

Markus Schubert

List of Publications by Year in descending order

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Version: 2024-02-01

113
papers

1,682
citations

257101

24
h-index

377514

34
g-index

122
all docs

122
docs citations

122
times ranked

852
citing authors

#	ARTICLE	IF	CITATIONS
1	Unsteady-state operation of trickle-bed reactors. <i>Chemical Engineering Science</i> , 2004, 59, 5355-5361.	1.9	66
2	Bubble size and radial gas holdup distributions in a slurry bubble column using ultrafast electron beam X-ray tomography. <i>AIChE Journal</i> , 2013, 59, 1709-1722.	1.8	66
3	Intrinsic flow behavior in a slurry bubble column: A study on the effect of particle size. <i>Chemical Engineering Science</i> , 2013, 93, 401-411.	1.9	58
4	Liquid flow texture analysis in trickle bed reactors using high-resolution gamma ray tomography. <i>Chemical Engineering Journal</i> , 2008, 140, 332-340.	6.6	55
5	Hydrodynamic multiplicity in a tubular reactor with solid foam packings. <i>Chemical Engineering Journal</i> , 2013, 231, 334-344.	6.6	50
6	Visualization and quantitative analysis of dispersive mixing by a helical static mixer in upward co-current gas-liquid flow. <i>Chemical Engineering Journal</i> , 2015, 262, 527-540.	6.6	47
7	Hydrodynamics of cocurrent two-phase flows in slanted porous media: Modulation of pulse flow via bed obliquity. <i>AIChE Journal</i> , 2010, 56, 3189-3205.	1.8	41
8	On the experimental investigation of gas-liquid flow in bubble columns using ultrafast X-ray tomography and radioactive particle tracking. <i>Chemical Engineering Science</i> , 2017, 170, 320-331.	1.9	40
9	Gamma-Ray Computed Tomography for Imaging of Multiphase Flows. <i>Chemie-Ingenieur-Technik</i> , 2013, 85, 1002-1011.	0.4	39
10	Simulation of gas-liquid flow in a helical static mixer. <i>Chemical Engineering Science</i> , 2015, 137, 476-486.	1.9	38
11	Hydrodynamics of descending gas-liquid flows in solid foams: Liquid holdup, multiphase pressure drop and radial dispersion. <i>Chemical Engineering Science</i> , 2017, 168, 480-494.	1.9	35
12	Hydrodynamics of co-current two-phase flow in an inclined rotating tubular fixed bed reactor: Wetting intermittency via periodic catalyst immersion. <i>Chemical Engineering Science</i> , 2015, 128, 147-158.	1.9	34
13	Liquid Holdup in Trickle-Bed Reactors at Very Low Liquid Reynolds Numbers. <i>Industrial & Engineering Chemistry Research</i> , 2005, 44, 6504-6508.	1.8	32
14	Measurement of Liquid Distributions in Particle Packings Using Wire-Mesh Sensor versus Transmission Tomographic Imaging. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 9445-9453.	1.8	32
15	Spatially resolved inline measurement of liquid velocity in trickle bed reactors. <i>Chemical Engineering Journal</i> , 2010, 158, 623-632.	6.6	30
16	Modelling and Simulation of the Monolithic Reactor for Gas-Liquid-Solid Reactions. <i>Chemical Engineering Research and Design</i> , 2005, 83, 811-819.	2.7	29
17	Regime transition in viscous and pseudo viscous systems: A comparative study. <i>AIChE Journal</i> , 2014, 60, 3079-3090.	1.8	29
18	Advanced Tomographic Techniques for Flow Imaging in Columns with Flow Distribution Packings. <i>Chemie-Ingenieur-Technik</i> , 2011, 83, 979-991.	0.4	28

