# Haiou Wang

## List of Publications by Year
## in descending order

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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 | Premixed flames subjected to extreme turbulence: Some questions and recent answers. Progress in Energy and Combustion Science, 2020, 76, 100802. | 15.8 | 118 |
| 2 | 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 |
| 3 | 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 |
| 4 | 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 |
| 5 | 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 |
| 6 | 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 |
| 7 | Turbulence-flame interactions in DNS of a laboratory high Karlovitz premixed turbulent jet flame. Physics of Fluids, 2016, 28, . | 1.6 | 60 |
| 8 | Direct Numerical Simulation of Pulverized Coal Combustion in a Hot Vitiated Co-flow. Energy &amp; Fuels, 2012, 26, 6128-6136. | 2.5 | 53 |
| 9 | Estimating biomass major chemical constituents from ultimate analysis using a random forest model. Bioresource Technology, 2019, 288, 121541. | 4.8 | 49 |
| 10 | Direct numerical simulation of a high Ka CH4/air stratified premixed jet flame. Combustion and Flame, 2018, 193, 229-245. | 2.8 | 48 |
| 11 | Evaluation of flamelet/progress variable model for laminar pulverized coal combustion. Physics of Fluids, 2017, 29, . | 1.6 | 45 |
| 12 | Analysis of pulverized coal flame stabilized in a 3D laminar counterflow. Combustion and Flame, 2018, 189, 106-125. | 2.8 | 42 |
| 13 | Predicting kinetic parameters for coal devolatilization by means of Artificial Neural Networks. Proceedings of the Combustion Institute, 2019, 37, 2943-2950. | 2.4 | 40 |
| 14 | 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 |
| 15 | 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 |
| 16 | Effects of turbulent intensity and droplet diameter on spray combustion using direct numerical simulation. Fuel, 2014, 121, 311-318. | 3.4 | 29 |
| 17 | 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 |
| 18 | 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 |

| # | ARTICLE | IF | CITATIONS |
|---|---|---|---|
| 19 | 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 |
| 20 | Emission characteristics and heat release rate surrogates for ammonia premixed laminar flames. International Journal of Hydrogen Energy, 2021, 46, 13461-13470. | 3.8 | 25 |
| 21 | Regimes of premixed turbulent spontaneous ignition and deflagration under gas-turbine reheat combustion conditions. Combustion and Flame, 2019, 208, 402-419. | 2.8 | 24 |
| 22 | Direct numerical simulation on auto-ignition characteristics of turbulent supercritical hydrothermal flames. Combustion and Flame, 2019, 200, 354-364. | 2.8 | 24 |
| 23 | Direct Numerical Simulation Study of an Experimental Lifted H<sub>2</sub>/N<sub>2</sub> Flame. Part 1: Validation and Flame Structure. Energy &amp; Fuels, 2012, 26, 6118-6127. | 2.5 | 23 |
| 24 | 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 |
| 25 | 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 |
| 26 | A generalized flamelet tabulation method for partially premixed combustion. Combustion and Flame, 2018, 198, 54-68. | 2.8 | 21 |
| 27 | Low-temperature chemistry in n-heptane/air premixed turbulent flames. Combustion and Flame, 2018, 196, 71-84. | 2.8 | 21 |
| 28 | High-fidelity numerical analysis of non-premixed hydrothermal flames: Flame structure and stabilization mechanism. Fuel, 2020, 259, 116162. | 3.4 | 21 |
| 29 | Direct Numerical Simulation Study of an Experimental Lifted H<sub>2</sub>/N<sub>2</sub> Flame. Part 2: Flame Stabilization. Energy &amp; Fuels, 2012, 26, 4830-4839. | 2.5 | 19 |
| 30 | 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 |
| 31 | 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 |
| 32 | 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 |
| 33 | Direct numerical simulation and CMC (conditional moment closure) sub-model validation of spray combustion. Energy, 2012, 46, 606-617. | 4.5 | 17 |
| 34 | 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 |
| 35 | 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 |
| 36 | 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 |

