J G M Kuerten

List of Publications by Year
in descending order

143 papers	4,477 citations	147801 31 h-index	114465 63 g-index
149 all docs	149 docs citations	149 times ranked	2477 citing authors

#	Article	IF	Citations
1	Improvement of heat- and mass transfer modeling for single iron particles combustion using resolved simulations. Combustion Science and Technology, 2024, 196, 572-588.	2.3	11
2	A numerical study of flow boiling in a microchannel using the local front reconstruction method. AICHE Journal, 2022, 68, .	3.6	2
3	Competition between thermal and surfactant-induced Marangoni flow in evaporating sessile droplets. Journal of Colloid and Interface Science, 2022, 622, 892-903.	9.4	20
4	Film boiling in quench cooling with high-temperature jets. International Journal of Heat and Mass Transfer, 2021, 164, 120578.	4.8	12
5	Marangoni circulation in evaporating droplets in the presence of soluble surfactants. Journal of Colloid and Interface Science, 2021, 584, 622-633.	9.4	32
6	Statistical-learning method for predicting hydrodynamic drag, lift, and pitching torque on spheroidal particles. Physical Review E, 2021, 103, 023304.	2.1	7
7	Honeycomb-generated Reynolds-number-dependent wake turbulence. Journal of Turbulence, 2021, 22, 535-561.	1.4	4
8	Direct numerical simulation of magneto-Archimedes separation of spherical particles. Journal of Fluid Mechanics, 2021, 910, .	3.4	9
9	Network analysis of Reynolds number scaling in wall-bounded Lagrangian mixing. Physical Review Fluids, 2021, 6, .	2.5	4
10	Modeling of droplet impact on a heated solid surface with a diffuse interface model. International Journal of Multiphase Flow, 2020, 123, 103173.	3.4	20
11	Quench cooling of fast moving steel plates by water jet impingement. International Journal of Heat and Mass Transfer, 2020, 163, 120545.	4.8	22
12	Wall-induced anisotropy effects on turbulent mixing in channel flow: A network-based analysis. Physical Review E, 2020, 102, 043109.	2.1	7
13	The nature of boiling during rewetting of surfaces at temperatures exceeding the thermodynamic limit for water superheat. Journal of Fluid Mechanics, 2020, 895, .	3.4	9
14	Comparison of the local front reconstruction method with a diffuse interface model for the modeling of droplet collisions. Chemical Engineering Science: X, 2020, 7, 100066.	1.5	4
15	The evaporation of surfactant-laden droplets: A comparison between contact line models. Journal of Colloid and Interface Science, 2020, 579, 888-897.	9.4	13
16	Flow and bubble statistics of turbulent bubble-laden downflow channel. International Journal of Multiphase Flow, 2020, 126, 103244.	3.4	13
17	Analysis of the numerical dissipation rate of different Rungeâ€"Kutta and velocity interpolation methods in an unstructured collocated finite volume method in OpenFOAMÂ®. Computer Physics Communications, 2020, 253, 107145.	7.5	16
18	Flow statistics in plate and shell heat exchangers measured with PTV. International Journal of Heat and Fluid Flow, 2019, 79, 108461.	2.4	7

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19	A critical comparison of smooth and sharp interface methods for phase transition. International Journal of Multiphase Flow, 2019, 120, 103093.	3.4	19
20	Poly-dispersed modeling of bubbly flow using the log-normal size distribution. Chemical Engineering Science, 2019, 201, 237-246.	3.8	11
21	Lagrangian network analysis of turbulent mixing. Journal of Fluid Mechanics, 2019, 865, 546-562.	3.4	22
22	Extension of local front reconstruction method with controlled coalescence model. Physics of Fluids, 2018, 30, .	4.0	21