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19	Tomography measurements of gas holdup in rotating foam reactors with Newtonian, non-Newtonian and foaming liquids. <i>Chemical Engineering Science</i> , 2011, 66, 3317-3327.	1.9	28
20	Liquid–solid mass transfer in a tubular reactor with solid foam packings. <i>Chemical Engineering Science</i> , 2014, 108, 223-232.	1.9	27
21	Slow-mode gas/liquid-induced periodic hydrodynamics in trickling packed beds derived from direct measurement of cross-sectional distributed local capacitances. <i>Chemical Engineering and Processing: Process Intensification</i> , 2010, 49, 1107-1121.	1.8	26
22	Compact high-resolution gamma-ray computed tomography system for multiphase flow studies. <i>Review of Scientific Instruments</i> , 2013, 84, 033106.	0.6	26
23	An imaging technique for characterization of fluid flow pattern on industrial-scale column sieve trays. <i>Chemical Engineering Research and Design</i> , 2016, 111, 138-146.	2.7	25
24	Analysis of Flow Patterns in High-Gravity Equipment Using Gamma-Ray Computed Tomography. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 1032-1040.	0.4	25
25	Hydrodynamics and gas–liquid mass transfer in a horizontal rotating foam stirrer reactor. <i>Chemical Engineering Journal</i> , 2013, 217, 10-21.	6.6	24
26	Flow Regime Transition in Open-Cell Solid Foam Packed Reactors: Adaption of the Relative Permeability Concept and Experimental Validation. <i>Industrial & Engineering Chemistry Research</i> , 2015, 54, 9708-9721.	1.8	22
27	Process intensification of gas–liquid downflow and upflow packed beds by a new low-shear rotating reactor concept. <i>AIChE Journal</i> , 2017, 63, 283-294.	1.8	22
28	A study on the influence of the tube layout on sub-channel hydrodynamics in a bubble column with internals. <i>Chemical Engineering Science</i> , 2018, 179, 265-283.	1.9	22
29	Recent Advances in Experimental Techniques for Flow and Mass Transfer Analyses in Thermal Separation Systems. <i>Chemie-Ingenieur-Technik</i> , 2020, 92, 926-948.	0.4	22
30	Intensification of heterogeneous catalytic gas-fluid interactions in reactors with a multichannel monolithic catalyst. <i>Russian Journal of Applied Chemistry</i> , 2006, 79, 1047-1056.	0.1	21
31	Investigation of dynamic liquid distribution and hold-up in structured packings using ultrafast electron beam X-ray tomography. <i>Chemical Engineering and Processing: Process Intensification</i> , 2013, 66, 20-26.	1.8	21
32	Maldistribution susceptibility of monolith reactors: Case study of glucose hydrogenation performance. <i>AIChE Journal</i> , 2016, 62, 4346-4364.	1.8	21
33	Gas–liquid distribution in tubular reactors with solid foam packings. <i>Chemical Engineering and Processing: Process Intensification</i> , 2015, 88, 10-18.	1.8	20
34	Assessment of separation efficiency modeling and visualization approaches pertaining to flow and mixing patterns on distillation trays. <i>Chemical Engineering Science</i> , 2018, 185, 182-208.	1.9	20
35	Preparation of γ -Al ₂ O ₃ / α -Al ₂ O ₃ ceramic foams as catalyst carriers via the replica technique. <i>Catalysis Today</i> , 2022, 383, 64-73.	2.2	19
36	A novel inclined rotating tubular fixed bed reactor concept for enhancement of reaction rates and adjustment of flow regimes. <i>Chemical Engineering Journal</i> , 2015, 281, 931-944.	6.6	18