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|---|---|---|---|
| 37 | 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 |
| 38 | A computational framework for interface-resolved DNS of simultaneous atomization, evaporation and combustion. Journal of Computational Physics, 2018, 371, 751-778. | 1.9 | 15 |
| 39 | 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 |
| 40 | Direct numerical simulation of turbulent boundary layer premixed combustion under auto-ignitive conditions. Combustion and Flame, 2021, 228, 292-301. | 2.8 | 15 |
| 41 | Evaluation of different flamelet tabulation methods for laminar spray combustion. Physics of Fluids, 2018, 30, . | 1.6 | 14 |
| 42 | 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 |
| 43 | Direct Numerical Simulation and Conditional Statistics of Hydrogen/Air Turbulent Premixed Flames. Energy &amp; Fuels, 2013, 27, 549-560. | 2.5 | 13 |
| 44 | 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 |
| 45 | 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 |
| 46 | 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 |
| 47 | Direct numerical simulation of particle-laden turbulent boundary layers without and with combustion. Physics of Fluids, 2020, 32, 105108. | 1.6 | 12 |
| 48 | Comparative Study on Different Treatments of Coal Devolatilization for Pulverized Coal Combustion Simulation. Energy &amp; Fuels, 2020, 34, 3816-3827. | 2.5 | 12 |
| 49 | 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 |
| 50 | 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 |
| 51 | 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 |
| 52 | 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 |
| 53 | 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 |
| 54 | Real-fluid effects on laminar diffusion and premixed hydrothermal flames. Journal of Supercritical Fluids, 2019, 153, 104566. | 1.6 | 10 |

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|---|---|---|---|
| 55 | 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 |
| 56 | Numerical Studies of Coal Devolatilization Characteristics with Gas Temperature Fluctuation. Energy &amp; Fuels, 2018, 32, 8760-8767. | 2.5 | 9 |
| 57 | 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 |
| 58 | 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 |
| 59 | Novel Sensitivity Study for Biomass Directional Devolatilization by Random Forest Models. Energy &amp; Fuels, 2020, 34, 8414-8423. | 2.5 | 8 |
| 60 | 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 |
| 61 | Direct numerical simulations of turbulent non-premixed flames: Assessment of turbulence within swirling flows. Physics of Fluids, 2021, 33, 015112. | 1.6 | 8 |
| 62 | Direct numerical simulation and reaction rate modelling of premixed turbulent flames. International Journal of Hydrogen Energy, 2014, 39, 12158-12165. | 3.8 | 7 |
| 63 | 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 |
| 64 | Evaluation of real-fluid flamelet/progress variable model for laminar hydrothermal flames. Journal of Supercritical Fluids, 2019, 143, 232-241. | 1.6 | 7 |
| 65 | 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 |
| 66 | 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 |
| 67 | One-Dimensional Modeling of Turbulent Premixed Jet Flames - Comparison to DNS. Flow, Turbulence and Combustion, 2016, 97, 913-930. | 1.4 | 6 |
| 68 | Wall-impinging laminar premixed n-dodecane flames under autoignitive conditions. Proceedings of the Combustion Institute, 2019, 37, 1647-1654. | 2.4 | 6 |
| 69 | 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 |
| 70 | 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 |
| 71 | Effect of flame holder temperature on the instability modes of laminar premixed flames. Fuel, 2021, 293, 119628. | 3.4 | 4 |
| 72 | 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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|---|---|---|---|
| 73 | A Priori Modeling of NO Formation with Principal Component Analysis and the Convolutional Neural Network in the Context of Large Eddy Simulation. Energy &amp; Fuels, 2021, 35, 20272-20283. | 2.5 | 4 |
| 74 | 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 |
| 75 | Analysis and flamelet modelling for laminar pulverised coal combustion considering the wall effect. Combustion Theory and Modelling, 2019, 23, 353-375. | 1.0 | 3 |
| 76 | Large-eddy simulation of hydrothermal flames using extended flamelet/progress variable approach. Journal of Supercritical Fluids, 2020, 163, 104843. | 1.6 | 3 |
| 77 | 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 |
| 78 | 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 |
| 79 | Effect of wall boundary conditions on the nonlinear response of turbulent premixed flames. AIP Advances, 2021, 11, . | 0.6 | 2 |
| 80 | 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 |
| 81 | 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 |
| 82 | Direct numerical simulation of the influence of Stokes number on velocity and particle concentration distributions in particle-laden round jets. , 2015, , . |  | 0 |