Andreas M Kempf

List of Publications by Year
in descending order

129 papers	3,907 citations	101496 36 h-index	138417 58 g-index
129 all docs	129 docs citations	129 times ranked	1820 citing authors

#	Article	IF	Citations
1	Efficient Generation of Initial- and Inflow-Conditions for Transient Turbulent Flows in Arbitrary Geometries. Flow, Turbulence and Combustion, 2005, 74, 67-84.	1.4	171
2	Computed Tomography of Chemiluminescence (CTC): Instantaneous 3D measurements and Phantom studies of a turbulent opposed jet flame. Combustion and Flame, 2011, 158, 376-391.	2.8	170
3	Investigation of lengthscales, scalar dissipation, and flame orientation in a piloted diffusion flame by LES. Proceedings of the Combustion Institute, 2005, 30, 557-565.	2.4	118
4	Large-eddy simulation of a bluff-body stabilized nonpremixed flame. Combustion and Flame, 2006, 144, 170-189.	2.8	117
5	Towards Comprehensive Coal Combustion Modelling for LES. Flow, Turbulence and Combustion, 2013, 90, 859-884.	1.4	117
6	Large Eddy simulation of a pulverised coal jet flame. Proceedings of the Combustion Institute, 2013, 34, 2419-2426.	2.4	104
7	Numerical analysis of the Cambridge stratified flame series using artificial thickened flame LES with tabulated premixed flame chemistry. Combustion and Flame, 2014, 161, 2627-2646.	2.8	104
8	Simultaneous temperature, mixture fraction and velocity imaging in turbulent flows using thermographic phosphor tracer particles. Optics Express, 2012, 20, 22118.	1.7	98
9	Instantaneous 3D flame imaging by background-oriented schlieren tomography. Combustion and Flame, 2018, 196, 284-299.	2.8	96
10	An efficient, parallel low-storage implementation of Kleinâ€™s turbulence generator for LES and DNS. Computers and Fluids, 2012, 60, 58-60.	1.3	90
11	SpraySynâ€"A standardized burner configuration for nanoparticle synthesis in spray flames. Review of Scientific Instruments, 2019, 90, 085108.	0.6	89
12	Turbulent opposed-jet flames: A critical benchmark experiment for combustion LESâ˜†. Combustion and Flame, 2005, 143, 524-548.	2.8	80
13	Scalar dissipation rates in isothermal and reactive turbulent opposed-jets: 1-D-Raman/Rayleigh experiments supported by LES. Proceedings of the Combustion Institute, 2005, 30, 681-689.	2.4	79
14	Challenging modeling strategies for LES of non-adiabatic turbulent stratified combustion. Combustion and Flame, 2015, 162, 4264-4282.	2.8	79
15	Flamelet LES of a semi-industrial pulverized coal furnace. Combustion and Flame, 2016, 173, 39-56.	2.8	78
16	A posteriori testing of algebraic flame surface density models for LES. Combustion Theory and Modelling, 2013, 17, 431-482.	1.0	76
17	LES of the Sydney piloted spray flame series with the PFGM/ATF approach and different sub-filter models. Combustion and Flame, 2015, 162, 1575-1598.	2.8	71
18	Instantaneous 3D imaging of highly turbulent flames using computed tomography of chemiluminescence. Applied Optics, 2017, 56, 7385.	0.9	70

