Mathias J Krause

List of Publications by Year
in descending order

63	955	471061	552369
papers	citations	17	26
		h-index	g-index

65	65	65	620
all docs	docs citations	times ranked	citing authors

#	ARTICLE	IF	CITATIONS
1	PARROT: A Pilot Study on the Open Access Provision of Particle-Discrete Tomographic Datasets. Microscopy and Microanalysis, 2022, 28, 350-360.	0.2	5
2	Temporal large eddy simulation with lattice Boltzmann methods. Journal of Computational Physics, 2022, 454, 110991.	1.9	14
3	Simulation of particulate matter structure detachment from surfaces of wall-flow filters applying lattice Boltzmann methods. Computers and Fluids, 2022, 239, 105381.	1.3	7
4	Forschungsnahe Lehre unter Pandemiebedingungen. Mitteilungen Der Deutschen Mathematiker-Vereinigung, 2022, 30, 43-45.	0.0	2
5	Optimization of a Micromixer with Automatic Differentiation. Fluids, 2022, 7, 144.	0.8	2
6	OpenLB—Open source lattice Boltzmann code. Computers and Mathematics With Applications, 2021, 81, 258-288.	1.4	88
7	Pore-scale conjugate heat transfer simulations using lattice Boltzmann methods for industrial applications. Applied Thermal Engineering, 2021, 182, 116073.	3.0	9
8	Revisiting the Homogenized Lattice Boltzmann Method with Applications on Particulate Flows. Computation, 2021, 9, 11.	1.0	11
9	A Study on Shape-Dependent Settling of Single Particles with Equal Volume Using Surface Resolved Simulations. Computation, 2021, 9, 40.	1.0	9
10	Coupling of multiscale lattice Boltzmann discrete-element method for reactive particle fluid flows. Physical Review E, 2021, 103, 033306.	0.8	4
11	Fluid—Structure Interaction Simulation of a Coriolis Mass Flowmeter Using a Lattice Boltzmann Method. Fluids, 2021, 6, 167.	0.8	7
12	Numerical evaluation of thermal comfort using a large eddy lattice Boltzmann method. Building and Environment, 2021, 192, 107618.	3.0	15
13	Lattice-Boltzmann coupled models for advection—diffusion flow on a wide range of Péclet numbers. Journal of Computational Science, 2021, 51, 101363.	1.5	13
14	Towards shape optimisation of fluid flows using lattice Boltzmann methods and automatic differentiation. Computers and Mathematics With Applications, 2021, 90, 46-54.	1.4	3
15	Numerical and experimental examination of the retention of magnetic nanoparticles in magnetic chromatography. Computers and Mathematics With Applications, 2021, 89, 34-43.	1.4	1
16	On the Potential of Augmented Reality for Mathematics Teaching with the Application cleARmaths. Education Sciences, 2021, 11, 368.	1.4	13
17	Linear and brute force stability of orthogonal moment multiple-relaxation-time lattice Boltzmann methods applied to homogeneous isotropic turbulence. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200405.	1.6	7
18	Microscale Discrete Element Method Simulation of the Carbon Black Aggregate Fracture Behavior in a Simple Shear Flow. Energy Technology, 2021, 9, 2000850.	1.8	9

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19	Solving fluid flow domain identification problems with adjoint lattice Boltzmann methods. Computers and Mathematics With Applications, 2020, 79, 17-33.	1.4	3
20	Radiative transfer lattice Boltzmann methods: 3D models and their performance in different regimes of radiative transfer. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 243, 106810.	1.1	8
21	Numerical study on the application of vacuum insulation panels and a latent heat storage for refrigerated vehicles with a large Eddy lattice Boltzmann method. Heat and Mass Transfer, 2020, 56, 1189-1201.	1.2	13
22	Noise reduction of flow MRI measurements using a lattice Boltzmann based topology optimisation approach. Computers and Fluids, 2020, 197, 104391.	1.3	7
23	Multi-Objective Differential Evolution Algorithms for the Protein Structure Prediction Problem. , 2020, , .		2
24	On relaxation systems and their relation to discrete velocity Boltzmann models for scalar advectionâ€"diffusion equations. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190400.	1.6	12
25	Feasibility Study for a Chemical Process Particle Size Characterization System for Explosive Environments Using Low Laser Power. Micromachines, 2020, 11, 911.	1.4	0
26	Galilean invariance study on different lattice Boltzmann fluidâ€"solid interface approaches for vortex-induced vibrations. Computers and Mathematics With Applications, 2020, 80, 671-691.	1.4	16
27	Evaluation of a Near-Wall-Modeled Large Eddy Lattice Boltzmann Method for the Analysis of Complex Flows Relevant to IC Engines. Computation, 2020, 8, 43.	1.0	26
28	The application of Buckingham Ï€ theorem to Lattice-Boltzmann modelling of sewage sludge digestion. Computers and Fluids, 2020, 209, 104632.	1.3	1
29	Passive room conditioning using phase change materialsâ€"Demonstration of a longâ€term real size experiment. International Journal of Energy Research, 2020, 44, 7047-7056.	2.2	9
30	Total enthalpy-based lattice Boltzmann simulations of melting in paraffin/metal foam composite phase change materials. International Journal of Heat and Mass Transfer, 2020, 155, 119870.	2.5	44
31	Direct numerical simulation of decaying homogeneous isotropic turbulence â€" numerical experiments on stability, consistency and accuracy of distinct lattice Boltzmann methods. International Journal of Modern Physics C, 2019, 30, 1950074.	0.8	20
32	Large-eddy simulation coupled with wall models for turbulent channel flows at high Reynolds numbers with a lattice Boltzmann method â€"ÂApplication to Coriolis mass flowmeter. Computers and Mathematics With Applications, 2019, 78, 3285-3302.	1.4	32
33	Flow and heat transfer simulation with a thermal large eddy lattice Boltzmann method in an annular gap with an inner rotating cylinder. International Journal of Modern Physics C, 2019, 30, 1950013.	0.8	8
34	Towards Lattice-Boltzmann modelling of unconfined gas mixing in anaerobic digestion. Computers and Fluids, 2019, 180, 11-21.	1.3	13
35	Auto-vectorization friendly parallel lattice Boltzmann streaming scheme for direct addressing. Computers and Fluids, 2019, 181, 1-7.	1.3	19
36	Conjugate heat transfer through nano scale porous media to optimize vacuum insulation panels with lattice Boltzmann methods. Computers and Mathematics With Applications, 2019, 77, 209-221.	1.4	26

