

Jie Xiao

List of Publications by Year in descending order

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Version: 2024-02-01

74
papers

1,105
citations

430442

18
h-index

500791

28
g-index

76
all docs

76
docs citations

76
times ranked

961
citing authors

#	ARTICLE	IF	CITATIONS
1	A reference-component coordinate system approach to model the mass transfer of a droplet with binary volatiles. <i>Drying Technology</i> , 2023, 41, 202-221.	1.7	3
2	Breakup behavior of a shear-thinning droplet on randomly rough surfaces: A numerical study. <i>Chemical Engineering Science</i> , 2022, 247, 117071.	1.9	7
3	A simulation study on expansion of a small intestine model reactor. <i>Chemical Engineering Research and Design</i> , 2022, 178, 369-381.	2.7	2
4	Understanding the formation of ultrafine maltodextrin particles under simultaneous convective drying and antisolvent vapour precipitation. <i>Advanced Powder Technology</i> , 2022, 33, 103440.	2.0	2
5	Understanding the impact of convective ethanol humidity on the precipitation behaviour of dissolved lactose in a water droplet. <i>Chemical Engineering Science</i> , 2022, 254, 117616.	1.9	0
6	Mixing intensification with soft-elastic baffle (SEB) in a soft-elastic reactor (SER). <i>Chemical Engineering and Processing: Process Intensification</i> , 2022, 180, 108764.	1.8	3
7	Deep neural network for generalizing and forecasting on-demand drying kinetics of droplet solutions. <i>Powder Technology</i> , 2022, 403, 117392.	2.1	4
8	The role of circular folds in mixing intensification in the small intestine: A numerical study. <i>Chemical Engineering Science</i> , 2021, 229, 116079.	1.9	19
9	Comparison of the effects of edge functionalized graphene oxide membranes on monovalent cation selectivity. <i>Journal of Membrane Science</i> , 2021, 620, 118892.	4.1	11
10	Precise patterning of single crystal arrays of organic semiconductors by a patterned microchannel dip-coating method for organic field-effect transistors. <i>Journal of Materials Chemistry C</i> , 2021, 9, 5174-5181.	2.7	10
11	Mixing and emptying of gastric contents in human-stomach: A numerical study. <i>Journal of Biomechanics</i> , 2021, 118, 110293.	0.9	13
12	Recent initiatives in effective modeling of spray drying. <i>Drying Technology</i> , 2021, 39, 1614-1647.	1.7	12
13	Analyzing industrial CVD reactors using a porous media approach. <i>Chemical Engineering Journal</i> , 2021, 415, 129038.	6.6	9
14	Wafer-scale Growth of Aligned C ₆₀ Single Crystals via Solution-phase Epitaxy for High-performance Transistors. <i>Advanced Functional Materials</i> , 2021, 31, 2105459.	7.8	9
15	Simulation based investigation of 2D soft-elastic reactors for better mixing performance. <i>Engineering Applications of Computational Fluid Mechanics</i> , 2021, 15, 1229-1242.	1.5	2
16	Multi-Peptide Adsorption on Uncharged Solid Surfaces: A Coarse-Grained Simulation Study. <i>Engineering</i> , 2020, 6, 186-195.	3.2	5
17	The impact of self-sustained oscillations on particle residence time in a commercial scale spray dryer. <i>Powder Technology</i> , 2020, 360, 1177-1191.	2.1	17
18	Relationship between Desalination Performance of Graphene Oxide Membranes and Edge Functional Groups. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 4769-4776.	4.0	19

