

Wei-Xi Huang

List of Publications by Year in descending order

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108
papers

2,626
citations

218677

26
h-index

214800

47
g-index

108
all docs

108
docs citations

108
times ranked

1481
citing authors

#	ARTICLE	IF	CITATIONS
1	An improved spectral method and experimental tests for the low-frequency broadband noise of marine propellers. <i>Journal of Marine Science and Technology</i> , 2022, 27, 604-618.	2.9	0
2	Vortex dynamics and hydrodynamic performance enhancement mechanism in batoid fish oscillatory swimming. <i>Journal of Fluid Mechanics</i> , 2022, 930, .	3.4	32
3	Numerical model and hydrodynamic performance of tuna finlets. <i>Theoretical and Applied Mechanics Letters</i> , 2022, 12, 100322.	2.8	5
4	Large-eddy simulation of three-dimensional aerofoil tip-gap flow. <i>Ocean Engineering</i> , 2022, 243, 110315.	4.3	9
5	Rescaling the near-wall predictive model for passive scalars in turbulent channel flow. <i>Physics of Fluids</i> , 2022, 34, .	4.0	0
6	Scaling of rough-wall turbulence in a transitionally rough regime. <i>Physics of Fluids</i> , 2022, 34, .	4.0	6
7	Physical models and vortex dynamics of swimming and flying: a review. <i>Acta Mechanica</i> , 2022, 233, 1249-1288.	2.1	11
8	Deep reinforcement learning for active control of flow over a circular cylinder with rotational oscillations. <i>International Journal of Heat and Fluid Flow</i> , 2022, 96, 109008.	2.4	10
9	Wall-attached structures over a traveling wavy boundary: Turbulent velocity fluctuations. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	12
10	A self-propelled flexible plate with a keel-like structure. <i>Physics of Fluids</i> , 2021, 33, .	4.0	8
11	Off-wall boundary conditions for large-eddy simulation based on near-wall turbulence prediction. <i>Physics of Fluids</i> , 2021, 33, 045125.	4.0	6
12	A near-wall predictive model for passive scalars using minimal flow unit. <i>Physics of Fluids</i> , 2021, 33, 045119.	4.0	3
13	A hybrid immersed boundary/wall-model approach for large-eddy simulation of high-Reynolds-number turbulent flows. <i>International Journal of Heat and Fluid Flow</i> , 2021, 88, 108769.	2.4	11
14	Variations of flight patterns for falling flexible plates. <i>Physics of Fluids</i> , 2021, 33, .	4.0	10
15	Synthetic near-wall small-scale turbulence and its application in wall-modeled large-eddy simulation. <i>Physics of Fluids</i> , 2021, 33, 095102.	4.0	3
16	Numerical study on wetted and cavitating tip-vortical flows around an elliptical hydrofoil: Interplay of cavitation, vortices, and turbulence. <i>Physics of Fluids</i> , 2021, 33, .	4.0	21
17	Wall-attached structures over a traveling wavy boundary: Scalar transport. <i>Physics of Fluids</i> , 2021, 33, 105115.	4.0	4
18	Evolutionary Optimisation for Reduction of the Low-Frequency Discrete-Spectrum Force of Marine Propeller Based on a Data-Driven Surrogate Model. <i>Journal of Marine Science and Engineering</i> , 2021, 9, 18.	2.6	3

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19	Transient growth in turbulent particle-laden channel flow. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2020, 36, 1-11.	3.4	7
20	Specialization of tuna: A numerical study on the function of caudal keels. <i>Physics of Fluids</i> , 2020, 32, .	4.0	22
21	Scaling of rough-wall turbulence by the roughness height and steepness. <i>Journal of Fluid Mechanics</i> , 2020, 900, .	3.4	24
22	A monolithic projection framework for constrained FSI problems with the immersed boundary method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 371, 113332.	6.6	11
23	Active control for drag reduction of turbulent channel flow based on convolutional neural networks. <i>Physics of Fluids</i> , 2020, 32, .	4.0	32
24	Prediction and optimisation of low-frequency discrete- and broadband-spectrum marine propeller forces. <i>Applied Ocean Research</i> , 2020, 98, 102114.	4.1	13
25	The reduction of noise induced by flow over an open cavity. <i>International Journal of Heat and Fluid Flow</i> , 2020, 82, 108560.	2.4	6
26	Non-monotonic effect of mass loading on turbulence modulations in particle-laden channel flow. <i>Physics of Fluids</i> , 2020, 32, .	4.0	28
27	Swimming strategy of settling elongated micro-swimmers by reinforcement learning. <i>Science China: Physics, Mechanics and Astronomy</i> , 2020, 63, 1.	5.1	13
28	Surface wave effects on energy transfer in overlying turbulent flow. <i>Journal of Fluid Mechanics</i> , 2020, 893, .	3.4	16
29	Rough-wall turbulence in minimal flow units with rod-roughened walls. <i>Physics of Fluids</i> , 2020, 32, 115120.	4.0	7
30	Space-time characteristics of turbulence in minimal flow units. <i>Physics of Fluids</i> , 2020, 32, .	4.0	4
31	Assessment of force models on finite-sized particles at finite Reynolds numbers. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020, 41, 953-966.	3.6	2
32	Data-driven construction of a reduced-order model for supersonic boundary layer transition. <i>Journal of Fluid Mechanics</i> , 2019, 874, 1096-1114.	3.4	24
33	A dynamic wall model for large eddy simulation of turbulent flow over complex/moving boundaries based on the immersed boundary method. <i>Physics of Fluids</i> , 2019, 31, .	4.0	38
34	Coupled states of dual side-by-side inverted flags in a uniform flow. <i>Journal of Fluids and Structures</i> , 2019, 91, 102768.	3.4	8
35	Hydrodynamic design of an advanced submerged propulsion. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2019, 233, 6367-6382.	2.1	2
36	Hydrodynamics of marine propulsion. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2019, 233, 6291-6292.	2.1	0

