Haiou Wang

List of Publications by Year
in descending order

82 papers	1,786 citations	331259 21 h-index	315357 38 g-index
82 all docs	82 docs citations	82 times ranked	961 citing authors

#	Article	IF	Citations
1	Imposing mixed Dirichlet-Neumann-Robin boundary conditions on irregular domains in a level set/ghost fluid based finite difference framework. Computers and Fluids, 2021, 214, 104772.	1.3	4
2	Turbulence/flame/wall interactions in non-premixed inclined slot-jet flames impinging at a wall using direct numerical simulation. Proceedings of the Combustion Institute, 2021, 38, 2711-2720.	2.4	8
3	Turbulence, evaporation and combustion interactions in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si19.svg"><mml:mi>n</mml:mi></mml:math>-heptane droplets under high pressure conditions using DNS. Combustion and Flame, 2021, 225, 417-427.	2.8	16
4	Large eddy simulations of spray combustion instability in an aero-engine combustor at elevated temperature and pressure. Aerospace Science and Technology, 2021, 108, 106329.	2.5	28
5	An evaluation of gas-phase micro-mixing models with differential mixing timescales in transported PDF simulations of sooting flame DNS. Proceedings of the Combustion Institute, 2021, 38, 2731-2739.	2.4	15
6	A DNS study on temporally evolving jet flames of pulverized coal/biomass co-firing with different blending ratios. Proceedings of the Combustion Institute, 2021, 38, 4005-4012.	2.4	10
7	Two improved electronegativity equalization methods for charge distribution in large scale non-uniform system. Computers and Mathematics With Applications, 2021, 81, 693-701.	1.4	2
8	A priori analysis of a power-law mixing model for transported PDF model based on high Karlovitz turbulent premixed DNS flames. Proceedings of the Combustion Institute, 2021, 38, 2917-2927.	2.4	7
9	Direct numerical simulation of turbulence modulation by premixed flames in a model annular swirling combustor. Proceedings of the Combustion Institute, 2021, 38, 3013-3020.	2.4	7
10	Direct numerical simulations of turbulent non-premixed flames: Assessment of turbulence within swirling flows. Physics of Fluids, 2021, 33, 015112.	1.6	8
11	2-D and 3-D measurements of flame stretch and turbulenceâ€“flame interactions in turbulent premixed flames using DNS. Journal of Fluid Mechanics, 2021, 913, .	1.4	11
12	A priori assessment of convolutional neural network and algebraic models for flame surface density of high Karlovitz premixed flames. Physics of Fluids, 2021, 33, .	1.6	22
13	Emission characteristics and heat release rate surrogates for ammonia premixed laminar flames. International Journal of Hydrogen Energy, 2021, 46, 13461-13470.	3.8	25
14	Predictive models for flame evolution using machine learning: <i>A priori</i> assessment in turbulent flames without and with mean shear. Physics of Fluids, 2021, 33, .	1.6	16
15	Effect of flame holder temperature on the instability modes of laminar premixed flames. Fuel, 2021, 293, 119628.	3.4	4
16	Direct numerical simulation of turbulent boundary layer premixed combustion under auto-ignitive conditions. Combustion and Flame, 2021, 228, 292-301.	2.8	15
17	Flame edge structures and dynamics in planar turbulent non-premixed inclined slot-jet flames impinging at a wall. Journal of Fluid Mechanics, 2021, 920, .	1.4	6
18	Direct numerical simulation of a supercritical hydrothermal flame in a turbulent jet. Journal of Fluid Mechanics, 2021, 922, .	1.4	4