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19	Error analysis of large-eddy simulation of the turbulent non-premixed sydney bluff-body flame. Combustion and Flame, 2011, 158, 2408-2419.	2.8	63
20	Phosphorescent thermal history sensors. Sensors and Actuators A: Physical, 2011, 169, 18-26.	2.0	63
21	A simple model for the filtered density function for passive scalar combustion LES. Combustion Theory and Modelling, 2009, 13, 559-588.	1.0	60
22	LES of the Sydney swirl flame series: A study of vortex breakdown in isothermal and reacting flows. Proceedings of the Combustion Institute, 2007, 31, 1755-1763.	2.4	59
23	Resolved flow simulation of pulverized coal particle devolatilization and ignition in air- and O 2 /CO 2 -atmospheres. Fuel, 2016, 186, 285-292.	3.4	59
24	Large-eddy simulation of a counterflow configuration with and without combustion. Proceedings of the Combustion Institute, 2000, 28, 35-40.	2.4	54
25	Investigation of the sampling nozzle effect on laminar flat flames. Combustion and Flame, 2015, 162, 1737-1747.	2.8	51
26	Multi-directional 3D flame chemiluminescence tomography based on lens imaging. Optics Letters, 2015, 40, 1231.	1.7	50
27	Flame resolved simulation of a turbulent premixed bluff-body burner experiment. Part I: Analysis of the reaction zone dynamics with tabulated chemistry. Combustion and Flame, 2017, 180, 321-339.	2.8	50
28	Unsteady methods (URANS and LES) for simulation of combustion systems. International Journal of Thermal Sciences, 2006, 45, 760-773.	2.6	47
29	Large Eddy Simulations of Swirling Non-premixed Flames With Flamelet Models: A Comparison of Numerical Methods. Flow, Turbulence and Combustion, 2008, 81, 523-561.	1.4	46
30	Comparison of the Sigma and Smagorinsky LES models for grid generated turbulence and a channel flow. Computers and Fluids, 2014, 99, 172-181.	1.3	46
31	Carrier-phase DNS of pulverized coal particle ignition and volatile burning in a turbulent mixing layer. Fuel, 2018, 212, 364-374.	3.4	46
32	Initial reaction steps during flame synthesis of iron-oxide nanoparticles. CrystEngComm, 2015, 17, 6930-6939.	1.3	41
33	Prediction of finite chemistry effects using large eddy simulation. Proceedings of the Combustion Institute, 2002, 29, 1979-1985.	2.4	39
34	Validation and implementation of algebraic LES modelling of scalar dissipation rate for reaction rate closure in turbulent premixed combustion. Combustion and Flame, 2014, 161, 3134-3153.	2.8	39
35	On the Evolution of the Flow Field in a Spark Ignition Engine. Flow, Turbulence and Combustion, 2017, 98, 237-264.	1.4	38
36	LES of lifted flames in a gas turbine model combustor using top-hat filtered PFGM chemistry. Fuel, 2012, 96, 100-107.	3.4	37

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37	A Genetic Algorithmâ€Based Method for the Automatic Reduction of Reaction Mechanisms. International Journal of Chemical Kinetics, 2014, 46, 41-59.	1.0	37
38	Flame resolved simulation of a turbulent premixed bluff-body burner experiment. Part II: A-priori and a-posteriori investigation of sub-grid scale wrinkling closures in the context of artificially thickened flame modeling. Combustion and Flame, 2017, 180, 340-350.	2.8	37
39	A Genetic Algorithmâ€"Based Method for the Optimization of Reduced Kinetics Mechanisms. International Journal of Chemical Kinetics, 2015, 47, 695-723.	1.0	36
40	Large Eddy Simulations of a turbulent premixed swirl flame using an algebraic scalar dissipation rate closure. Combustion and Flame, 2015, 162, 3180-3196.	2.8	36
41	Flame surface density based modelling of head-on quenching of turbulent premixed flames. Proceedings of the Combustion Institute, 2017, 36, 1817-1825.	2.4	35
42	Coal particle volatile combustion and flame interaction. Part I: Characterization of transient and group effects. Fuel, 2018, 229, 262-269.	3.4	33
43	Numerical investigation of the process steps in a spray flame reactor for nanoparticle synthesis. Proceedings of the Combustion Institute, 2015, 35, 2259-2266.	2.4	32
44	A flamelet/progress variable approach for modeling coal particle ignition. Fuel, 2017, 201, 29-38.	3.4	32
45	LES OF THE SYDNEY SWIRL FLAME SERIES: AN INITIAL INVESTIGATION OF THE FLUID DYNAMICS. Combustion Science and Technology, 2007, 179, 173-189.	1.2	31
46	Mechanism of Iron Oxide Formation from Iron Pentacarbonylâ€Doped Lowâ€Pressure Hydrogen/Oxygen Flames. International Journal of Chemical Kinetics, 2013, 45, 487-498.	1.0	31
47	Evaluation of a flamelet/progress variable approach for pulverized coal combustion in a turbulent mixing layer. Proceedings of the Combustion Institute, 2019, 37, 2927-2934.	2.4	31
48	Highly-resolved LES and PIV Analysis of Isothermal Turbulent Opposed Jets for Combustion Applications. Flow, Turbulence and Combustion, 2011, 87, 425-447.	1.4	29
49	Energy loss in intergalactic pair beams: Particle-in-cell simulation. Astronomy and Astrophysics, 2016, 585, A132.	2.1	28
50	Analysis of flame curvature evolution in a turbulent premixed bluff body burner. Physics of Fluids, 2018, 30, 095101.	1.6	28
51	LES Validation from Experiments. Flow, Turbulence and Combustion, 2008, 80, 351-373.	1.4	26
52	Large Eddy Simulation of a 100 kWth swirling oxy-coal furnace. Fuel, 2016, 181, 491-502.	3.4	26
53	Comparison of OH time-series measurements and large-eddy simulations in hydrogen jet flames. Combustion and Flame, 2004, 139, 142-151.	2.8	25
54	In-Nozzle Measurements of a Turbulent Opposed Jet Using PIV. Flow, Turbulence and Combustion, 2010, 85, 73-93.	1.4	24

