1	14
11	Scale-up of a downflow bubble column: Experimental investigations. Chemical Engineering Journal, 2020, 386, 121447.	12.7	13
12	Zincate-Blocking-Functionalized Polysulfone Separators for Secondary Znâ€“MnO₂ Batteries. ACS Applied Materials & Interfaces, 2020, 12, 50406-50417.	8.0	21
13	Modeling the Multicomponent Compositional Effects of Asphaltenes on Interfacial Phenomena. Energy & Fuels, 2020, 34, 13673-13685.	5.1	5
14	Overview of Asphaltene Nanostructures and Thermodynamic Applications. Energy & Fuels, 2020, 34, 15082-15105.	5.1	101
15	Study of Asphaltene Deposition onto Stainless-Steel Surfaces Using Quartz Crystal Microbalance with Dissipation. Energy & Fuels, 2020, 34, 9283-9295.	5.1	7
16	Breaking the 2 V Barrier in Aqueous Zinc Chemistry: Creating 2.45 and 2.8 V MnO₂â€“Zn Aqueous Batteries. ACS Energy Letters, 2019, 4, 2144-2146.	17.4	142
17	Going beyond Intercalation Capacity of Aqueous Batteries by Exploiting Conversion Reactions of Mn and Zn electrodes for Energyâ€Dense Applications. Advanced Energy Materials, 2019, 9, 1902270.	19.5	59
18	Liquid-hexatic-solid phase transition of a hard-core lattice gas with third neighbor exclusion. Journal of Chemical Physics, 2019, 151, 104702.	3.0	19

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19	Comparison of void fraction measurements using different techniques in two-phase flow bubble column reactors. International Journal of Multiphase Flow, 2018, 102, 119-129.	3.4	38
20	Accessing the second electron capacity of MnO2 by exploring complexation and intercalation reactions in energy dense alkaline batteries. International Journal of Hydrogen Energy, 2018, 43, 8480-8487.	7.1	36
21	Chemical hydrodynamics of a downward microbubble flow for intensification of gasâ€fed bioreactors. AICHE Journal, 2018, 64, 1399-1411.	3.6	16
22	Inertial flow transitions of a suspension in Taylorâ€“Couette geometry. Journal of Fluid Mechanics, 2018, 835, 936-969.	3.4	43
23	An Operando Study of the Initial Discharge of Bi and Bi/Cu Modified MnO₂. Journal of the Electrochemical Society, 2018, 165, A2935-A2947.	2.9	20
24	Rechargeable Zn-MnO₂ batteries for utility load management and renewable integration. , 2018, , .		2
25	Hydrodynamics under the jet-array of a downflow microbubble column: Performance intensification. Chemical Engineering and Processing: Process Intensification, 2018, 130, 326-331.	3.6	4
26	Mixture Effect on the Dilatation Rheology of Asphaltenes-Laden Interfaces. Langmuir, 2017, 33, 1927-1942.	3.5	56
27	Regenerable Cu-intercalated MnO2 layered cathode for highly cyclable energy dense batteries. Nature Communications, 2017, 8, 14424.	12.8	216
28	Void fraction, bubble size and interfacial area measurements in co-current downflow bubble column reactor with microbubble dispersion. Chemical Engineering Science, 2017, 168, 403-413.	3.8	47
29	Rechargeable Zinc Alkaline Anodes for Long-Cycle Energy Storage. Chemistry of Materials, 2017, 29, 4819-4832.	6.7	120
30	Rapid electrochemical synthesis of Î´-MnO2 from Î³-MnO2 and unleashing its performance as an energy dense electrode. Materials Today Energy, 2017, 6, 198-210.	4.7	30
31	A calcium hydroxide interlayer as a selective separator for rechargeable alkaline Zn/MnO2 batteries. Electrochemistry Communications, 2017, 81, 136-140.	4.7	49
32	A conversion-based highly energy dense Cu²⁺ intercalated Bi-birnessite/Zn alkaline battery. Journal of Materials Chemistry A, 2017, 5, 15845-15854.	10.3	63