23	Turbulent channel flow past a moving array of spheres. Journal of Fluid Mechanics, 2018, 856, 580-632.	3.4	24
24	Highly scalable DNS solver for turbulent bubble-laden channel flow. Computers and Fluids, 2018, 172, 67-83.	2.5	29
25	Spatial characterization of turbulent channel flow via complex networks. Physical Review E, 2018, 98, 013107.	2.1	15
26	Simulations of droplet collisions with a Diffuse Interface Model near the critical point. International Journal of Multiphase Flow, 2018, 107, 208-220.	3.4	11
27	Comparison of DNS of Compressible and Incompressible Turbulent Droplet-Laden Heated Channel Flow with Phase Transition. ERCOFTAC Series, 2018, , 181-187.	0.1	1
28	Direct Numerical Simulation of Biomass Combustion in a Turbulent Particle-Laden Channel Flow. ERCOFTAC Series, 2018, , 379-384.	0.1	0
29	Evaporating pure, binary and ternary droplets: thermal effects and axial symmetry breaking. Journal of Fluid Mechanics, 2017, 823, 470-497.	3.4	126
30	Concentration and velocity statistics of inertial particles in upward and downward pipe flow. Journal of Fluid Mechanics, 2017, 822, 640-663.	3.4	14
31	Modeling the evaporation of sessile multi-component droplets. Journal of Colloid and Interface Science, 2017, 487, 426-436.	9.4	91
32	Direct Numerical Simulation of biomass pyrolysis and combustion with gas phase reactions. Journal of Physics: Conference Series, 2016, 745, 032119.	0.4	2
33	A comparison between the surface compression method and an interface reconstruction method for the VOF approach. Computers and Fluids, 2016, 136, 421-435.	2.5	52
34	Heat transfer in droplet-laden turbulent channel flow with phase transition in the presence of a thin film of water. International Journal of Heat and Fluid Flow, 2016, 61, 256-271.	2.4	3
35	Point-Particle DNS and LES of Particle-Laden Turbulent flow - a state-of-the-art review. Flow, Turbulence and Combustion, 2016, 97, 689-713.	2.6	129
36	Collision frequency and radial distribution function in particle-laden turbulent channel flow. International Journal of Multiphase Flow, 2016, 87, 66-79.	3.4	14

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37	Evaporation-triggered microdroplet nucleation and the four life phases of an evaporating Ouzo drop. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 8642-8647.	7.1	138
38	An h-adaptive local discontinuous Galerkin method for the Navierâ€“Stokesâ€“Korteweg equations. Journal of Computational Physics, 2016, 319, 242-265.	3.8	16
39	A third-order multistep time discretization for a Chebyshev tau spectral method. Journal of Computational Physics, 2016, 304, 162-169.	3.8	6
40	Low Mach number algorithm for droplet-laden turbulent channel flow including phase transition. Journal of Computational Physics, 2015, 295, 420-437.	3.8	4
41	A local discontinuous Galerkin method for the (non)-isothermal Navierâ€“Stokesâ€“Korteweg equations. Journal of Computational Physics, 2015, 295, 685-714.	3.8	19
42	Effect of droplet interaction on droplet-laden turbulent channel flow. Physics of Fluids, 2015, 27, .	4.0	22
43	Lagrangian velocity and acceleration statistics of fluid and inertial particles measured in pipe flow with 3D particle tracking velocimetry. International Journal of Multiphase Flow, 2015, 73, 97-107.	3.4	18
44	Turbulent stresses and particle break-up criteria in particle-laden pipe flows. International Journal of Heat and Fluid Flow, 2015, 53, 44-55.	2.4	2
45	Experiments on water droplet separation in a Ranqueâ€“Hilsch vortex tube (RHVT). WIT Transactions on Engineering Sciences, 2015, , .	0.0	3