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55	Oxidation of divalent rare earth phosphors for thermal history sensing. Sensors and Actuators B: Chemical, 2013, 177, 124-130.	4.0	24
56	A posteriori testing of the flame surface density transport equationÂforÂLES. Combustion Theory and Modelling, 2014, 18, 32-64.	1.0	24
57	Large Eddy Simulation of an Internal Combustion Engine Using an Efficient Immersed Boundary Technique. Flow, Turbulence and Combustion, 2016, 97, 191-230.	1.4	24
58	Statistics of strain rates and surface density function in a flame-resolved high-fidelity simulation of a turbulent premixed bluff body burner. Physics of Fluids, 2018, 30, .	1.6	22
59	Gas-phase aluminium acetylacetonate decomposition: revision of the current mechanism by VUV synchrotron radiation. Physical Chemistry Chemical Physics, 2021, 23, 15059-15075.	1.3	22
60	Detailed simulation of iron oxide nanoparticle forming flames: Buoyancy and probe effects. Proceedings of the Combustion Institute, 2019, 37, 1241-1248.	2.4	20
61	Experimental and numerical investigation of iron-doped flames: FeO formation and impact on flame temperature. Proceedings of the Combustion Institute, 2021, 38, 1249-1257.	2.4	20
62	Robust dynamic adaptation of the Smagorinsky model based on a sub-grid activity sensor. Physics of Fluids, 2021, 33, .	1.6	19
63	Modelling heat loss effects in high temperature oxy-fuel flames with an efficient and robust non-premixed flamelet approach. Fuel, 2018, 216, 44-52.	3.4	18
64	3D Evolutionary Reconstruction of Scalar Fields in the Gas-Phase. Energies, 2019, 12, 2075.	1.6	18
65	Flamelet tabulation methods for solid fuel combustion with fuel-bound nitrogen. Combustion and Flame, 2019, 209, 155-166.	2.8	17
66	Numerical study of a pulsed auto-igniting jet flame with detailed tabulated chemistry. Fuel, 2019, 252, 408-416.	3.4	17
67	Direct numerical simulations of nanoparticle formation in premixed and non-premixed flameâ€“vortex interactions. Physics of Fluids, 2020, 32, .	1.6	17
68	High-resolution LES of a starting jet. Computers and Fluids, 2016, 140, 435-449.	1.3	16
69	Response surface and group additivity methodology for estimation of thermodynamic properties of organosilanes. International Journal of Chemical Kinetics, 2018, 50, 681-690.	1.0	16
70	A comprehensive study of flamelet tabulation methods for pulverized coal combustion in a turbulent mixing layer â€" Part I: A priori and budget analyses. Combustion and Flame, 2020, 216, 439-452.	2.8	16
71	Buoyancy induced limits for nanoparticle synthesis experiments in horizontal premixed low-pressure flat-flame reactors. Combustion Theory and Modelling, 2013, 17, 504-521.	1.0	15
72	Large eddy simulation of particle aggregation in turbulent jets. Journal of Aerosol Science, 2017, 111, 1-17.	1.8	13

