Hong Liu

List of Publications by Year
in descending order

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99 papers	1,843 citations	304743 22 h-index	302126 39 g-index
103 all docs	103 docs citations	103 times ranked	630 citing authors

#	Article	IF	Citations
1	The effects of large scale perturbation-generating obstacles on the propagation of detonation filled with methaneâ€“oxygen mixture. Combustion and Flame, 2017, 182, 279-287.	5.2	128
2	The effect of instability of detonation on the propagation modes near the limits in typical combustible mixtures. Fuel, 2019, 253, 305-310.	6.4	101
3	Effect of drop size on the impact thermodynamics for supercooled large droplet in aircraft icing. Physics of Fluids, 2016, 28, .	4.0	96
4	Theoretical prediction model and experimental investigation of detonation limits in combustible gaseous mixtures. Fuel, 2019, 258, 116132.	6.4	92
5	Experimental study of detonation limits in methane-oxygen mixtures: Determining tube scale and initial pressure effects. Fuel, 2020, 259, 116220.	6.4	77
6	Analysis of the ignition induced by shock wave focusing equipped with conical and hemispherical reflectors. Combustion and Flame, 2022, 236, 111763.	5.2	76
7	Effect of acoustically absorbing wall tubes on the near-limit detonation propagation behaviors in a methaneâ€“oxygen mixture. Fuel, 2019, 236, 975-983.	6.4	66
8	Investigation on the detonation propagation limit criterion for methane-oxygen mixtures in tubes with different scales. Fuel, 2019, 239, 617-622.	6.4	62
9	Aero-optical effects of an optical seeker with a supersonic jet for hypersonic vehicles in near space. Applied Optics, 2016, 55, 4741.	2.1	56
10	The precursor shock wave and flame propagation enhancement by CO2 injection in a methane-oxygen mixture. Fuel, 2021, 283, 118917.	6.4	55
11	Ignition behavior and the onset of quasi-detonation in methane-oxygen using different end wall reflectors. Aerospace Science and Technology, 2021, 116, 106873.	4.8	52
12	Velocity behavior downstream of perforated plates with large blockage ratio for unstable and stable detonations. Aerospace Science and Technology, 2019, 86, 236-243.	4.8	49
13	Effect of nucleation time on freezing morphology and type of a water droplet impacting onto cold substrate. International Journal of Heat and Mass Transfer, 2019, 130, 831-842.	4.8	49
14	A theory on the icing evolution of supercooled water near solid substrate. International Journal of Heat and Mass Transfer, 2015, 91, 1217-1236.	4.8	44
15	On the detonation propagation behavior in hydrogen-oxygen mixture under the effect of spiral obstacles. International Journal of Hydrogen Energy, 2017, 42, 21392-21402.	7.1	41
16	An asymptotic-preserving Monte Carlo method for the Boltzmann equation. Journal of Computational Physics, 2014, 276, 380-404.	3.8	38
17	Impact freezing modes of supercooled droplets determined by both nucleation and icing evolution. International Journal of Heat and Mass Transfer, 2019, 142, 118431.	4.8	33
18	A composite-fuel additive design method for n-decane low-temperature ignition enhancement. Combustion and Flame, 2018, 188, 262-272.	5.2	29