46	A Hybrid Stochastic-Deconvolution Model for LES of Particle-Laden Flow. ERCOFTAC Series, 2015, , 631-637.	0.1	0
47	Biomass Pyrolysis in DNS of Turbulent Particle-Laden Flow. ERCOFTAC Series, 2015, , 613-620.	0.1	0
48	A Local Discontinuous Galerkin Method for the Propagation of Phase Transition in Solids and Fluids. Journal of Scientific Computing, 2014, 59, 688.	2.3	2
49	DNS of turbulent channel flow subject to oscillatory heat flux. MATEC Web of Conferences, 2014, 18, 02001.	0.2	1
50	Comparison of direct numerical simulation databases of turbulent channel flow at <i>Re</i>Ï„ = 180. Physics of Fluids, 2014, 26, .	4.0	130
51	Statistics of spatial derivatives of velocity and pressure in turbulent channel flow. Physics of Fluids, 2014, 26, .	4.0	58
52	Delay of biomass pyrolysis by gasâ€“particle interaction. Journal of Analytical and Applied Pyrolysis, 2014, 110, 88-99.	5.5	17
53	DNS of turbulent droplet-laden heated channel flow with phase transition at different initial relative humidities. International Journal of Heat and Fluid Flow, 2014, 50, 445-455.	2.4	9
54	Open boundary conditions for the Diffuse Interface Model in 1-D. Journal of Computational Physics, 2014, 263, 393-418.	3.8	9

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55	Influence of the relative humidity on the morphology of inkjet printed spots of IgG on a non-porous substrate. RSC Advances, 2014, 4, 19380-19388.	3.6	14
56	Comparison of DNS of compressible and incompressible turbulent droplet-laden heated channel flow with phase transition. International Journal of Multiphase Flow, 2014, 63, 68-81.	3.4	22
57	Water droplet condensation and evaporation in turbulent channel flow. Journal of Fluid Mechanics, 2014, 749, 666-700.	3.4	41
58	Lagrangian and Eulerian Statistics of Pipe Flows Measured with 3D-PTV at Moderate and High Reynolds Numbers. Flow, Turbulence and Combustion, 2013, 91, 105-137.	2.6	14
59	Lagrangian statistics of turbulent channel flow at ReÏ„ = 950 calculated with direct numerical simulation and Langevin models. Physics of Fluids, 2013, 25, .	4.0	13
60	Turbulent stresses in a direct contact condensation jet in cross-flow in a duct with implications for particle break-up. International Journal of Heat and Mass Transfer, 2013, 66, 684-694.	4.8	20
61	3D Velocimetry and droplet sizing in the Ranqueâ€“Hilsch vortex tube. Experiments in Fluids, 2013, 54, 1.	2.4	20
62	Numerical simulation of the drying of inkjet-printed droplets. Journal of Colloid and Interface Science, 2013, 392, 388-395.	9.4	37
63	A hybrid stochastic-deconvolution model for large-eddy simulation of particle-laden flow. Physics of Fluids, 2013, 25, .	4.0	26
64	Low-mach algorithm for heated droplet-laden turbulent channel flow including phase transition. , 2013, , .		1
65	A hybrid stochastic-deconvolution model for particle-laden LES. , 2013, , .		3
66	Water circulation in non-isothermal droplet-laden turbulent channel flow. , 2013, , .		2
67	Ideal stochastic forcing for the motion of particles in large-eddy simulation extracted from direct numerical simulation of turbulent channel flow. Physics of Fluids, 2012, 24, .	4.0	32
68	Temperature, Pressure and Velocity measurements on the Ranque-Hilsch Vortex Tube. Journal of Physics: Conference Series, 2012, 395, 012066.	0.4	5
69	Fully-developed conjugate heat transfer in porous media with uniform heating. International Journal of Heat and Fluid Flow, 2012, 38, 94-106.	2.4	21
