Markus Bussmann

List of Publications by Year
in descending order

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79 papers	2,466 citations	304602 22 h-index	206029 48 g-index
87 all docs	87 docs citations	87 times ranked	2251 citing authors

#	Article	IF	Citations
1	On a three-dimensional volume tracking model of droplet impact. Physics of Fluids, 1999, 11, 1406-1417.	1.6	351
2	Bio-Microarray Fabrication Techniquesâ€"A Review. Critical Reviews in Biotechnology, 2006, 26, 237-259.	5.1	334
3	Modeling the splash of a droplet impacting a solid surface. Physics of Fluids, 2000, 12, 3121-3132.	1.6	321
4	A mesh-dependent model for applying dynamic contact angles to VOF simulations. Journal of Computational Physics, 2009, 228, 5370-5389.	1.9	190
5	Height functions for applying contact angles to 2D VOF simulations. International Journal for Numerical Methods in Fluids, 2008, 57, 453-472.	0.9	85
6	Numerical Investigation of Nucleating-Agent-Enhanced Heterogeneous Nucleation. Industrial & Engineering Chemistry Research, 2010, 49, 12783-12792.	1.8	81
7	Height functions for applying contact angles to 3D VOF simulations. International Journal for Numerical Methods in Fluids, 2009, 61, 827-847.	0.9	70
8	SIMULATING DROPLET IMPACT ON A SUBSTRATE OF ARBITRARY SHAPE. Atomization and Sprays, 2001, 11, 397-414.	0.3	61
9	Irrigation dynamics associated with positive pressure, apical negative pressure and passive ultrasonic irrigations: A computational fluid dynamics analysis. Australian Endodontic Journal, 2014, 40, 54-60.	0.6	50
10	Adaptive VOF with curvature-based refinement. International Journal for Numerical Methods in Fluids, 2007, 55, 693-712.	0.9	47
11	Multicomponent droplet evaporation at intermediate Reynolds numbers. International Journal of Heat and Mass Transfer, 1993, 36, 2827-2835.	2.5	45
12	A volume-of-fluid interfacial flow solver with advected normals. Computers and Fluids, 2010, 39, 1401-1410.	1.3	39
13	A numerical study of steady flow and temperature fields within a melt spinning puddle. International Journal of Heat and Mass Transfer, 2002, 45, 3997-4010.	2.5	38
14	Advecting normal vectors: A new method for calculating interface normals and curvatures when modeling two-phase flows. Journal of Computational Physics, 2007, 226, 774-797.	1.9	38
15	A semiâ€implicit finite volume implementation of the CSF method for treating surface tension in interfacial flows. International Journal for Numerical Methods in Fluids, 2009, 59, 1093-1110.	0.9	36
16	Effect of surface roughness on splat shapes in the plasma spray coating process. Thin Solid Films, 2006, 506-507, 133-135.	0.8	35
17	New smoothed particle hydrodynamics (SPH) formulation for modeling heat conduction with solidification and melting. Numerical Heat Transfer, Part B: Fundamentals, 2017, 71, 299-312.	0.6	35
18	A Droplet Vaporization Model for Spray Calculations. Particle and Particle Systems Characterization, 1992, 9, 59-65.	1.2	29