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19	A Priori Modeling of NO Formation with Principal Component Analysis and the Convolutional Neural Network in the Context of Large Eddy Simulation. Energy & Fuels, 2021, 35, 20272-20283.	2.5	4
20	Effect of wall boundary conditions on the nonlinear response of turbulent premixed flames. AIP Advances, 2021, 11, .	0.6	2
21	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
22	High-fidelity numerical analysis of non-premixed hydrothermal flames: Flame structure and stabilization mechanism. Fuel, 2020, 259, 116162.	3.4	21
23	A finite difference discretization method for heat and mass transfer with Robin boundary conditions on irregular domains. Journal of Computational Physics, 2020, 400, 108890.	1.9	13
24	Premixed flames subjected to extreme turbulence: Some questions and recent answers. Progress in Energy and Combustion Science, 2020, 76, 100802.	15.8	118
25	Direct numerical simulation of particle-laden turbulent boundary layers without and with combustion. Physics of Fluids, 2020, 32, 105108.	1.6	12
26	A lower-dimensional approximation model of turbulent flame stretch and its related quantities with machine learning approaches. Physics of Fluids, 2020, 32, .	1.6	13
27	Large-eddy simulation of hydrothermal flames using extended flamelet/progress variable approach. Journal of Supercritical Fluids, 2020, 163, 104843.	1.6	3
28	Novel Sensitivity Study for Biomass Directional Devolatilization by Random Forest Models. Energy & Fuels, 2020, 34, 8414-8423.	2.5	8
29	Comparative Study on Different Treatments of Coal Devolatilization for Pulverized Coal Combustion Simulation. Energy & Fuels, 2020, 34, 3816-3827.	2.5	12
30	A comprehensive study of flamelet tabulation methods for pulverized coal combustion in a turbulent mixing layerâ€"Part II: Strong heat losses and multi-mode combustion. Combustion and Flame, 2020, 216, 453-467.	2.8	11
31	Direct numerical simulation of a spatially developing n-dodecane jet flame under Spray A thermochemical conditions: Flame structure and stabilisation mechanism. Combustion and Flame, 2020, 217, 57-76.	2.8	29
32	A three mixture fraction flamelet model for multi-stream laminar pulverized coal combustion. Proceedings of the Combustion Institute, 2019, 37, 2901-2910.	2.4	35
33	Predicting kinetic parameters for coal devolatilization by means of Artificial Neural Networks. Proceedings of the Combustion Institute, 2019, 37, 2943-2950.	2.4	40
34	A DNS evaluation of mixing and evaporation models for TPDF modelling of nonpremixed spray flames. Proceedings of the Combustion Institute, 2019, 37, 3363-3372.	2.4	11
35	Wall-impinging laminar premixed n-dodecane flames under autoignitive conditions. Proceedings of the Combustion Institute, 2019, 37, 1647-1654.	2.4	6
36	Large eddy simulation/dynamic thickened flame modeling of a high Karlovitz number turbulent premixed jet flame. Proceedings of the Combustion Institute, 2019, 37, 2555-2563.	2.4	38

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37	Structure and propagation of two-dimensional, partially premixed, laminar flames in diesel engine conditions. Proceedings of the Combustion Institute, 2019, 37, 1961-1969.	2.4	13
38	Regimes of premixed turbulent spontaneous ignition and deflagration under gas-turbine reheat combustion conditions. Combustion and Flame, 2019, 208, 402-419.	2.8	24
39	Real-fluid effects on laminar diffusion and premixed hydrothermal flames. Journal of Supercritical Fluids, 2019, 153, 104566.	1.6	10
40	Assessment of artificial fluid properties for high-order accurate large-eddy simulations of shock-free compressible turbulent flows with strong temperature gradients. Computers and Fluids, 2019, 190, 274-293.	1.3	0
41	Interface-resolved detailed numerical simulation of evaporating two-phase flows with robin boundary conditions on irregular domains. International Journal of Heat and Mass Transfer, 2019, 145, 118774.	2.5	8
42	Assessing an experimental approach for chemical explosive mode and heat release rate using DNS data. Combustion and Flame, 2019, 209, 214-224.	2.8	11
43	A comprehensive study on estimating higher heating value of biomass from proximate and ultimate analysis with machine learning approaches. Energy, 2019, 188, 116077.	4.5	102
44	Estimating biomass major chemical constituents from ultimate analysis using a random forest model. Bioresource Technology, 2019, 288, 121541.	4.8	49
45	Evaluation of real-fluid flamelet/progress variable model for laminar hydrothermal flames. Journal of Supercritical Fluids, 2019, 143, 232-241.	1.6	7
46	Direct numerical simulations of rich premixed turbulent n-dodecane/air flames at diesel engine conditions. Proceedings of the Combustion Institute, 2019, 37, 4655-4662.	2.4	18
47	Direct numerical simulation on auto-ignition characteristics of turbulent supercritical hydrothermal flames. Combustion and Flame, 2019, 200, 354-364.	2.8	24
48	Predictive single-step kinetic model of biomass devolatilization for CFD applications: A comparison study of empirical correlations (EC), artificial neural networks (ANN) and random forest (RF). Renewable Energy, 2019, 136, 104-114.	4.3	72
49	Performance assessment of flamelet models in flame-resolved LES of a high Karlovitz methane/air stratified premixed jet flame. Proceedings of the Combustion Institute, 2019, 37, 2545-2553.	2.4	14
50	Analysis and flamelet modelling for laminar pulverised coal combustion considering the wall effect. Combustion Theory and Modelling, 2019, 23, 353-375.	1.0	3
51	An <i>a priori</i> study of different tabulation methods for turbulent pulverised coal combustion. Combustion Theory and Modelling, 2018, 22, 505-530.	1.0	8
52	Analysis of pulverized coal flame stabilized in a 3D laminar counterflow. Combustion and Flame, 2018, 189, 106-125.	2.8	42
53	Direct numerical simulation of a high Ka CH4/air stratified premixed jet flame. Combustion and Flame, 2018, 193, 229-245.	2.8	48
54	A generalized flamelet tabulation method for partially premixed combustion. Combustion and Flame, 2018, 198, 54-68.	2.8	21