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19	How motility can enhance mass transfer and absorption in the duodenum: Taking the structure of the villi into account. <i>Chemical Engineering Science</i> , 2020, 213, 115406.	1.9	20
20	Mechanistic exploration of glycemic lowering by soluble dietary fiber ingestion: Predictive modeling and simulation. <i>Chemical Engineering Science</i> , 2020, 228, 115965.	1.9	10
21	Numerical simulation of the mixing process in a soft elastic reactor with bionic contractions. <i>Chemical Engineering Science</i> , 2020, 220, 115623.	1.9	14
22	Predicting the Mixing Time of Soft Elastic Reactors: Physical Models and Empirical Correlations. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 6258-6268.	1.8	9
23	Computationally inexpensive simulation of agglomeration in spray drying while preserving structure related information using CFD. <i>Powder Technology</i> , 2020, 372, 372-393.	2.1	8
24	Vaporization and particle formation during drying of multisolvent droplet without and with antisolvent-vapor infusion. <i>Chemical Engineering Science</i> , 2020, 219, 115617.	1.9	3
25	Increasing the Efficiency of Photocatalytic Reactions via Surface Microenvironment Engineering. <i>Journal of the American Chemical Society</i> , 2020, 142, 2738-2743.	6.6	84
26	Numerical simulation of mono-disperse droplet spray dryer under the influence of nozzle motion. <i>Powder Technology</i> , 2019, 355, 93-105.	2.1	10
27	Effects of Fluorolink® S10 surface coating on WPC fouling of stainless steel surfaces and subsequent cleaning. <i>Food and Bioproducts Processing</i> , 2019, 118, 130-138.	1.8	6
28	Effects of Edge Functional Groups on Water Transport in Graphene Oxide Membranes. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 8483-8491.	4.0	36
29	Numerical simulation of milk fouling: Taking fouling layer domain and localized surface reaction kinetics into account. <i>Chemical Engineering Science</i> , 2019, 197, 306-316.	1.9	12
30	Numerical probing of suspended lactose droplet drying experiment. <i>Journal of Food Engineering</i> , 2019, 254, 51-63.	2.7	2
31	Single- and Dual-Stream Foam Fractionation of Protein – Exploring a Simple and Effective System to Improve Fundamental Understanding. <i>International Journal of Food Engineering</i> , 2019, 15, .	0.7	3
32	Identification of regions in a spray dryer susceptible to forced agglomeration by CFD simulations. <i>Powder Technology</i> , 2019, 346, 23-37.	2.1	19
33	Numerical simulation of mono-disperse droplet spray dryer: Coupling distinctively different sized chambers. <i>Chemical Engineering Science</i> , 2019, 200, 12-26.	1.9	8
34	How eyelashes can protect the eye through inhibiting ocular water evaporation: a chemical engineering perspective. <i>Journal of the Royal Society Interface</i> , 2019, 16, 20190425.	1.5	3
35	On the effect of turbulence models on CFD simulations of a counter-current spray drying process. <i>Chemical Engineering Research and Design</i> , 2019, 141, 592-607.	2.7	23
36	Mixing in a soft elastic reactor (SER): A simulation study. <i>Canadian Journal of Chemical Engineering</i> , 2019, 97, 676-686.	0.9	19

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37	Mixing in a soft-elastic reactor (SER) characterized using an RGB based image analysis method. <i>Chemical Engineering Science</i> , 2018, 181, 272-285.	1.9	25
38	A Softâ€Elastic Reactor Inspired by the Animal Upper Digestion Tract. <i>Chemical Engineering and Technology</i> , 2018, 41, 1051-1056.	0.9	22
39	As(V) and Sb(V) co-adsorption onto ferrihydrite: synergistic effect of Sb(V) on As(V) under competitive conditions. <i>Environmental Science and Pollution Research</i> , 2018, 25, 14585-14594.	2.7	48
40	On the importance of droplet shrinkage in CFD-modeling of spray drying. <i>Drying Technology</i> , 2018, 36, 1785-1801.	1.7	25
41	Numerical investigation of droplet pre-dispersion in a monodisperse droplet spray dryer. <i>Particuology</i> , 2018, 38, 44-60.	2.0	10
42	Computational Study of Single Droplet Deposition on Randomly Rough Surfaces: Surface Morphological Effect on Droplet Impact Dynamics. <i>Industrial & Engineering Chemistry Research</i> , 2018, 57, 7664-7675.	1.8	17
43	Homogenization of liquids inside a new soft elastic reactor: Revealing mixing behavior through dimensional analysis. <i>Chemical Engineering Science</i> , 2018, 192, 1071-1080.	1.9	15
44	Further understanding of the biased diffusion for peptide adsorption on uncharged solid surfaces that strongly interact with water molecules. <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 2017, 518, 197-207.	2.3	4
45	Detailed numerical analysis of evaporation of a micrometer water droplet suspended on a glass filament. <i>Chemical Engineering Science</i> , 2017, 165, 33-47.	1.9	28
46	A systematic investigation of the fouling induction phenomena with artificial crystal structures and distributions. <i>Chemical Engineering Science</i> , 2017, 168, 137-155.	1.9	4
47	Numerical Simulation of Crystallization Fouling: Taking into Account Fouling Layer Structures. <i>Heat Transfer Engineering</i> , 2017, 38, 775-785.	1.2	9
48	Understanding hydrotropism: A chemical engineering perspective. <i>AIChE Journal</i> , 2016, 62, 1331-1346.	1.8	2
49	Multiscale Modeling and Optimization of Nanocoat Curing for Energy Efficient and Quality Assured Coating Manufacturing. <i>Industrial & Engineering Chemistry Research</i> , 2016, 55, 3351-3359.	1.8	5
50	Filtered model for the cold-model gasâ€solid flow in a large-scale MTO fluidized bed reactor. <i>Chemical Engineering Science</i> , 2016, 143, 369-383.	1.9	57
51	Multiscale modeling for nanoscale surface composition of spray-dried powders: The effect of initial droplet size. <i>Drying Technology</i> , 2016, 34, 1063-1072.	1.7	8
52	An effective rate approach to modeling singleâ€stage spray drying. <i>AIChE Journal</i> , 2015, 61, 4140-4151.	1.8	12
53	An Improved Calculation Procedure on Surface Composition of Spray-Dried Protein-Sugar Two-Component Systems. <i>Drying Technology</i> , 2015, 33, 817-821.	1.7	8
54	Towards predictive modeling of crystallization fouling: A pseudo-dynamic approach. <i>Food and Bioprocess Processing</i> , 2015, 93, 188-196.	1.8	23