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19	An asymptotic preserving Monte Carlo method for the multispecies Boltzmann equation. Journal of Computational Physics, 2016, 305, 575-588.	3.8	28
20	Experimental study on the effects of different fluidic jets on the acceleration of deflagration prior its transition to detonation. Aerospace Science and Technology, 2020, 106, 106203.	4.8	28
21	An experimental study on the detonability of gaseous hydrocarbon fuelâ€“oxygen mixtures in narrow channels. Aerospace Science and Technology, 2017, 69, 193-200.	4.8	26
22	Scaling vortex breakdown mechanism based on viscous effect in shock cylindrical bubble interaction. Physics of Fluids, 2018, 30, 126103.	4.0	24
23	On the explosion characteristics for central and end-wall ignition in hydrogen-air mixtures: A comparative study. International Journal of Hydrogen Energy, 2021, 46, 30861-30869.	7.1	24
24	On the formation modes in vortex interaction for multiple co-axial co-rotating vortex rings. Physics of Fluids, 2018, 30, .	4.0	23
25	Effects of inert gas jet on the transition from deflagration to detonation in a stoichiometric methane-oxygen mixture. Fuel, 2021, 285, 119237.	6.4	22
26	Numerical study of active flow control over a hypersonic backward-facing step using supersonic jet in near space. Acta Astronautica, 2017, 132, 256-267.	3.2	21
27	Detonation velocity behavior and scaling analysis for ethylene-nitrous oxide mixture. Applied Thermal Engineering, 2017, 127, 671-678.	6.0	20
28	Two-stage growth mode for lift-off mechanism in oblique shock-wave/jet interaction. Physics of Fluids, 2020, 32, .	4.0	19
29	Experimetal study of a freely falling plate with an inhomogeneous mass distribution. Physical Review E, 2013, 88, 053008.	2.1	18
30	Development and Theoretical Analysis of an Aircraft Supercooled Icing Model. Journal of Aircraft, 2014, 51, 975-986.	2.4	18
31	Multi-component effect and reaction mechanism for low-temperature ignition of kerosene with composite enhancer. Combustion and Flame, 2019, 199, 401-410.	5.2	17
32	Unified icing theory based on phase transition of supercooled water on a substrate. International Journal of Heat and Mass Transfer, 2018, 123, 896-910.	4.8	16
33	Fuel reactivity controlled self-starting and propulsion performance of a scramjet: A model investigation. Energy, 2020, 195, 116920.	8.8	15
34	Non-Rankineâ€“Hugoniot Shock Zone of Mach Reflection in Hypersonic Rarefied Flows. Journal of Spacecraft and Rockets, 2016, 53, 619-628.	1.9	14
35	Hidden flow structures in compressible mixing layer and a quantitative analysis of entrainment based on Lagrangian method. Journal of Hydrodynamics, 2019, 31, 256-265.	3.2	14
36	Formation and dynamics of compressible vortex rings generated by a shock tube. Experiments in Fluids, 2020, 61, 1.	2.4	14

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37	Effects of evaporation on chemical reactions in counterflow spray flames. Physics of Fluids, 2021, 33, .	4.0	14
38	Patterns for efficient propulsion during the energy evolution of vortex rings. European Journal of Mechanics, B/Fluids, 2018, 71, 47-58.	2.5	13
39	Detonation propagation limits in highly argon diluted acetylene-oxygen mixtures in channels. Experimental Thermal and Fluid Science, 2018, 90, 125-131.	2.7	13
40	Role of chemical reactions in the stagnation point heat flux of rarefied hypersonic cylinder flows. Physics of Fluids, 2020, 32, .	4.0	13
41	Quantitative Features of Wingtip Vortex Wandering Based on the Linear Stability Analysis. AIAA Journal, 2019, 57, 2694-2709.	2.6	12
42	Molecular simulation on viscous effects for microscale combustion in reactive shock-bubble interaction. Combustion and Flame, 2019, 208, 351-363.	5.2	10
43	Contribution of viscosity to the circulation deposition in the Richtmyerâ€“Meshkov instability. Journal of Fluid Mechanics, 2020, 895, .	3.4	10
44	On the controlled evolution for wingtip vortices of a flapping wing model at bird scale. Aerospace Science and Technology, 2021, 110, 106460.	4.8	10
45	Correcting aero-optical wavefront aberration of the supersonic mixing layer based on periodic pulse forcing. Applied Optics, 2017, 56, 4613.	2.1	9
46	Quantitative analysis of vortex added-mass and impulse generation during vortex ring formation based on elliptic Lagrangian coherent structures. Experimental Thermal and Fluid Science, 2018, 94, 295-303.	2.7	9
47	A Unified Energy Feature of Vortex Rings for Identifying the Pinch-Off Mechanism. Journal of Fluids Engineering, Transactions of the ASME, 2018, 140, .	1.5	9
48	Scaling behavior of density gradient accelerated mixing rate in shock bubble interaction. Physical Review Fluids, 2021, 6, .	2.5	9
49	Robust and efficient prediction of the collection efficiency in icing accretion simulation for 3D complex geometries using the Lagrangian approach I: an adaptive interpolation method based on the restricted radial basis functions. International Journal of Heat and Mass Transfer, 2020, 150, 119290.	4.8	8
50	Effect of surface wettability on impact-freezing of supercooled large water droplet. Experimental Thermal and Fluid Science, 2022, 130, 110508.	2.7	8
51	Investigation of the effect of turbulence induced by double non-reactive gas jet on the deflagration-to-detonation transition. Aerospace Science and Technology, 2022, 124, 107556.	4.8	8
52	Lagrangian flow visualization of multiple co-axial co-rotating vortex rings. Journal of Visualization, 2018, 21, 63-71.	1.8	7
53	Passive scalar mixing induced by the formation of compressible vortex rings. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 1258-1274.	3.4	7
54	Synergistic promotion of multi-component RP-3 kerosene low-temperature ignition with addition of radical activator. International Journal of Hydrogen Energy, 2021, 46, 27207-27220.	7.1	7