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73	A hybrid flamelet finite-rate chemistry approach for efficient LES with a transported FDF. Combustion and Flame, 2019, 199, 183-193.	2.8	13
74	Analysis of mild ignition in a shockÂtube using a highly resolved 3D-LES and high-order shock-capturing schemes. Shock Waves, 2019, 29, 511-521.	1.0	13
75	Regularized, parameter free scale similarity type models for Large Eddy Simulation. International Journal of Heat and Fluid Flow, 2020, 81, 108496.	1.1	13
76	Inline coating of silicon nanoparticles in a plasma reactor: Reactor design, simulation and experiment. Materials Today: Proceedings, 2017, 4, S118-S127.	0.9	13
77	Combustion LES for premixed and diffusion flames. Progress in Computational Fluid Dynamics, 2005, 5, 363.	0.1	12
78	3D Instantaneous Reconstruction of Turbulent Industrial Flames Using Computed Tomography of Chemiluminescence (CTC). Journal of Combustion, 2018, 2018, 1-6.	0.5	12
79	Penetration of the Flame Into the Top-Land Crevice - Large-Eddy Simulation and Experimental High-Speed Visualization. , 0, , .		11
80	Multiscale Simulation of the Formation of Platinum-Particles on Alumina Nanoparticles in a Spray Flame Experiment. Fluids, 2020, 5, 201.	0.8	11
81	Fast Flow Field Estimation for Various Applications with A Universally Applicable Machine Learning Concept. Flow, Turbulence and Combustion, 2021, 107, 175-200.	1.4	11
82	LES of nanoparticle synthesis in the spraysyn burner: A comparison against experiments. Powder Technology, 2022, 404, 117466.	2.1	11
83	A dynamic model for the Lagrangian stochastic dispersion coefficient. Physics of Fluids, 2013, 25, 125108.	1.6	10
84	LES of Flow Processes in an SI Engine Using Two Approaches: OpenFoam and PsiPhi. , 2014, , .		10
85	Aerosol nucleation in a turbulent jet using Large Eddy Simulations. Chemical Engineering Science, 2014, 116, 383-397.	1.9	10
86	A Large Eddy Simulation Study on the Effect of Devolatilization Modelling and Char Combustion Mode Modelling on the Structure of a Large-Scale, Biomass and Coal Co-Fired Flame. Journal of Combustion, 2018, 2018, 1-15.	0.5	10
87	Local entrainment velocity in a premixed turbulent annular jet flame. Proceedings of the Combustion Institute, 2019, 37, 2493-2501.	2.4	10
88	Numerical Analysis of a Turbulent Pulverized Coal Flame Using a Flamelet/Progress Variable Approach and Modeling Experimental Artifacts. Energy & Fuels, 2021, 35, 7133-7143.	2.5	10
89	Detailed analysis of early-stage NO formation in turbulent pulverized coal combustion with fuel-bound nitrogen. Proceedings of the Combustion Institute, 2021, 38, 4111-4119.	2.4	9
90	Stochastic modelling of particle aggregation. International Journal of Multiphase Flow, 2016, 80, 118-130.	1.6	8

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91	Determining the sintering kinetics of Fe and Fe_xO_y-Nanoparticles in a well-defined model flow reactor. Aerosol Science and Technology, 2022, 56, 833-846.	1.5	8
92	Thermal history sensing with thermographic phosphors. AIP Conference Proceedings, 2013, , .	0.3	7
93	PICPANTHER: A simple, concise implementation of the relativistic moment implicit particle-in-cell method. Computer Physics Communications, 2015, 188, 198-207.	3.0	7
94	Prediction of CO and NOx Pollutants in a Stratified Bluff Body Burner. Journal of Engineering for Gas Turbines and Power, 2018, 140, .	0.5	7
95	Concept for a Phosphorescent Thermal History Sensor. , 2010, , .		6
96	Quality Issues in Combustion LES. Journal of Scientific Computing, 2011, 49, 51-64.	1.1	6
97	A-posteriori LES assessment of subgrid-scale closures for bounded passive scalars. Computers and Fluids, 2021, 218, 104840.	1.3	6
98	NUMERICAL SIMULATION OF FLOW INDUCED BY A CYLINDER ORBITING IN A LARGE VESSEL. Journal of Fluids and Structures, 2002, 16, 435-451.	1.5	5
99	A Simple Approach for Specifying Velocity Inflow Boundary Conditions in Simulations of Turbulent Opposed-Jet Flows. Flow, Turbulence and Combustion, 2017, 98, 131-153.	1.4	5
100	CoFlaVis: A Visualization System for Pulverized Coal Flames. Computing in Science and Engineering, 2017, 19, 72-78.	1.2	5
101	Particle history from massively parallel large eddy simulations of pulverised coal combustion in a large-scale laboratory furnace. Fuel, 2020, 271, 117587.	3.4	5
102	Effect of sub-grid wrinkling factor modelling on the large eddy simulation of turbulent stratified combustion. Combustion Theory and Modelling, 2021, 25, 911-939.	1.0	5
103	Investigation of Turbulent Pulverized Solid Fuel Combustion with Detailed Homogeneous and Heterogeneous Kinetics. Energy & Fuels, 2021, 35, 7077-7091.	2.5	5
104	Phosphor Based Temperature Indicating Paints. , 2012, , .		4
105	Evolutionary Camera Pose Estimation of a Multi-Camera Setup for Computed Tomography. , 2019, , .		4
106	Towards the Suitability of Information Entropy as an LES Quality Indicator. Flow, Turbulence and Combustion, 2022, 108, 353-385.	1.4	4
107	Numerical Investigation of Thirdâ€Body Behavior in Dry and Wet Environments under Plane Shearing. Chemical Engineering and Technology, 2016, 39, 1497-1508.	0.9	3
108	Investigation of a High Karlovitz, High Pressure Premixed Jet Flame with Heat Losses by LES. Combustion Science and Technology, 2020, 192, 2138-2170.	1.2	3