70	CFD analysis with fluidâ€“structure interaction of opening high-pressure safety valves. Computers and Fluids, 2012, 64, 108-116.	2.5	76
71	Maxwellâ€™s Demon in the Ranque-Hilsch Vortex Tube. Physical Review Letters, 2012, 109, 054503.	7.8	56
72	Modeling water droplet condensation and evaporation in DNS of turbulent channel flow. Journal of Physics: Conference Series, 2011, 318, 052019.	0.4	4

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73	LES of droplet-laden non-isothermal channel flow. Journal of Physics: Conference Series, 2011, 318, 042056.	0.4	5
74	Temperature fields induced by direct contact condensation of steam in a cross-flow in a channel. Heat and Mass Transfer, 2011, 47, 981-990.	2.1	18
75	Numerical calculation and experimental validation of safety valve flows at pressures up to 600 bar. AIChE Journal, 2011, 57, 3285-3298.	3.6	19
76	Non-isothermal two-phase flow with a diffuse-interface model. International Journal of Multiphase Flow, 2011, 37, 149-165.	3.4	18
77	Droplet behaviour in a Ranque-Hilsch vortex tube. Journal of Physics: Conference Series, 2011, 318, 052013.	0.4	6
78	Turbulence modification and heat transfer enhancement by inertial particles in turbulent channel flow. Physics of Fluids, 2011, 23, .	4.0	80
79	Relevance of approximate deconvolution for one-way coupled motion of inertial particles in LES of turbulent channel flow. ERCOFTAC Series, 2011, , 181-190.	0.1	1
80	Benchmark test on particle-laden channel flow with point-particle LES. ERCOFTAC Series, 2011, , 177-182.	0.1	3
81	A priori analysis of an Isothermal, Turbulent Two-Phase Flow. ERCOFTAC Series, 2011, , 111-120.	0.1	0
82	Numerical simulation of the absorption of a droplet in a porous medium. AIP Conference Proceedings, 2010, , .	0.4	4
83	A diffuse-interface approach to two-phase isothermal flow of a Van der Waals fluid near the critical point. International Journal of Multiphase Flow, 2010, 36, 558-569.	3.4	14
84	Enhanced Bubble Migration in Turbulent Channel Flow by an Acceleration-Dependent Drag Coefficient. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 255-261.	0.3	0
85	An Accurate Numerical Method for DNS of Turbulent Pipe Flow. ERCOFTAC Series, 2010, , 131-136.	0.1	0
86	Two- and Four-Way Coupled Eulerâ€"Lagrangian Large-Eddy Simulation of Turbulent Particle-Laden Channel Flow. Flow, Turbulence and Combustion, 2009, 82, 47-71.	2.6	91
87	Axisymmetric dynamics of a bubble near a plane wall. Journal of Fluid Mechanics, 2009, 640, 265-303.	3.4	15
88	Calculation of Unsteady Flow in a Centrifugal Pump With Vaned Diffuser Using Staggered and Collocated Grid Methods. , 2009, , .		0
89	Statistics of particle dispersion in direct numerical simulations of wall-bounded turbulence: Results of an international collaborative benchmark test. International Journal of Multiphase Flow, 2008, 34, 879-893.	3.4	195
90	Direct numerical simulation of the motion of particles in rotating pipe flow. Journal of Turbulence, 2008, 9, N4.	1.4	5

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91	Modeling the Drying of Ink-Jet-Printed Structures and Experimental Verification. Langmuir, 2008, 24, 582-589.	3.5	27
92	Large-Eddy Simulation of Particle-Laden Channel Flow. ERCOFTAC Series, 2008, , 367-378.	0.1	1
93	Determination of the coefficients of Langevin models for inhomogeneous turbulent flows by three-dimensional particle tracking velocimetry and direct numerical simulation. Physics of Fluids, 2007, 19, 045102.	4.0	27
94	The effect of turbulence on the efficiency of the rotational phase separator. International Journal of Heat and Fluid Flow, 2007, 28, 630-637.	2.4	7