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37	Hydrodynamics of gas-liquid cocurrent upflow in oscillating packed beds for offshore marine applications. <i>Chemical Engineering Science</i> , 2017, 170, 583-596.	1.9	18
38	Pulse flow in solid foam packed reactors: Analysis of morphology and key characteristics. <i>Chemical Engineering Journal</i> , 2017, 307, 339-352.	6.6	18
39	Water and n-Heptane Volume Fractions in a Rotor-Stator Spinning Disc Reactor. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 16670-16676.	1.8	17
40	Gas holdup of rotating foam reactors measured by μ -tomography effect of solid foam pore size and liquid viscosity. <i>AIChE Journal</i> , 2013, 59, 146-154.	1.8	17
41	Temperature Grid Sensor for the Measurement of Spatial Temperature Distributions at Object Surfaces. <i>Sensors</i> , 2013, 13, 1593-1602.	2.1	17
42	Liquid drainage in inclined packed beds Accelerating liquid draining time via column tilt. <i>Chemical Engineering and Processing: Process Intensification</i> , 2015, 95, 249-255.	1.8	16
43	Hydrodynamics, mixing and mass transfer in a pilot-scale bubble column with dense internals. <i>Chemical Engineering Science</i> , 2019, 202, 491-507.	1.9	16
44	Cocurrent descending two-phase flows in inclined packed beds: Experiments versus simulations. <i>Canadian Journal of Chemical Engineering</i> , 2010, 88, 742-750.	0.9	15
45	Offshore Floating Packed Bed Reactors: Key Challenges and Potential Solutions. <i>Chemical Engineering and Technology</i> , 2017, 40, 1975-1984.	0.9	15
46	Ultrafast X-ray tomographic imaging of multiphase flow in bubble columns - Part 1: Image processing and reconstruction comparison. <i>International Journal of Multiphase Flow</i> , 2018, 104, 258-271.	1.6	14
47	Capacitance wire mesh imaging of bubbly flows for offshore treatment applications. <i>Flow Measurement and Instrumentation</i> , 2015, 45, 298-307.	1.0	13
48	Liquid backmixing in an inclined rotating tubular fixed bed reactor Augmenting liquid residence time via flow regime adjustment. <i>Chemical Engineering and Processing: Process Intensification</i> , 2015, 94, 2-10.	1.8	13
49	Ultrafast X-ray tomographic imaging of multiphase flow in bubble columns Part 2: Characterisation of bubbles in the dense regime. <i>International Journal of Multiphase Flow</i> , 2018, 104, 272-285.	1.6	13
50	Evaluation of performance improvements through application of anisotropic foam packings in rotating packed beds. <i>Chemical Engineering Science</i> , 2021, 230, 116176.	1.9	13
51	Performance comparison between different sparger plate orifice patterns: Hydrodynamic investigation using ultrafast X-ray tomography. <i>Chemical Engineering Journal</i> , 2017, 316, 857-871.	6.6	12
52	Hydrodynamic correlations for bubble columns from complementary UXCT and RPT measurements in identical geometries and conditions. <i>Chemical Engineering Science</i> , 2019, 208, 115099.	1.9	12
53	Hydrodynamic Studies in Slurry Bubble Columns: Experimental and Numerical Study. <i>Chemie-Ingenieur-Technik</i> , 2013, 85, 1092-1098.	0.4	11
54	A New Statistical Parameter for Identifying the Main Transition Velocities in Bubble Columns*. <i>Chemical Engineering and Technology</i> , 2015, 38, 1940-1946.	0.9	11

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55	Extraction of information and reconstruction entropies from ultrafast X-ray tomography data in a bubble column. <i>Chemical Engineering Science</i> , 2017, 170, 225-233.	1.9	11
56	New Evidence for the Mixing Length Concept in a Narrow Bubble Column Operated in the Transition Regime. <i>Journal of Chemical Engineering of Japan</i> , 2014, 47, 722-729.	0.3	10
57	Advanced analysis of liquid dispersion and gas-liquid mass transfer in a bubble column with dense vertical internals. <i>Chemical Engineering Research and Design</i> , 2018, 134, 575-588.	2.7	10
58	Enzymatic decolourization of water using loofa sponge as cellular carrier: Immobilization and dye degradation performance. <i>Canadian Journal of Chemical Engineering</i> , 2018, 96, 2321-2333.	0.9	10
59	Effect of nozzle geometry on pressure drop in submerged gas injection. <i>Journal of Central South University</i> , 2019, 26, 2068-2076.	1.2	10
60	Identification of the regime boundaries in bubble columns based on the degree of randomness in the signals. <i>Canadian Journal of Chemical Engineering</i> , 2020, 98, 1607-1621.	0.9	10
61	Statistical Validation of the Mixing Length Concept in Bubble Columns Operated in the Transition Flow Regime. <i>Journal of Chemical Engineering of Japan</i> , 2015, 48, 107-111.	0.3	9
62	Non-invasive determination of gas phase dispersion coefficients in bubble columns using periodic gas flow modulation. <i>Chemical Engineering Science</i> , 2017, 171, 256-270.	1.9	9
63	Two-Bubble Class Approach Based on Measured Bubble Size Distribution for Bubble Columns with and without Internals. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 2759-2769.	1.8	9
64	Investigation of the radial effect on the transition velocities in a bubble column based on the modified Shannon entropy. <i>Chemical Engineering Research and Design</i> , 2016, 115, 303-309.	2.7	8
65	Flow Regime Transitions in a Bubble Column with Internals Based on a Novel Approach. <i>Journal of Chemical Engineering of Japan</i> , 2018, 51, 373-382.	0.3	8
66	Advanced flow profiler for two-phase flow imaging on distillation trays. <i>Chemical Engineering Science</i> , 2021, 231, 116280.	1.9	8
67	Comparative assessment of different image processing methods to determine the gas-liquid interfacial area in froth regimes of sandwich packings from ultrafast X-ray tomography image data. <i>Chemical Engineering Research and Design</i> , 2019, 147, 676-688.	2.7	7
68	Evaluation of periodic operation of a trickle-bed reactor based on empirical modeling. <i>Chemical Engineering Science</i> , 2010, 65, 4160-4165.	1.9	6
69	Voronoi analysis of bubbly flows via ultrafast X-ray tomographic imaging. <i>Experiments in Fluids</i> , 2016, 57, 1.	1.1	6
70	Dynamic Liquid-Solid Mass Transfer in Solid Foam Packed Reactors at Trickle and Pulse Flow. <i>Industrial & Engineering Chemistry Research</i> , 2017, 56, 13190-13205.	1.8	6
71	Multiphase flow investigations with ultrafast electron beam x-ray tomography. , 2012, , .		5
72	Comparative Hydrodynamic Analysis of Narrow and Pilot-Scale Bubble Columns with Internals. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 1339-1346.	0.4	5