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55	A diffusion-enhancing icing theory for the freezing transition of supercooled large water droplet in impact. International Journal of Heat and Mass Transfer, 2022, 187, 122471.	4.8	7
56	Nucleation in supercooled water triggered by mechanical impact: Experimental and theoretical analyses. Journal of Energy Storage, 2022, 52, 104755.	8.1	7
57	Temperature-gradient effects on heterogeneous ice nucleation from supercooled water. AIP Advances, 2019, 9, .	1.3	6
58	An objective-adaptive refinement criterion based on modified ridge extraction method for finite-time Lyapunov exponent (FTLE) calculation. Journal of Visualization, 2020, 23, 81-95.	1.8	6
59	Optimal excitation mechanism for combustion enhancement of supersonic shear layers with pulsed jets. International Journal of Hydrogen Energy, 2020, 45, 23674-23691.	7.1	6
60	On the structures of compressible vortex rings generated by the compressible starting jet from converging and diverging nozzles. Aerospace Science and Technology, 2020, 106, 106188.	4.8	6
61	On the characteristics and mechanism of perturbation modes with asymptotic growth in trailing vortices. Journal of Fluid Mechanics, 2021, 918, .	3.4	6
62	Formation number and pinch-off signals of disc vortex ring based on a Lagrangian analysis. Experimental Thermal and Fluid Science, 2021, 129, 110452.	2.7	6
63	Low-Temperature Hypergolic Ignition of 1-Octene with Low Ignition Delay Time. Journal of Physical Chemistry A, 2021, 125, 423-434.	2.5	6
64	A circulation prediction model for ramp and vortex generator in supersonic flow: A numerical study. Aerospace Science and Technology, 2022, 127, 107688.	4.8	6
65	A load-decoupling parallel strategy based on shared memory architecture for DSMC to simulate near-continuum gases. Computer Physics Communications, 2022, 279, 108466.	7.5	6
66	Mechanism of transient force augmentation varying with two distinct timescales for interacting vortex rings. Physics of Fluids, 2014, 26, 011901.	4.0	5
67	Effect of nucleation and icing evolution on run-back freezing of supercooled water droplet. Aerospace Systems, 2019, 2, 147-153.	1.4	5
68	Efficient homogeneous radical activation of n-hexadecane by Borane-dimethyl sulfide based on dynamic inductive effect for low-temperature ignition. Fuel Processing Technology, 2021, 213, 106653.	7.2	5
69	Suppression of ice nucleation in supercooled water under temperature gradients. Chinese Physics B, 2021, 30, 068203.	1.4	5
70	Promoted stable combustion of alcohol-based fuel accompanied by inhibition of Leidenfrost effect in a wide temperature range. Energy, 2021, 234, 121248.	8.8	5
71	On mixing enhancement by secondary baroclinic vorticity in a shockâ€“bubble interaction. Journal of Fluid Mechanics, 2022, 931, .	3.4	5
72	Benefits comparison of vortex instability and aerodynamic performance from different split winglet configurations. Aerospace Science and Technology, 2021, 119, 107219.	4.8	5