95	The turbulent rotational phase separator. ERCOFTAC Series, 2007, , 393-405.	0.1	0
96	Experimental Determination of Lagrangian Velocity Statistics in Turbulent Pipe Flow. Flow, Turbulence and Combustion, 2006, 76, 163-175.	2.6	11
97	Subgrid modeling in particle-laden channel flow. Physics of Fluids, 2006, 18, 025108.	4.0	142
98	Numerical study of the rotational phase separator sealing impeller. Powder Technology, 2005, 154, 73-82.	4.2	7
99	Can turbophoresis be predicted by large-eddy simulation?. Physics of Fluids, 2005, 17, 011701-011701-4.	4.0	107
100	Implicit time accurate simulation of unsteady flow. International Journal for Numerical Methods in Fluids, 2001, 35, 687-720.	1.6	4
101	Mass transport in a partially covered fluid-filled cavity. International Journal of Heat and Mass Transfer, 2000, 43, 1823-1835.	4.8	5
102	An accurate boundary-element method for Stokes flow in partially covered cavities. Computational Mechanics, 2000, 25, 501-513.	4.0	8
103	Dynamic inverse modeling and its testing in large-eddy simulations of the mixing layer. Physics of Fluids, 1999, 11, 3778-3785.	4.0	47
104	A 2D boundary element method for simulating the deformation of axisymmetric compound non-Newtonian drops. International Journal for Numerical Methods in Fluids, 1999, 30, 653-674.	1.6	21
105	A 2D boundary element method for simulating the deformation of axisymmetric compound nonâ€Newtonian drops. International Journal for Numerical Methods in Fluids, 1999, 30, 653-674.	1.6	3
106	Dynamic Inverse Modelling in LES of the Temporal Mixing Layer. Fluid Mechanics and Its Applications, 1999, , 269-278.	0.2	1
107	Low-Reynolds-number flow over partially covered cavities. Journal of Engineering Mathematics, 1998, 34, 3-21.	1.2	12
108	The effectiveness of domain balancing strategies on workstation clusters demonstrated by viscous flow problems. Simulation Modelling Practice and Theory, 1998, 6, 119-147.	0.3	0

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109	Time accurate simulations of supersonic unsteady flow. Lecture Notes in Physics, 1998, , 326-331.	0.7	1
110	Large-eddy simulation of the turbulent mixing layer. Journal of Fluid Mechanics, 1997, 339, 357-390.	3.4	424
111	Numerical simulation of separated boundary-layer flow. Journal of Engineering Mathematics, 1997, 32, 177-194.	1.2	5
112	Simulation techniques for spatially evolving instabilities in compressible flow over a flat plate. Computers and Fluids, 1997, 26, 713-739.	2.5	73
113	Instabilities of Stationary Inviscid Compressible Flow around an Airfoil. Journal of Computational Physics, 1997, 138, 520-539.	3.8	7
114	Large-eddy simulation of the temporal mixing layer using the Clark model. Theoretical and Computational Fluid Dynamics, 1996, 8, 309-324.	2.2	109
115	COMPARISION OF NUMERICAL SCHEMES IN LARGE-EDDY SIMULATION OF THE TEMPORAL MIXING LAYER. International Journal for Numerical Methods in Fluids, 1996, 22, 297-311.	1.6	122
116	Axisymmetric non-Newtonian drops treated with a boundary integral method. Journal of Engineering Mathematics, 1996, 30, 131-150.	1.2	20
117	COMPARISION OF NUMERICAL SCHEMES IN LARGEâ€EDDY SIMULATION OF THE TEMPORAL MIXING LAYER. International Journal for Numerical Methods in Fluids, 1996, 22, 297-311.	1.6	6
118	Large-Eddy Simulation of the Temporal Mixing Layer Using the Clark Model. Theoretical and Computational Fluid Dynamics, 1996, 8, 309-324.	2.2	24
119	A boundary integral method for two-dimensional (non)-Newtonian drops in slow viscous flow. Journal of Non-Newtonian Fluid Mechanics, 1995, 60, 129-154.	2.4	47