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37	Towards the simulations of inertial dense particulate flows with a volume-averaged lattice Boltzmann method. Computers and Fluids, 2018, 166, 152-162.	1.3	8
38	CFD-MRI: A coupled measurement and simulation approach for accurate fluid flow characterisation and domain identification. Computers and Fluids, 2018, 166, 218-224.	1.3	11
39	Towards the simulation of arbitrarily shaped 3D particles using a homogenised lattice Boltzmann method. Computers and Fluids, 2018, 172, 621-631.	1.3	27
40	Everyone Is a Protagonist: Residue Conformational Preferences in High-Resolution Protein Structures. Journal of Computational Biology, 2018, 25, 451-465.	0.8	7
41	Adaptive filtering for the simulation of turbulent flows with lattice Boltzmann methods. Computers and Fluids, 2018, 172, 510-523.	1.3	14
42	Three-dimensional protein structure prediction based on memetic algorithms. Computers and Operations Research, 2018, 91, 160-177.	2.4	18
43	Fluid flow simulations verified by measurements to investigate adsorption processes in a static mixer. Computers and Mathematics With Applications, 2018, 76, 2744-2757.	1.4	10
44	Application of a lattice Boltzmann method combined with a Smagorinsky turbulence model to spatially resolved heat flux inside a refrigerated vehicle. Computers and Mathematics With Applications, 2018, 76, 2315-2329.	1.4	25
45	Microfiber Filter Performance Prediction Using a Lattice Boltzmann Method. Communications in Computational Physics, 2018, 23, .	0.7	11
46	On the Stability and Accuracy of the BGK, MRT and RLB Boltzmann Schemes for the Simulation of Turbulent Flows. Communications in Computational Physics, 2018, 23, .	0.7	21
47	Particle flow simulations with homogenised lattice Boltzmann methods. Particuology, 2017, 34, 1-13.	2.0	36
48	MRI-based computational hemodynamics in patients with aortic coarctation using the lattice Boltzmann methods: Clinical validation study. Journal of Magnetic Resonance Imaging, 2017, 45, 139-146.	1.9	30
49	Multiscale Simulation with a Twoâ€Way Coupled Lattice Boltzmann Method and Discrete Element Method. Chemical Engineering and Technology, 2017, 40, 1591-1598.	0.9	13
50	A 3D Lattice Boltzmann method for light simulation in participating media. Journal of Computational Science, 2016, 17, 431-437.	1.5	31
51	Parallel dilute particulate flow simulations in the human nasal cavity. Computers and Fluids, 2016, 124, 197-207.	1.3	40
52	Simultaneous optimization of gait and design parameters for bipedal robots. , 2016, , .		2
53	Inertial dilute particulate fluid flow simulations with an Eulerâ€"Euler lattice Boltzmann method. Journal of Computational Science, 2016, 17, 438-445.	1.5	26
54	LBM-LES Modelling of Low Reynolds Number Turbulent Flow Over NACA0012 Aerofoil. Lecture Notes in Mechanical Engineering, 2016, , 205-210.	0.3	0

#	Article	IF	Citations
55	Towards Solving Fluid Flow Domain Identification Problems with Adjoint Lattice Boltzmann Methods. , 2016, , 337-353.		2
56	Parameter Estimation of Ion Current Formulations Requires Hybrid Optimization Approach to Be Both Accurate and Reliable. Frontiers in Bioengineering and Biotechnology, 2015, 3, 209.	2.0	17
57	Parallel fluid flow control and optimisation with lattice Boltzmann methods and automatic differentiation. Computers and Fluids, 2013, 80, 28-36.	1.3	15
58	Adjoint-based fluid flow control and optimisation with lattice Boltzmann methods. Computers and Mathematics With Applications, 2013, 65, 945-960.	1.4	38
59	Aortic Coarctation Simulation Based on the Lattice Boltzmann Method: Benchmark Results. Lecture Notes in Computer Science, 2013, , 34-43.	1.0	4
60	Optimized Hybrid Parallel Lattice Boltzmann Fluid Flow Simulations on Complex Geometries. Lecture Notes in Computer Science, 2012, , 818-829.	1.0	18
61	Hybrid Parallel Simulations of Fluid Flows in Complex Geometries: Application to the Human Lungs. Lecture Notes in Computer Science, 2011, , 209-216.	1.0	9
62	Towards a hybrid parallelization of lattice Boltzmann methods. Computers and Mathematics With Applications, 2009, 58, 1071-1080.	1.4	42
63	Applied Geometry Optimization of an Innovative 3Dâ€Printed Wetâ€Scrubber Nozzle with a Lattice Boltzmann Method. Chemie-Ingenieur-Technik, 0, , .	0.4	2