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109	LES of a Non-Premixed Flame with an Assumed Tophat FDF. Springer Proceedings in Physics, 2009, , 763-766.	0.1	3
110	LES as a Prediction Tool for Lifted Flames in a Model Gas Turbine Combustor. , 2010, , .		2
111	Compressible and Incompressible Large Eddy Simulation of a Premixed Dump Combustor. , 2011, , .		2
112	Note on the use of Yee-lattices in (semi-) implicit particle-in-cell codes. Journal of Computational Physics, 2013, 237, 56-60.	1.9	2
113	Large-Eddy Simulation of Sandia Flame D with Efficient Explicit Filtering. Flow, Turbulence and Combustion, 2019, 102, 887-907.	1.4	2
114	Large-Eddy Simulation of a Lifted High-Pressure Jet-Flame with Direct Chemistry. Combustion Science and Technology, 0, , 1-25.	1.2	2
115	Investigations on the Effect of Different Subgrid Models on the Quality of LES Results. ERCOFTAC Series, 2015, , 141-147.	0.1	2
116	A-posteriori assessment of Large-Eddy Simulation subgrid-closures for momentum and scalar fluxes in a turbulent premixed burner experiment. Computers and Fluids, 2022, 240, 105441.	1.3	2
117	Lagrangian filtered density function modeling of a turbulent stratified flame combined with flamelet approach. Physics of Fluids, 2022, 34, .	1.6	2
118	OxyCAP UK: Oxyfuel Combustion - academic Programme for the UK. Energy Procedia, 2014, 63, 504-510.	1.8	1
119	What can we learn from informationâ€entropy about turbulence and Largeâ€Eddyâ€Simulation?. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900253.	0.2	1
120	LES Analysis of CO Emissions from a High Pressure Siemens Gas Turbine Prototype Combustor at Part Load. Energies, 2020, 13, 5751.	1.6	1
121	Design and Testing of a High Frequency Thermoacoustic Combustion Experiment. AIAA Journal, 0, , 1-17.	1.5	1
122	Mixing and Combustion, Perspectives. Fluid Mechanics and Its Applications, 2002, , 387-403.	0.1	1
123	Insights into the decomposition of zirconium acetylacetonate using synchrotron radiation: Routes to the formation of volatile Zr-intermediates. Journal of Materials Research, 0, , 1.	1.2	1
124	Dilute suspensions in annular shear flow under gravity: simulation and experiment. EPJ Web of Conferences, 2017, 140, 09034.	0.1	0
125	Prediction of CO and NOx Pollutants in a Stratified Bluff Body Burner. , 2017, , .		0
126	Detailed simulations for flamelet modelling of SO x formation from coal. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900367.	0.2	0

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127	Quality Issues of Combustion LES. ERCOFTAC Series, 2011, , 33-46.	0.1	0
128	Computational error-minimization for LES of non-premixed turbulent combustion. ERCOFTAC Series, 2011, , 351-360.	0.1	0
129	Studying Transient Jet Flames by High-Resolution LES Using Premixed Flamelet Chemistry. ERCOFTAC Series, 2019, , 237-243.	0.1	0