J G M Kuerten

List of Publications by Year
in descending order

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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	Large-eddy simulation of the turbulent mixing layer. Journal of Fluid Mechanics, 1997, 339, 357-390.	3.4	424
2	On the formulation of the dynamic mixed subgridâ€scale model. Physics of Fluids, 1994, 6, 4057-4059.	4.0	272
3	Realizability conditions for the turbulent stress tensor in large-eddy simulation. Journal of Fluid Mechanics, 1994, 278, 351-362.	3.4	224
4	A priori tests of large eddy simulation of the compressible plane mixing layer. Journal of Engineering Mathematics, 1995, 29, 299-327.	1.2	213
5	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
6	Subgrid modeling in particle-laden channel flow. Physics of Fluids, 2006, 18, 025108.	4.0	142
7	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
8	Comparison of direct numerical simulation databases of turbulent channel flow at ReÏ„ = 180. Physics of Fluids, 2014, 26, .	4.0	130
9	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
10	Subgrid-modelling in LES of compressible flow. Flow, Turbulence and Combustion, 1995, 54, 191-203.	0.2	128
11	Evaporating pure, binary and ternary droplets: thermal effects and axial symmetry breaking. Journal of Fluid Mechanics, 2017, 823, 470-497.	3.4	126
12	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
13	Large-eddy simulation of the temporal mixing layer using the Clark model. Theoretical and Computational Fluid Dynamics, 1996, 8, 309-324.	2.2	109
14	Can turbophoresis be predicted by large-eddy simulation?. Physics of Fluids, 2005, 17, 011701-011701-4.	4.0	107
15	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
16	Modeling the evaporation of sessile multi-component droplets. Journal of Colloid and Interface Science, 2017, 487, 426-436.	9.4	91
17	Turbulence modification and heat transfer enhancement by inertial particles in turbulent channel flow. Physics of Fluids, 2011, 23, .	4.0	80
18	CFD analysis with fluidâ€“structure interaction of opening high-pressure safety valves. Computers and Fluids, 2012, 64, 108-116.	2.5	76

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19	Simulation techniques for spatially evolving instabilities in compressible flow over a flat plate. Computers and Fluids, 1997, 26, 713-739.	2.5	73
20	Statistics of spatial derivatives of velocity and pressure in turbulent channel flow. Physics of Fluids, 2014, 26, .	4.0	58
21	Maxwellâ€™s Demon in the Ranque-Hilsch Vortex Tube. Physical Review Letters, 2012, 109, 054503.	7.8	56
22	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
23	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
24	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
25	Dynamic inverse modeling and its testing in large-eddy simulations of the mixing layer. Physics of Fluids, 1999, 11, 3778-3785.	4.0	47
26	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
27	Water droplet condensation and evaporation in turbulent channel flow. Journal of Fluid Mechanics, 2014, 749, 666-700.	3.4	41
28	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
29	Numerical simulation of the drying of inkjet-printed droplets. Journal of Colloid and Interface Science, 2013, 392, 388-395.	9.4	37
30	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
31	Marangoni circulation in evaporating droplets in the presence of soluble surfactants. Journal of Colloid and Interface Science, 2021, 584, 622-633.	9.4	32
32	Shocks in direct numerical simulation of the confined threeâ€dimensional mixing layer. Physics of Fluids, 1995, 7, 2105-2107.	4.0	31
33	Highly scalable DNS solver for turbulent bubble-laden channel flow. Computers and Fluids, 2018, 172, 67-83.	2.5	29
34	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
35	Modeling the Drying of Ink-Jet-Printed Structures and Experimental Verification. Langmuir, 2008, 24, 582-589.	3.5	27
36	A hybrid stochastic-deconvolution model for large-eddy simulation of particle-laden flow. Physics of Fluids, 2013, 25, .	4.0	26

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37	Turbulent channel flow past a moving array of spheres. Journal of Fluid Mechanics, 2018, 856, 580-632.	3.4	24
38	Large-Eddy Simulation of the Temporal Mixing Layer Using the Clark Model. Theoretical and Computational Fluid Dynamics, 1996, 8, 309-324.	2.2	24
39	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
40	Effect of droplet interaction on droplet-laden turbulent channel flow. Physics of Fluids, 2015, 27, .	4.0	22
41	Lagrangian network analysis of turbulent mixing. Journal of Fluid Mechanics, 2019, 865, 546-562.	3.4	22
42	Quench cooling of fast moving steel plates by water jet impingement. International Journal of Heat and Mass Transfer, 2020, 163, 120545.	4.8	22
43	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
44	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
45	Extension of local front reconstruction method with controlled coalescence model. Physics of Fluids, 2018, 30, .	4.0	21
46	Axisymmetric non-Newtonian drops treated with a boundary integral method. Journal of Engineering Mathematics, 1996, 30, 131-150.	1.2	20
47	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
48	3D Velocimetry and droplet sizing in the Ranqueâ€“Hilsch vortex tube. Experiments in Fluids, 2013, 54, 1.	2.4	20
49	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
50	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
51	Numerical calculation and experimental validation of safety valve flows at pressures up to 600 bar. AICHE Journal, 2011, 57, 3285-3298.	3.6	19
52	A local discontinuous Galerkin method for the (non)-isothermal Navierâ€“Stokesâ€“Korteweg equations. Journal of Computational Physics, 2015, 295, 685-714.	3.8	19
53	A critical comparison of smooth and sharp interface methods for phase transition. International Journal of Multiphase Flow, 2019, 120, 103093.	3.4	19
54	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