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55	Evaluation of different flamelet tabulation methods for laminar spray combustion. Physics of Fluids, 2018, 30, .	1.6	14
56	Low-temperature chemistry in n-heptane/air premixed turbulent flames. Combustion and Flame, 2018, 196, 71-84.	2.8	21
57	Assessment of chemical scalars for heat release rate measurement in highly turbulent premixed combustion including experimental factors. Combustion and Flame, 2018, 194, 485-506.	2.8	19
58	Numerical Studies of Coal Devolatilization Characteristics with Gas Temperature Fluctuation. Energy & Fuels, 2018, 32, 8760-8767.	2.5	9
59	Large-eddy simulation of multiphase combustion jet in cross-flow using flamelet model. International Journal of Multiphase Flow, 2018, 108, 211-225.	1.6	19
60	A coupled vaporization model based on temperature/species gradients for detailed numerical simulations using conservative level set method. International Journal of Heat and Mass Transfer, 2018, 127, 743-760.	2.5	11
61	A computational framework for interface-resolved DNS of simultaneous atomization, evaporation and combustion. Journal of Computational Physics, 2018, 371, 751-778.	1.9	15
62	Direct numerical simulations of a high Karlovitz number laboratory premixed jet flame â€" an analysis of flame stretch and flame thickening. Journal of Fluid Mechanics, 2017, 815, 511-536.	1.4	114
63	A direct numerical simulation study of flame structure and stabilization of an experimental high Ka CH4/air premixed jet flame. Combustion and Flame, 2017, 180, 110-123.	2.8	61
64	Numerical investigation of the effects of volatile matter composition and chemical reaction mechanism on pulverized coal combustion characteristics. Fuel, 2017, 210, 695-704.	3.4	21
65	Evaluation of flamelet/progress variable model for laminar pulverized coal combustion. Physics of Fluids, 2017, 29, .	1.6	45
66	A comparison between direct numerical simulation and experiment of the turbulent burning velocity-related statistics in a turbulent methane-air premixed jet flame at high Karlovitz number. Proceedings of the Combustion Institute, 2017, 36, 2045-2053.	2.4	80
67	Turbulence-flame interactions in DNS of a laboratory high Karlovitz premixed turbulent jet flame. Physics of Fluids, 2016, 28, .	1.6	60
68	One-Dimensional Modeling of Turbulent Premixed Jet Flames - Comparison to DNS. Flow, Turbulence and Combustion, 2016, 97, 913-930.	1.4	6
69	Conditional statistics of a laboratory-scale lifted turbulent H 2 /N 2 flame using direct numerical simulation. International Journal of Hydrogen Energy, 2015, 40, 2004-2012.	3.8	1
70	A-priori validation of a second-order moment combustion model via DNS database. International Journal of Heat and Mass Transfer, 2015, 86, 415-425.	2.5	7
71	Direct numerical simulation of the influence of Stokes number on velocity and particle concentration distributions in particle-laden round jets. , 2015, , .		0
72	Effects of turbulent intensity and droplet diameter on spray combustion using direct numerical simulation. Fuel, 2014, 121, 311-318.	3.4	29

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73	Direct numerical simulation and reaction rate modelling of premixed turbulent flames. International Journal of Hydrogen Energy, 2014, 39, 12158-12165.	3.8	7
74	Conditional reaction rate in a lifted turbulent H2/N2 flame using direct numerical simulation. International Journal of Hydrogen Energy, 2014, 39, 2703-2714.	3.8	2
75	Direct Numerical Simulation and Conditional Statistics of Hydrogen/Air Turbulent Premixed Flames. Energy & Fuels, 2013, 27, 549-560.	2.5	13
76	Analysis of Flame Characteristics in a Laboratory-Scale Turbulent Lifted Jet Flame via DNS. International Journal of Spray and Combustion Dynamics, 2013, 5, 225-242.	0.4	3
77	Direct Numerical Simulation of Pulverized Coal Combustion in a Hot Vitiated Co-flow. Energy & Fuels, 2012, 26, 6128-6136.	2.5	53
78	Direct Numerical Simulation Study of an Experimental Lifted H₂/N₂ Flame. Part 1: Validation and Flame Structure. Energy & Fuels, 2012, 26, 6118-6127.	2.5	23
79	Direct Numerical Simulation Study of an Experimental Lifted H₂/N₂ Flame. Part 2: Flame Stabilization. Energy & Fuels, 2012, 26, 4830-4839.	2.5	19
80	Direct numerical simulation and CMC (conditional moment closure) sub-model validation of spray combustion. Energy, 2012, 46, 606-617.	4.5	17
81	A DNS study of hydrogen/air swirling premixed flames with different equivalence ratios. International Journal of Hydrogen Energy, 2012, 37, 5246-5256.	3.8	15
82	Direct numerical simulation and analysis of a hydrogen/air swirling premixed flame in a micro combustor. International Journal of Hydrogen Energy, 2011, 36, 13838-13849.	3.8	28