33	Comparison of Gas Hold-Up Profiles in Co-Current, Counter-Current and Batch Bubble Column Reactors Measured Using Gamma Densitometry and Surface of Revolution Method. , 2016, , .		2
34	Numerical and Experimental Analysis of Single Phase Jet Interactions. , 2016, , .		3
35	Effect of Surfactant Addition on Void Fraction Distributions Measured by a Wire Mesh Sensor. , 2016, , .		2
36	Impact of anode substrates on electrodeposited zinc over cycling in zinc-anode rechargeable alkaline batteries. Electrochimica Acta, 2016, 212, 603-613.	5.2	80

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37	Operando identification of the point of [Mn2]O4 spinel formation during Î³-MnO2 discharge within batteries. Journal of Power Sources, 2016, 321, 135-142.	7.8	46
38	Effect of Premixed Asphaltenes and Demulsifier on Oil-Water Interfacial Properties. Journal of Dispersion Science and Technology, 2015, 36, 1465-1472.	2.4	9
39	Interfacial Properties of Asphaltenes at Tolueneâ€“Water Interfaces. Langmuir, 2015, 31, 4878-4886.	3.5	57
40	Applicability of the Langmuir Equation of State for Asphaltene Adsorption at the Oilâ€“Water Interface: Coal-Derived, Petroleum, and Synthetic Asphaltenes. Energy & Fuels, 2015, 29, 3584-3590.	5.1	55
41	Hetaerolite Profiles in Alkaline Batteries Measured by High Energy EDXRD. Journal of the Electrochemical Society, 2015, 162, A162-A168.	2.9	63
42	Rechargeability and economic aspects of alkaline zincâ€“manganese dioxide cells for electrical storage and load leveling. Journal of Power Sources, 2015, 276, 7-18.	7.8	104
43	ELECTRODEPOSITION MODELING USING COUPLED PHASE-FIELD AND LATTICE BOLTZMANN APPROACH. International Journal of Modern Physics C, 2014, 25, 1340018.	1.7	4
44	An In Situ Synchrotron Study of Zinc Anode Planarization by a Bismuth Additive. Journal of the Electrochemical Society, 2014, 161, A275-A284.	2.9	48
45	Development and testing of an economic grid-scale flow-assisted zinc/nickel-hydroxide alkaline battery. Journal of Power Sources, 2014, 264, 49-58.	7.8	50
46	Multigrid lattice Boltzmann method for accelerated solution of elliptic equations. Journal of Computational Physics, 2014, 265, 172-194.	3.8	32
47	Real-time materials evolution visualized within intact cycling alkaline batteries. Journal of Materials Chemistry A, 2014, 2, 2757-2764.	10.3	53
48	Asphaltene-Laden Interfaces Form Soft Glassy Layers in Contraction Experiments: A Mechanism for Coalescence Blocking. Langmuir, 2014, 30, 12795-12803.	3.5	71
49	Morphological Evolution of Nanocluster Aggregates and Single Crystals in Alkaline Zinc Electrodeposition. Journal of Physical Chemistry C, 2014, 118, 8656-8666.	3.1	26
50	Electrodeposition of preferentially oriented zinc for flow-assisted alkaline batteries. Journal of Power Sources, 2014, 256, 145-152.	7.8	63
51	Long-Term Adsorption Kinetics of Asphaltenes at the Oilâ€“Water Interface: A Random Sequential Adsorption Perspective. Langmuir, 2014, 30, 8381-8390.	3.5	80
52	An Investigation of the Lattice Boltzmann Method for Large Eddy Simulation of Complex Turbulent Separated Flow. Journal of Fluids Engineering, Transactions of the ASME, 2013, 135, .	1.5	8
53	Interfacial Rheology of Asphaltenes at Oilâ€“Water Interfaces and Interpretation of the Equation of State. Langmuir, 2013, 29, 4750-4759.	3.5	212
54	Airâ€“water gas transfer and near-surface motions. Journal of Fluid Mechanics, 2013, 733, 588-624.	3.4	64