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73	Effects of jet/flame interaction on deflagration-to-detonation transition by non-reactive gas jet in a methane-oxygen mixture. Aerospace Science and Technology, 2022, 126, 107581.	4.8	5
74	A multi-autoencoder fusion network for fast image prediction of aircraft ice accretion. Physics of Fluids, 2022, 34, .	4.0	5
75	On promoted combustion stability of kerosene/ethanol blends at wide low temperatures: Fuel reactivity improvement and Leidenfrost effect suppression. Fuel, 2022, 315, 123221.	6.4	4
76	Trajectory modes and wake patterns of freely falling plates. Journal of Visualization, 2018, 21, 433-441.	1.8	3
77	On the particle discretization in hypersonic nonequilibrium flows with the direct simulation Monte Carlo method. Physics of Fluids, 2019, 31, 076102.	4.0	3
78	OPD analysis and prediction in aero-optics based on dictionary learning. Aerospace Systems, 2019, 2, 61-70.	1.4	3
79	Effects of Mach Number on Non-Rankineâ€“Hugoniot Shock Zone of Mach Reflection. Journal of Spacecraft and Rockets, 2019, 56, 761-770.	1.9	3
80	The evolution of wingtip vortex wandering: a stability analysis based on stereo-PIV experiment. Aerospace Systems, 2020, 3, 71-77.	1.4	3
81	Kinematic and mixing characteristics of vortex interaction induced by a vortex generator model: a numerical study. Applied Mathematics and Mechanics (English Edition), 2021, 42, 387-404.	3.6	3
82	Scaling analysis of the circulation growth of leading-edge vortex in flapping flight. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 1530-1543.	3.4	3
83	Numerical Investigation on Combustion-Enhancement Strategy in Shockâ€“Fuel Jet Interaction. AIAA Journal, 0, , 1-18.	2.6	3
84	Lagrangian analysis of the fluid transport induced by the interaction of two co-axial co-rotating vortex rings. Journal of Hydrodynamics, 2020, 32, 1080-1090.	3.2	3
85	A free radical relay combustion approach to scramjet ignition at a low Mach number. Energy, 2022, 247, 123539.	8.8	3
86	Effects of Reynolds number and Schmidt number on variable density mixing in shock bubble interaction. Acta Mechanica Sinica/Lixue Xuebao, 2022, 38, .	3.4	3
87	Effects of compressibility and Knudsen number on the aero optics in hypersonic flow fields. Journal of Shanghai Jiaotong University (Science), 2016, 21, 270-279.	0.9	2
88	Experimental study on a solenoid valve-based generator for droplet generation. Journal of Physics: Conference Series, 2019, 1300, 012044.	0.4	2
89	Evolution of the Lagrangian drift and vortex added-mass of a growing vortex ring. Journal of Hydrodynamics, 2021, 33, 725-735.	3.2	2
90	The study on the impinging freezing of the supercooled droplet containing the atmosphere aerosol. Journal of Crystal Growth, 2022, 581, 126475.	1.5	2

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91	Enhanced low-temperature stable combustion of hydrocarbon with suppressing the Leidenfrost effect. International Journal of Heat and Mass Transfer, 2022, 185, 122413.	4.8	2
92	Vortexâ€“shock and vortexâ€“vortex interactions in the compressible starting jet from two beveled nozzle configurations. Journal of Visualization, 2021, 24, 225-236.	1.8	1
93	Influence of jet components on the aero-optical effects of a 3D supersonic mixing layer. Applied Optics, 2021, 60, 8231.	1.8	1
94	On the shock/step-interface interaction in microscale conditions. AIP Conference Proceedings, 2019, , .	0.4	0
95	A Method for Enhancing Low-Pressure Ignition of n-Decane Based on Increasing Hydroxyl Free Radicals. Lecture Notes in Electrical Engineering, 2019, , 185-196.	0.4	0
96	Investigation on the Effects of Atwood Number on the Combustion Performance of Hydrogen-Oxygen Supersonic Mixing Layer. Lecture Notes in Electrical Engineering, 2021, , 23-42.	0.4	0
97	Lagrangian analysis of the formation and mass transport of compressible vortex rings generated by a shock tube*. Chinese Physics B, 2021, 30, 030501.	1.4	0
98	Behavior of mixing enhancement in microscale shock cylindrical bubble interaction. Aerospace Systems, 2021, 4, 143-149.	1.4	0
99	Vortex structures evolution in supersonic mixing layers with different inlet Reynolds numbers based on the Lagrangian method. AIP Advances, 2021, 11, 125128.	1.3	0