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19	Modeling High Density Ratio Incompressible Interfacial Flows. , 2002, , 707.		29
20	Experiments and modeling of rapid solidification of plasma-sprayed yttria-stabilized zirconia. Acta Materialia, 2009, 57, 6013-6021.	3.8	26
21	Second-order accurate normals from height functions. Journal of Computational Physics, 2008, 227, 9293-9302.	1.9	24
22	The Impact of a Partially Molten YSZ Particle. Journal of Thermal Spray Technology, 2009, 18, 957-964.	1.6	24
23	A piecewise linear approach to volume tracking a triple point. International Journal for Numerical Methods in Fluids, 2007, 53, 1005-1018.	0.9	23
24	A comparison of hyperbolic and parabolic models of phase change of a pure metal. International Journal of Heat and Mass Transfer, 2009, 52, 1177-1184.	2.5	23
25	Experiments and modeling of the breakup mechanisms of an attenuating liquid sheet. International Journal of Multiphase Flow, 2020, 130, 103347.	1.6	21
26	Studies on sootblower jet dynamics and ash deposit removal in industrial boilers. Fuel Processing Technology, 2013, 105, 69-76.	3.7	20
27	Co-current parallel-plate moving bed heat exchanger: An analytical solution. International Journal of Heat and Mass Transfer, 2015, 87, 616-624.	2.5	20
28	Capillary Curves for Exâ€šitu Washing of Oilâ€Coated Particles. Journal of Surfactants and Detergents, 2015, 18, 811-823.	1.0	18
29	Accurate theoretical modeling of cell growth by comparing with visualized data in high-pressure foam injection molding. European Polymer Journal, 2019, 119, 189-199.	2.6	18
30	Accurate implementation of forcing terms for two-phase flows into SIMPLE algorithm. International Journal of Multiphase Flow, 2012, 45, 40-52.	1.6	17
31	Numerical analysis of the effect of the local variation of viscosity on bubble growth and deformation in polymer foaming. Journal of Rheology, 2019, 63, 895-903.	1.3	17
32	An image feature consolidation technique (IFCT) to capture multi-range droplet size distributions in atomizing liquid sheets. Experiments in Fluids, 2020, 61, 1.	1.1	17
33	A volume-of-fluid ghost-cell immersed boundary method for multiphase flows with contact line dynamics. Computers and Fluids, 2018, 165, 43-53.	1.3	16
34	Application of Realizability and Shock Unsteadiness to kâ^'Îµ Simulations of Under-Expanded Axisymmetric Supersonic Free Jets. Journal of Fluids Engineering, Transactions of the ASME, 2010, 132, .	0.8	15
35	Photographs and Simulations of Molten Metal Droplets Landing on a Solid Surface. Journal of Heat Transfer, 2000, 122, 422-422.	1.2	14
36	Breakup of brittle deposits by supersonic air jet: The effects of varying jet and deposit characteristics. International Journal of Impact Engineering, 2009, 36, 199-209.	2.4	14

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37	Counter-current parallel-plate moving bed heat exchanger: An analytical solution. International Journal of Heat and Mass Transfer, 2015, 87, 625-635.	2.5	14
38	Co-current and counter-current vertical pipe moving bed heat exchangers: Analytical solutions. International Journal of Heat and Mass Transfer, 2016, 95, 1115-1128.	2.5	12
39	Supercritical CO2 utilization for development of graded cellular structures in semicrystalline polymers. Journal of CO2 Utilization, 2021, 51, 101615.	3.3	12
40	Oscillation and breakup of a bubble under forced vibration. International Journal of Heat and Fluid Flow, 2015, 54, 211-219.	1.1	11
41	A moving immersed boundary method for simulating particle interactions at fluid-fluid interfaces. Journal of Computational Physics, 2020, 402, 109089.	1.9	11
42	Pore-scale direct numerical simulation of Haines jumps in a porous media model. European Physical Journal: Special Topics, 2020, 229, 1785-1798.	1.2	11
43	LBfoam: An open-source software package for the simulation of foaming using the Lattice Boltzmann Method. Computer Physics Communications, 2021, 259, 107698.	3.0	11
44	Water atomisation of metal powders: effect of water spray configuration. Powder Metallurgy, 2020, 63, 288-299.	0.9	10
45	NPLIC: A machine learning approach to piecewise linear interface construction. Computers and Fluids, 2021, 223, 104950.	1.3	10
46	Numerical investigation of the effect of screw geometry on the mixing of a viscous polymer melt. Journal of Applied Polymer Science, 2010, 117, 775-784.	1.3	9
47	Piecewise linear volume tracking in spherical coordinates. Applied Mathematical Modelling, 2013, 37, 3077-3092.	2.2	8
48	Breakup of high solid volume fraction oilâ€“particle cluster in simple shear flow. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 483, 25-35.	2.3	8
49	Equilibrium configurations of drops attached to spheres immersed in a uniform laminar flow. Canadian Journal of Chemical Engineering, 2011, 89, 707-716.	0.9	7
50	Modeling of Sootblower Jets and the Impact on Deposit Removal in Industrial Boilers. Energy & Fuels, 2013, 27, 5733-5737.	2.5	7
51	The Effect of Undercooling on Solidification of YSZ Splats. Journal of Thermal Spray Technology, 2008, 17, 646-654.	1.6	6
52	Comparative Studies of Silicon Dissolution in Molten Aluminum Under Different Flow Conditions, Part I: Single-Phase Flow. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 1275-1289.	1.0	6
53	Assessing axial heat conduction in moving bed heat exchangers. International Journal of Thermal Sciences, 2017, 120, 303-313.	2.6	6
54	Failure of Cylindrical Brittle Deposits Impacted by a Supersonic Air Jet. Journal of Engineering Materials and Technology, Transactions of the ASME, 2008, 130, .	0.8	5