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55	Non-isothermal two-phase flow with a diffuse-interface model. International Journal of Multiphase Flow, 2011, 37, 149-165.	3.4	18
56	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
57	Delay of biomass pyrolysis by gasâ€“particle interaction. Journal of Analytical and Applied Pyrolysis, 2014, 110, 88-99.	5.5	17
58	He3flow in diluteâ^'43He mixtures at temperatures between 10 and 150 mK. Physical Review B, 1985, 32, 2870-2886.	3.2	16
59	An h-adaptive local discontinuous Galerkin method for the Navierâ€“Stokesâ€“Korteweg equations. Journal of Computational Physics, 2016, 319, 242-265.	3.8	16
60	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
61	Axisymmetric dynamics of a bubble near a plane wall. Journal of Fluid Mechanics, 2009, 640, 265-303.	3.4	15
62	Spatial characterization of turbulent channel flow via complex networks. Physical Review E, 2018, 98, 013107.	2.1	15
63	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
64	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
65	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
66	Collision frequency and radial distribution function in particle-laden turbulent channel flow. International Journal of Multiphase Flow, 2016, 87, 66-79.	3.4	14
67	Concentration and velocity statistics of inertial particles in upward and downward pipe flow. Journal of Fluid Mechanics, 2017, 822, 640-663.	3.4	14
68	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
69	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
70	Flow and bubble statistics of turbulent bubble-laden downflow channel. International Journal of Multiphase Flow, 2020, 126, 103244.	3.4	13
71	Low-Reynolds-number flow over partially covered cavities. Journal of Engineering Mathematics, 1998, 34, 3-21.	1.2	12
72	Film boiling in quench cooling with high-temperature jets. International Journal of Heat and Mass Transfer, 2021, 164, 120578.	4.8	12

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73	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
74	Experimental Determination of Lagrangian Velocity Statistics in Turbulent Pipe Flow. Flow, Turbulence and Combustion, 2006, 76, 163-175.	2.6	11
75	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
76	Poly-dispersed modeling of bubbly flow using the log-normal size distribution. Chemical Engineering Science, 2019, 201, 237-246.	3.8	11
77	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
78	Chapter 3: Thermodynamics and Hydrodynamics of 3He-4He Mixtures. Progress in Low Temperature Physics, 1992, 13, 167-218.	0.2	10
79	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
80	Open boundary conditions for the Diffuse Interface Model in 1-D. Journal of Computational Physics, 2014, 263, 393-418.	3.8	9
81	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
82	Direct numerical simulation of magneto-Archimedes separation of spherical particles. Journal of Fluid Mechanics, 2021, 910, .	3.4	9
83	Comprehensive Theory of Flow Properties ofHe3Moving through SuperfluidHe4in Capillaries. Physical Review Letters, 1986, 56, 2288-2290.	7.8	8
84	Numerical aspects of a block structured compressible flow solver. Journal of Engineering Mathematics, 1993, 27, 293-307.	1.2	8
85	An accurate boundary-element method for Stokes flow in partially covered cavities. Computational Mechanics, 2000, 25, 501-513.	4.0	8
86	Instabilities of Stationary Inviscid Compressible Flow around an Airfoil. Journal of Computational Physics, 1997, 138, 520-539.	3.8	7
87	Numerical study of the rotational phase separator sealing impeller. Powder Technology, 2005, 154, 73-82.	4.2	7
88	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
89	Flow statistics in plate and shell heat exchangers measured with PTV. International Journal of Heat and Fluid Flow, 2019, 79, 108461.	2.4	7
90	Wall-induced anisotropy effects on turbulent mixing in channel flow: A network-based analysis. Physical Review E, 2020, 102, 043109.	2.1	7