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55	Computation of transitional flow past a circular cylinder using multiblock lattice Boltzmann method with a dynamic subgrid scale model. Fluid Dynamics Research, 2013, 45, 055510.	1.3	6
56	Application of Coupled Lattice Boltzmann and Phase-Field Methods for Multiphase Flow Simulations. , 2013, , .		0
57	Asphaltene Nanoscience and Reservoir Fluid Gradients, Tar Mat Formation, and the Oil-Water Interface. , 2013, , .		19
58	Inertial Frame Independent Forcing for Discrete Velocity Boltzmann Equation: Implications for Filtered Turbulence Simulation. Communications in Computational Physics, 2012, 12, 732-766.	1.7	3
59	Adsorption Kinetics of Asphaltenes at the Oilâ€“Water Interface and Nanoaggregation in the Bulk. Langmuir, 2012, 28, 9986-9995.	3.5	199
60	An indicator of zinc morphology transition in flowing alkaline electrolyte. Journal of Power Sources, 2012, 211, 119-128.	7.8	63
61	Phase-field Modeling of Dendritic Zinc Deposition in Zinc-Nickel Flow Batteries. ECS Meeting Abstracts, 2011, , .	0.0	0
62	On the Three-Dimensional Central Moment Lattice Boltzmann Method. Journal of Statistical Physics, 2011, 143, 747-794.	1.2	67
63	Zinc morphology in zincâ€“nickel flow assisted batteries and impact on performance. Journal of Power Sources, 2011, 196, 2340-2345.	7.8	129
64	Gas evolution in a flow-assisted zincâ€“nickel oxide battery. Journal of Power Sources, 2011, 196, 6583-6587.	7.8	46
65	A Lateral Microfluidic Cell for Imaging Electrodeposited Zinc near the Shorting Condition. Journal of the Electrochemical Society, 2010, 157, A1279.	2.9	49
66	Incorporating forcing terms in cascaded lattice Boltzmann approach by method of central moments. Physical Review E, 2009, 80, 036702.	2.1	93
67	A method for three-dimensional interfacial particle image velocimetry (3D-IPIV) of an airâ€“water interface. Measurement Science and Technology, 2009, 20, 045403.	2.6	37
68	Non-equilibrium particle-field simulations of polymer-nanocomposite dynamics. Chemical Engineering Science, 2009, 64, 4754-4757.	3.8	10
69	Dynamic subgrid scale modeling of turbulent flows using lattice-Boltzmann method. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 2640-2658.	2.6	77
70	Steady state convergence acceleration of the generalized lattice Boltzmann equation with forcing term through preconditioning. Journal of Computational Physics, 2009, 228, 746-769.	3.8	25
71	Generalized lattice Boltzmann equation with forcing term for computation of wall-bounded turbulent flows. Physical Review E, 2009, 79, 026703.	2.1	76
72	Computation of turbulent flow and secondary motions in a square duct using a forced generalized lattice Boltzmann equation. Physical Review E, 2009, 79, 026704.	2.1	21

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73	Transport phenomena at interfaces between turbulent fluids. AICHE Journal, 2008, 54, 344-349.	3.6	31
74	Turbulence and heat exchange in condensing vapor-liquid flow. Physics of Fluids, 2008, 20, .	4.0	25
75	Free-surface microfluidic control of surface-enhanced Raman spectroscopy for the optimized detection of airborne molecules. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18898-18901.	7.1	139
76	Modeling of Interphase Turbulent Transport Processes. Industrial & Engineering Chemistry Research, 2007, 46, 3063-3068.	3.7	7
77	Numerical method for hydrodynamic transport of inhomogeneous polymer melts. Journal of Computational Physics, 2007, 224, 681-698.	3.8	14
78	The Air-Water Interface: Turbulence and Scalar Exchange. Environmental Science and Engineering, 2007, , 87-101.	0.2	10