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73	Liquid Flow Visualization in Packed-Bed Multiphase Reactors: Wire-Mesh Sensor Design and Data Analysis for Rotating Fixed Beds. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 1812-1821.	0.4	5
74	Experimental Investigation of the Froth Height in Columns with Sandwich Packings. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 139-144.	0.4	5
75	A recirculation cell approach for hydrodynamic and mass transfer modeling in bubble columns with and without internals. <i>Chemical Engineering Journal</i> , 2020, 383, 123197.	6.6	5
76	Experimental and numerical analysis of the complex permittivity of open-cell ceramic foams. <i>Ceramics International</i> , 2020, 46, 26829-26840.	2.3	5
77	RESIDENCE TIME MEASUREMENTS IN PILOT-SCALE ELECTROLYTIC CELLS: APPLICATION OF LASER-INDUCED FLUORESCENCE. <i>Chemical Engineering Communications</i> , 2010, 197, 1172-1186.	1.5	4
78	Schnelle tomographische Bildgebungsverfahren für Mehrphasenströmungen. <i>TM Technisches Messen</i> , 2011, 78, 579-588.	0.3	4
79	Filtration and Catalytic Reaction in Trickle Beds: The Use of Solid Foam Guard Beds To Mitigate Fines Plugging. <i>Industrial & Engineering Chemistry Research</i> , 2012, 51, 1729-1740.	1.8	4
80	Prediction of Flow Patterns of Rotating Inclined Reactors by Using a Modified Permeability Approach. <i>Chemical Engineering and Technology</i> , 2016, 39, 2077-2086.	0.9	4
81	Smart Tomographic Sensors for Advanced Industrial Process Control TOMOCON. <i>Chemie-Ingenieur-Technik</i> , 2018, 90, 1238-1239.	0.4	4
82	Heterogeneous Modeling Approach for Gas-Limited Reactions in an Inclined Rotating Fixed Bed Reactor. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 637-644.	0.4	4
83	Efficiency Estimation of Tray Columns Based on Flow Profiles and Vapor-Liquid Equilibrium Characteristics of Binary Mixtures. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 23347-23358.	1.8	4
84	Development of a Refined RTD-Based Efficiency Prediction Model for Cross-Flow Trays. <i>Industrial & Engineering Chemistry Research</i> , 2019, 58, 3258-3268.	1.8	4
85	Analysis of the effect of uncertainties in hydrodynamic parameters on the accuracy of the gas flow modulation technique for bubble columns. <i>Chemical Engineering Journal</i> , 2022, 434, 133478.	6.6	4
86	Phase Holdups in Three-Phase Semifluidized Beds and the Generalized Bubble Wake Model. <i>Industrial & Engineering Chemistry Research</i> , 2009, 48, 8393-8401.	1.8	3
87	An Eulerian-Eulerian Computational Approach for Simulating Descending Gas-Liquid Flows in Reactors with Solid Foam Internals. <i>Chemical Engineering and Technology</i> , 2017, 40, 2044-2057.	0.9	3
88	Droplet Retention Time and Pressure Drop in SiSiC Open-Cell Foams Used as Droplet Separation Devices: A Numerical Approach. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 4093-4107.	1.8	3
89	A new approach for estimating the effective froth height on column trays. <i>Chemical Engineering Science</i> , 2021, 231, 116304.	1.9	3
90	Experimental study on the radial distribution of the main transition velocities in bubble columns. <i>WIT Transactions on Engineering Sciences</i> , 2015, , .	0.0	3