120	Subgrid-modelling in LES of compressible flow. Flow, Turbulence and Combustion, 1995, 54, 191-203.	0.2	128
121	Multigrid acceleration of a block structured compressible flow solver. Journal of Engineering Mathematics, 1995, 29, 11-31.	1.2	2
122	Shocks in direct numerical simulation of the confined threeâ€dimensional mixing layer. Physics of Fluids, 1995, 7, 2105-2107.	4.0	31
123	A priori tests of large eddy simulation of the compressible plane mixing layer. Journal of Engineering Mathematics, 1995, 29, 299-327.	1.2	213
124	Comparison of Subgrid-Models in Les of the Compressible Mixing Layer. Fluid Mechanics and Its Applications, 1995, , 539-543.	0.2	1
125	On the formulation of the dynamic mixed subgridâ€scale model. Physics of Fluids, 1994, 6, 4057-4059.	4.0	272
126	Discretization error dominance over subgrid terms in large eddy simulation of compressible shear layers in 2D. Communications in Numerical Methods in Engineering, 1994, 10, 785-790.	1.3	37

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127	Realizability conditions for the turbulent stress tensor in large-eddy simulation. Journal of Fluid Mechanics, 1994, 278, 351-362.	3.4	224
128	Numerical aspects of a block structured compressible flow solver. Journal of Engineering Mathematics, 1993, 27, 293-307.	1.2	8
129	A finite volume approach to compressible Large Eddy Simulations. Flow, Turbulence and Combustion, 1993, 51, 325-329.	0.2	0
130	LES Modeling Errors in Free and Wall Bounded Compressible Shear Layers. , 1993, , 325-334.		3
131	Chapter 3: Thermodynamics and Hydrodynamics of 3He-4He Mixtures. Progress in Low Temperature Physics, 1992, 13, 167-218.	0.2	10
132	Improved shock-capturing of Jameson's scheme for the Euler equations. International Journal for Numerical Methods in Fluids, 1992, 15, 649-671.	1.6	11
133	A finite volume approach to large eddy simulation of compressible, homogeneous, isotropic, decaying turbulence. International Journal for Numerical Methods in Fluids, 1992, 15, 799-816.	1.6	44
134	Multigrid and Runge-Kutta time stepping applied to the uniformly non-oscillatory scheme for conservation laws. Journal of Engineering Mathematics, 1991, 25, 243-263.	1.2	2
135	Thermodynamics of liquid 3Heâˆ'4He mixtures. Physica B: Condensed Matter, 1989, 160, 143-153.	2.7	3
136	Dissipative Effects in Dilution Refrigerators. Japanese Journal of Applied Physics, 1987, 26, 29.	1.5	1
137	Critical Velocities in3Heâ€"4He Mixtures. Japanese Journal of Applied Physics, 1987, 26, 63.	1.5	4
138	Comprehensive Theory of Flow Properties ofHe3Moving through SuperfluidHe4in Capillaries. Physical Review Letters, 1986, 56, 2288-2290.	7.8	8
139	Flow of3He in Superfluid4He. Physica Scripta, 1986, T13, 109-113.	2.5	1
140	Calculation of the thermodynamic properties of liquid 3Heî—¸4He mixtures for temperatures below 150 mK and 3He concentrations between 0.1 and 8% at zero pressure. Physica B: Physics of Condensed Matter & C: Atomic, Molecular and Plasma Physics, Optics, 1985, 128, 197-200.	0.9	2
141	Thermodynamic properties of liquid 3He-4He mixtures at zero pressure for temperatures below 250 mK and 3He concentrations below 8%. Cryogenics, 1985, 25, 419-443.	1.7	52
142	He3flow in diluteâˆ'43He mixtures at temperatures between 10 and 150 mK. Physical Review B, 1985, 32, 2870-2886.	3.2	16
143	Improved determination of overall rotational and vibronic relaxation rates of BaO(A 1Î£, Î½â€²= 8, Jâ€²= 49) colliding with Ar. Chemical Physics Letters, 1984, 105, 347-350.	2.6	1