79	Hydrodynamic Self-Consistent Field Theory for Inhomogeneous Polymer Melts. Physical Review Letters, 2006, 97, 114501.	7.8	21
80	Nanoscale resolution microchannel flow velocimetry by atomic force microscopy. Applied Physics Letters, 2006, 89, 153123.	3.3	11
81	Numerical Simulations of Bubble Growth and Detachment in Microgravity and Normal Gravity Shear Flows. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2005, 71, 1256-1264.	0.2	2
82	A measure of near-surface fluid motions that predicts air-water gas transfer in a wide range of conditions. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	42
83	An Improved Three-Dimensional Level Set Method for Gas-Liquid Two-Phase Flows. Journal of Fluids Engineering, Transactions of the ASME, 2004, 126, 578-585.	1.5	18
84	Surface divergence models for scalar exchange between turbulent streams. International Journal of Multiphase Flow, 2004, 30, 963-977.	3.4	99
85	Nanoscale velocityâ€“drag force relationship in thin liquid layers measured by atomic force microscopy. Applied Physics Letters, 2004, 85, 3881-3883.	3.3	19
86	Leak detection in liquefied gas pipelines by artificial neural networks. AICHE Journal, 1998, 44, 2675-2688.	3.6	67
87	Turbulence modification by large-scale organized electrohydrodynamic flows. Physics of Fluids, 1998, 10, 1742-1756.	4.0	114
88	Lagrangian simulation of turbulent particle dispersion in electrostatic precipitators. AICHE Journal, 1997, 43, 1403-1413.	3.6	26
89	Direct numerical simulation of nearâ€interface turbulence in coupled gasâ€liquid flow. Physics of Fluids, 1996, 8, 1643-1665.	4.0	108
90	Upwellings, Downdrafts, and Whirlpools: Dominant Structures in Free Surface Turbulence. Applied Mechanics Reviews, 1994, 47, S166-S172.	10.1	24

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91	Symposium on Particle-Turbulence Interaction. Applied Mechanics Reviews, 1994, 47, S43-S43.	10.1	2
92	Direct simulation of turbulent particle transport in electrostatic precipitators. AICHE Journal, 1993, 39, 1910-1919.	3.6	19
93	Waveâ€“turbulence interaction in freeâ€surface channel flows. Physics of Fluids A, Fluid Dynamics, 1992, 4, 2727-2738.	1.6	28
94	Sixth P. V. Danckwerts Memorial Lecture presented at Glazier's Hall, London, U.K.. Chemical Engineering Science, 1992, 47, 1793-1817.	3.8	17
95	TURBULENCE STRUCTURE AND TRANSPORT MECHANISMS AT INTERFACES. , 1990, , .		27
96	Conservative Implicit Method for Shock Wave Calculations. AIAA Journal, 1979, 17, 537-540.	2.6	0
97	Mass velocity measurement in steam-water flow by pitot tubes. AICHE Journal, 1977, 23, 385-387.	3.6	7
98	Studies on cocurrent gasâ€liquid flow in helically coiled tubes. II. Theory and experiments on turbulent mass transfer with and without chemical reaction. Canadian Journal of Chemical Engineering, 1970, 48, 542-551.	1.7	30
99	Studies on cocurrent gasâ€liquid flow in helically coiled tubes. I. Flow patterns, pressure drop and holdup. Canadian Journal of Chemical Engineering, 1969, 47, 445-453.	1.7	109
100	Mass Transfer to Falling Wavy Liquid Films in Turbulent Flow. Industrial & Engineering Chemistry Fundamentals, 1968, 7, 22-27.	0.7	106
101	Film inversion of cocurrent two-phase flow in helical coils. AICHE Journal, 1967, 13, 189-191.	3.6	107
102	Ion-Selective Graphene Oxide/Polyvinyl Alcohol Composite Membranes for Rechargeable Alkaline Zinc Manganese Dioxide Batteries. ACS Applied Energy Materials, 0, , .	5.1	4