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55	Three-Dimensional Numerical Investigation of a Mono-Disperse Droplet Spray Dryer: Validation Aspects and Multi-Physics Exploration. <i>Drying Technology</i> , 2015, 33, 742-756.	1.7	15
56	Multiscale modeling for surface composition of spray-dried two-component powders. <i>AIChE Journal</i> , 2014, 60, 2416-2427.	1.8	20
57	CFD-DEM modeling of gas-solid flow and catalytic MTO reaction in a fluidized bed reactor. <i>Computers and Chemical Engineering</i> , 2014, 60, 1-16.	2.0	86
58	Direct concurrent multi-scale CFD modeling: The effect of intraparticle transfer on the flow field in a MTO FBR. <i>Chemical Engineering Science</i> , 2013, 104, 690-700.	1.9	18
59	Intraparticle Mass and Heat Transfer Modeling of Methanol to Olefins Process on SAPO-34: A Single Particle Model. <i>Industrial & Engineering Chemistry Research</i> , 2013, 52, 3693-3707.	1.8	15
60	Technology Integration for Sustainable Manufacturing: An Applied Study on Integrated Profitable Pollution Prevention in Surface Finishing Systems. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 11434-11444.	1.8	4
61	Design of Anti-Icing Coatings Using Supercooled Droplets As Nano-to-Microscale Probes. <i>Langmuir</i> , 2012, 28, 4434-4446.	1.6	62
62	Design of Sustainable Multifunctional Nanocoatings: A Goal-driven Multiscale Systems Approach. <i>Chinese Journal of Chemical Engineering</i> , 2011, 19, 666-673.	1.7	3
63	Integrated multiscale product and process control of polymeric coating curing. <i>Chemical Engineering Journal</i> , 2010, 161, 269-275.	6.6	1
64	Computational Design of Polymer Nanocomposite Coatings: A Multiscale Hierarchical Approach for Barrier Property Prediction. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 7718-7727.	1.8	16
65	Towards Nanomaterial Design Automation: Hierarchical Computational Architecture Development. <i>Computer Aided Chemical Engineering</i> , 2009, , 81-86.	0.3	0
66	Microstructure-property-quality correlated paint design: An LMC-based approach. <i>AIChE Journal</i> , 2009, 55, 132-149.	1.8	12
67	Proactive product quality control: An integrated product and process control approach to MIMO systems. <i>Chemical Engineering Journal</i> , 2009, 149, 435-446.	6.6	6
68	NEURAL NETWORK-BASED MODELING AND OPTIMIZATION FOR EFFECTIVE VEHICLE EMISSION TESTING AND ENGINE CALIBRATION. <i>Chemical Engineering Communications</i> , 2008, 195, 706-720.	1.5	8
69	Multiscale Characterization of Automotive Surface Coating Formation for Sustainable Manufacturing. <i>Chinese Journal of Chemical Engineering</i> , 2008, 16, 416-423.	1.7	3
70	Integrated product and process control of Single-Input-Single-Output systems. <i>AIChE Journal</i> , 2007, 53, 891-901.	1.8	5
71	A probability distribution estimation based method for dynamic optimization. <i>AIChE Journal</i> , 2007, 53, 1805-1816.	1.8	13
72	Integrated process and product analysis: A multiscale approach to paint spray. <i>AIChE Journal</i> , 2007, 53, 2841-2857.	1.8	21

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73	Cure-Window-Based Proactive Quality Control in Topcoat Curing. Industrial & Engineering Chemistry Research, 2006, 45, 2351-2360.	1.8	12
74	ACS-based dynamic optimization for curing of polymeric coating. AIChE Journal, 2006, 52, 1410-1422.	1.8	21