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55	A mean flow field solution to a moderately under/over-expanded turbulent supersonic jet. Comptes Rendus - Mecanique, 2009, 337, 185-191.	2.1	5
56	Comparative Studies of Silicon Dissolution in Molten Aluminum Under Different Flow Conditions Part II: Two-Phase Flow. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2015, 46, 1290-1301.	1.0	5
57	Oilâ€"Particle Separation in a Falling Sphere Configuration: Effect of Oil Film Thickness. Energy & Fuels, 2016, 30, 8776-8786.	2.5	5
58	Oil-particle separation in a falling sphere configuration: Effect of viscosity ratio & interfacial tension. International Journal of Multiphase Flow, 2018, 98, 120-127.	1.6	5
59	Nonlinear enthalpy transformation for transient convective phase change in Smoothed Particle Hydrodynamics (SPH). Numerical Heat Transfer, Part B: Fundamentals, 2021, 79, 255-277.	0.6	5
60	Spatio-temporal dynamics and disintegration of a fan liquid sheet. Physics of Fluids, 2021, 33, 112109.	1.6	5
61	Experiments and simulation of rapid solidification of air plasma sprayed alloy 625 on stainless steel. Surface and Coatings Technology, 2010, 204, 1521-1527.	2.2	4
62	Chaotic Shape and Translational Dynamics of 2D Incompressible Bubbles under Forced Vibration in Microgravity. Microgravity Science and Technology, 2012, 24, 39-51.	0.7	4
63	Bubble Dynamics Under Forced Oscillation in Microgravity Environment. , 2009, , .		3
64	A Semianalytical Solution for a Compressible Turbulent Axisymmetric Jet. SIAM Journal on Applied Mathematics, 2012, 72, 85-98.	0.8	3
65	An Analytical Solution for Moving Bed Heat Exchangers via Integral Transform Methods. Heat Transfer Engineering, 2021, 42, 215-222.	1.2	3
66	Computational study of a supersonic free jet rotating perpendicular to the streamwise direction. International Journal of Computational Fluid Dynamics, 2011, 25, 319-332.	0.5	2
67	Supersonic Jet Impingement on a Cylinder and Characterization of the Resulting Deflected Jets. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	2
68	Aluminium scrap melting under different liquid aluminium flow conditions: part-II: two phase flow. Canadian Metallurgical Quarterly, 2016, 55, 273-284.	0.4	2
69	Aluminium scrap melting under different liquid aluminium flow conditions: part-I: single phase flow. Canadian Metallurgical Quarterly, 2016, 55, 261-272.	0.4	2
70	Mass transfer correlations for dissolution of cylindrical additions in liquid metals with gas agitation. International Journal of Heat and Mass Transfer, 2016, 97, 767-778.	2.5	2
71	Convective evaporation of an extremely volatile fuel droplet. Journal of Thermophysics and Heat Transfer, 1990, 4, 527-529.	0.9	1
72	The Effect of Viscosity Ratio on the Hydrodynamics of Separation From an Oil-Coated Particle. , 2014, , .		1

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73	Measuremets of sootblower jet strength in kraft recovery boilers - Part II: Results of the third and fourth field trials. Tappi Journal, 2012, 11, 31-35.	0.2	1
74	3D Modelling of Thermal Spray Droplet Splashing. , 1998, , .		1
75	Thermal Performance and Sizing of Moving Bed Heat Exchangers. , 2014, , .		0
76	Water atomisation of molten metals: a mathematical model for a water spray. Powder Metallurgy, 2022, 65, 70-88.	0.9	0
77	A hybrid lattice Boltzmann-molecular dynamics-immersed boundary method model for the simulation of composite foams. Computational Mechanics, 0, , 1.	2.2	0
78	Effect of Vacuum Heat Treatment on the Microstructure of a Laser Powder-Bed Fusion-Fabricated NiTa Alloy. Metals, 2022, 12, 700.	1.0	0
79	High Temperature Fracture Resistance of Model Kraft Recovery Boiler Deposits. Materials, 2022, 15, 4759.	1.3	0