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91	Modeling of the Effective Permittivity of Open-Cell Ceramic Foams Inspired by Platonic Solids. <i>Materials</i> , 2021, 14, 7446.	1.3	3
92	Nichtnewtonsche schÄumende Flüssigkeiten in Rieselbettreaktoren â€ Hydrodynamische Charakterisierung und effiziente Schaumbegrenzung. <i>Chemie-Ingenieur-Technik</i> , 2009, 81, 969-978.	0.4	2
93	Identification of the process windows of inclined rotating fixed-bed reactors with concentric tube â€ A hydrodynamic analysis. <i>Chemical Engineering Science</i> , 2020, 220, 115637.	1.9	2
94	Direct Tray and Point Efficiency Measurements Including Weeping Effects through a Convenient Add-On for Air-Water Simulators. <i>Industrial & Engineering Chemistry Research</i> , 2021, 60, 2600-2612.	1.8	2
95	Two-Phase Flow Morphology and Phase Fractions in Larger Feed Line Sections. <i>Chemie-Ingenieur-Technik</i> , 2021, 93, 1134-1141.	0.4	2
96	A new tomography-based approach for the fluid dynamic description of conventional structured packings and sandwich packings. <i>Chemical Engineering and Processing: Process Intensification</i> , 2022, 171, 108530.	1.8	2
97	Experimental analysis of the hydrodynamic performance of an industrial-scale cross-flow sieve tray. <i>Chemical Engineering Research and Design</i> , 2021, 174, 294-306.	2.7	2
98	Effect of Nozzle Geometry on Centerline Gas Holdup in Submerged Gas Injection. <i>Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science</i> , 2021, 52, 4002-4011.	1.0	2
99	Rieselbettreaktoren unter künstlichem Schwerkrafteinfluss â€ Prinzip, Umsetzung, Auswirkung und Anwendung. <i>Chemie-Ingenieur-Technik</i> , 2009, 81, 957-967.	0.4	1
100	Hydrodynamische Charakterisierung eines Gas/flüssig-durchströmten geneigten Festbettdrehrohrreaktors. <i>Chemie-Ingenieur-Technik</i> , 2012, 84, 1250-1250.	0.4	1
101	Determination of the entropy radial minimum and the various transition velocities in an air-water bubble column. <i>Chemical Engineering Science</i> , 2017, 170, 234-240.	1.9	1
102	Capacity and Sizing of Wire Mesh Mist Eliminators at Critical Fluid Properties. <i>Chemie-Ingenieur-Technik</i> , 2021, 93, 1166-1177.	0.4	1
103	Morphology of Flashing Feeds at Critical Fluid Properties in Larger Pipes. <i>Chemie-Ingenieur-Technik</i> , 2021, 93, 1126-1133.	0.4	1
104	Novel Mixing Relations for Determining the Effective Thermal Conductivity of Open-Cell Foams. <i>Materials</i> , 2022, 15, 2168.	1.3	1
105	Rieselbettreaktoren unter Filtrationsbedingungen â€ Mechanismus der Ablagerung, Hydrodynamische Folgen, Methoden zur Begrenzung der Filterwirkung. <i>Chemie-Ingenieur-Technik</i> , 2009, 81, 979-988.	0.4	0
106	Monitoring von Mehrphasenverteilungen in Packungskolonnen mittels Gittersensoren. <i>Chemie-Ingenieur-Technik</i> , 2010, 82, 1591-1591.	0.4	0
107	Multiphase flow modelling in moderately rotating inclined porous media. <i>Canadian Journal of Chemical Engineering</i> , 2016, 94, 1995-2003.	0.9	0
108	Rate-based Modellierung von CO ₂ -Absorptionskolonnen mit Anstaupackungen. <i>Chemie-Ingenieur-Technik</i> , 2019, 91, 125-138.	0.4	0

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109	Flow Morphologies in Straight and Bent Horizontal Pipes. ACS Engineering Au, 2021, 1, 39-49.	2.3	0
110	Non-invasive morphological characterization of cellular loofa sponges using digital microscopy and micro-CT. International Journal of Chemical Reactor Engineering, 2021, .	0.6	0
111	Inclined rotating fixed-bed reactor " Experimental characterization and model-based predictions. Chemical Engineering Journal, 2021, 423, 130244.	6.6	0
112	Reaktoren für Dreiphasen-Reaktionen: Rieselbettreaktoren. Springer Reference Naturwissenschaften, 2019, , 1-55.	0.2	0
113	Reaktoren für Dreiphasen-Reaktionen: Rieselbettreaktoren. Springer Reference Naturwissenschaften, 2020, , 831-885.	0.2	0