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91	Statistical-learning method for predicting hydrodynamic drag, lift, and pitching torque on spheroidal particles. Physical Review E, 2021, 103, 023304.	2.1	7
92	Droplet behaviour in a Ranque-Hilsch vortex tube. Journal of Physics: Conference Series, 2011, 318, 052013.	0.4	6
93	A third-order multistep time discretization for a Chebyshev tau spectral method. Journal of Computational Physics, 2016, 304, 162-169.	3.8	6
94	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
95	Numerical simulation of separated boundary-layer flow. Journal of Engineering Mathematics, 1997, 32, 177-194.	1.2	5
96	Mass transport in a partially covered fluid-filled cavity. International Journal of Heat and Mass Transfer, 2000, 43, 1823-1835.	4.8	5
97	Direct numerical simulation of the motion of particles in rotating pipe flow. Journal of Turbulence, 2008, 9, N4.	1.4	5
98	LES of droplet-laden non-isothermal channel flow. Journal of Physics: Conference Series, 2011, 318, 042056.	0.4	5
99	Temperature, Pressure and Velocity measurements on the Ranque-Hilsch Vortex Tube. Journal of Physics: Conference Series, 2012, 395, 012066.	0.4	5
100	Implicit time accurate simulation of unsteady flow. International Journal for Numerical Methods in Fluids, 2001, 35, 687-720.	1.6	4
101	Numerical simulation of the absorption of a droplet in a porous medium. AIP Conference Proceedings, 2010, , .	0.4	4
102	Modeling water droplet condensation and evaporation in DNS of turbulent channel flow. Journal of Physics: Conference Series, 2011, 318, 052019.	0.4	4
103	Low Mach number algorithm for droplet-laden turbulent channel flow including phase transition. Journal of Computational Physics, 2015, 295, 420-437.	3.8	4
104	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
105	Honeycomb-generated Reynolds-number-dependent wake turbulence. Journal of Turbulence, 2021, 22, 535-561.	1.4	4
106	Critical Velocities in3Heâ€“4He Mixtures. Japanese Journal of Applied Physics, 1987, 26, 63.	1.5	4
107	Network analysis of Reynolds number scaling in wall-bounded Lagrangian mixing. Physical Review Fluids, 2021, 6, .	2.5	4
108	Thermodynamics of liquid 3Heâ^'4He mixtures. Physica B: Condensed Matter, 1989, 160, 143-153.	2.7	3

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109	A hybrid stochastic-deconvolution model for particle-laden LES. , 2013, , .		3
110	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
111	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
112	Benchmark test on particle-laden channel flow with point-particle LES. ERCOFTAC Series, 2011, , 177-182.	0.1	3
113	LES Modeling Errors in Free and Wall Bounded Compressible Shear Layers. , 1993, , 325-334.		3
114	Experiments on water droplet separation in a Ranqueâ€“Hilsch vortex tube (RHVT). WIT Transactions on Engineering Sciences, 2015, , .	0.0	3
115	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
116	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
117	Multigrid acceleration of a block structured compressible flow solver. Journal of Engineering Mathematics, 1995, 29, 11-31.	1.2	2
118	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
119	Water circulation in non-isothermal droplet-laden turbulent channel flow. , 2013, , .		2
120	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
121	Direct Numerical Simulation of biomass pyrolysis and combustion with gas phase reactions. Journal of Physics: Conference Series, 2016, 745, 032119.	0.4	2
122	A numerical study of flow boiling in a microchannel using the local front reconstruction method. AICHE Journal, 2022, 68, .	3.6	2
123	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
124	Time accurate simulations of supersonic unsteady flow. Lecture Notes in Physics, 1998, , 326-331.	0.7	1
125	Low-mach algorithm for heated droplet-laden turbulent channel flow including phase transition. , 2013, , .		1
126	DNS of turbulent channel flow subject to oscillatory heat flux. MATEC Web of Conferences, 2014, 18, 02001.	0.2	1

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127	Large-Eddy Simulation of Particle-Laden Channel Flow. ERCOFTAC Series, 2008, , 367-378.	0.1	1
128	Comparison of DNS of Compressible and Incompressible Turbulent Droplet-Laden Heated Channel Flow with Phase Transition. ERCOFTAC Series, 2018, , 181-187.	0.1	1
129	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
130	Comparison of Subgrid-Models in Les of the Compressible Mixing Layer. Fluid Mechanics and Its Applications, 1995, , 539-543.	0.2	1
131	Flow of3He in Superfluid4He. Physica Scripta, 1986, T13, 109-113.	2.5	1
132	Dissipative Effects in Dilution Refrigerators. Japanese Journal of Applied Physics, 1987, 26, 29.	1.5	1
133	Dynamic Inverse Modelling in LES of the Temporal Mixing Layer. Fluid Mechanics and Its Applications, 1999, , 269-278.	0.2	1
134	A finite volume approach to compressible Large Eddy Simulations. Flow, Turbulence and Combustion, 1993, 51, 325-329.	0.2	0
135	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
136	Calculation of Unsteady Flow in a Centrifugal Pump With Vaned Diffuser Using Staggered and Collocated Grid Methods. , 2009, , .		0
137	The turbulent rotational phase separator. ERCOFTAC Series, 2007, , 393-405.	0.1	0
138	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
139	An Accurate Numerical Method for DNS of Turbulent Pipe Flow. ERCOFTAC Series, 2010, , 131-136.	0.1	0
140	A priori analysis of an Isothermal, Turbulent Two-Phase Flow. ERCOFTAC Series, 2011, , 111-120.	0.1	0
141	A Hybrid Stochastic-Deconvolution Model for LES of Particle-Laden Flow. ERCOFTAC Series, 2015, , 631-637.	0.1	0
142	Biomass Pyrolysis in DNS of Turbulent Particle-Laden Flow. ERCOFTAC Series, 2015, , 613-620.	0.1	0
143	Direct Numerical Simulation of Biomass Combustion in a Turbulent Particle-Laden Channel Flow. ERCOFTAC Series, 2018, , 379-384.	0.1	0