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37	Drag reduction in turbulent flow along a cylinder by circumferential oscillating Lorentz force. <i>Physics of Fluids</i> , 2019, 31, .	4.0	16
38	Relationship between wall shear stresses and streamwise vortices. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2019, 40, 381-396.	3.6	4
39	Direct numerical simulation of a turbulent boundary layer over an anisotropic compliant wall. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2019, 35, 384-400.	3.4	6
40	Hydrodynamics of a three-dimensional self-propelled flexible plate. <i>Physics of Fluids</i> , 2019, 31, .	4.0	32
41	Coherent structures in streamwise rotating channel flow. <i>Physics of Fluids</i> , 2019, 31, .	4.0	16
42	Linear optimal control of transient growth in turbulent channel flows. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2019, 35, 729-739.	3.4	1
43	On the role of vortical structures in aerodynamic performance of a hovering mosquito. <i>Physics of Fluids</i> , 2019, 31, .	4.0	29
44	Recent trends and progress in the immersed boundary method. <i>Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science</i> , 2019, 233, 7617-7636.	2.1	107
45	Stability analysis of rotational dynamics of ellipsoids in simple shear flow. <i>Physics of Fluids</i> , 2019, 31, 023301.	4.0	10
46	On rotational dynamics of a finite-sized ellipsoidal particle in shear flows. <i>Acta Mechanica</i> , 2019, 230, 449-467.	2.1	8
47	Drag reduction in turbulent flows along a cylinder by streamwise-travelling waves of circumferential wall velocity. <i>Journal of Fluid Mechanics</i> , 2019, 862, 75-98.	3.4	13
48	Vortical structures in the wake of falling plates. <i>Journal of Visualization</i> , 2019, 22, 15-24.	1.8	7
49	Very large-scale motions in turbulent flows over streamwise traveling wavy boundaries. <i>Physical Review Fluids</i> , 2019, 4, .	2.5	21
50	Prediction of near-wall turbulence using minimal flow unit. <i>Journal of Fluid Mechanics</i> , 2018, 841, 654-673.	3.4	27
51	A Sharp-Interface Immersed Boundary Method for Simulating Incompressible Flows with Arbitrarily Deforming Smooth Boundaries. <i>International Journal of Computational Methods</i> , 2018, 15, 1750080.	1.3	27
52	Amplitude modulation and extreme events in turbulent channel flow. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2018, 34, 1-9.	3.4	19
53	Progression of heavy plates from stable falling to tumbling flight. <i>Journal of Fluid Mechanics</i> , 2018, 850, 1009-1031.	3.4	14
54	An improved penalty immersed boundary method for multiphase flow simulation. <i>International Journal for Numerical Methods in Fluids</i> , 2018, 88, 447-462.	1.6	9

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55	Direct numerical simulation of turbulent flows through concentric annulus with circumferential oscillation of inner wall. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2018, 39, 1267-1276.	3.6	1
56	Effect of active control on linear transient growth in turbulent channel flow. <i>Journal of Turbulence</i> , 2017, 18, 203-218.	1.4	3
57	Large eddy simulation of flow and scalar transport in a vegetated channel. <i>Environmental Fluid Mechanics</i> , 2017, 17, 497-519.	1.6	27
58	Direct numerical simulation of turbulent boundary layer over a compliant wall. <i>Journal of Fluids and Structures</i> , 2017, 71, 126-142.	3.4	15
59	On near-wall turbulence in minimal flow units. <i>International Journal of Heat and Fluid Flow</i> , 2017, 65, 192-199.	2.4	13
60	Second-order curved interface treatments of the lattice Boltzmann method for convection-diffusion equations with conjugate interfacial conditions. <i>Computers and Fluids</i> , 2017, 144, 60-73.	2.5	8
61	An autonomous flexible propulsor in a quiescent flow. <i>International Journal of Heat and Fluid Flow</i> , 2017, 68, 151-157.	2.4	9
62	Numerical study of aircraft wake vortex evolution near ground in stable atmospheric boundary layer. <i>Chinese Journal of Aeronautics</i> , 2017, 30, 1866-1876.	5.3	10
63	Large-Eddy Simulation of Flow Over a Vegetation-Like Canopy Modelled as Arrays of Bluff-Body Elements. <i>Boundary-Layer Meteorology</i> , 2017, 165, 233-249.	2.3	10
64	Effects of Taylor-Görtler vortices on turbulent flows in a spanwise-rotating channel. <i>Physics of Fluids</i> , 2016, 28, .	4.0	21
65	Fluid-structure interactions with applications to biology. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2016, 32, 977-979.	3.4	10
66	Active control for drag reduction in turbulent channel flow: the opposition control schemes revisited. <i>Fluid Dynamics Research</i> , 2016, 48, 055501.	1.3	16
67	An efficient immersed boundary projection method for flow over complex/moving boundaries. <i>Computers and Fluids</i> , 2016, 140, 122-135.	2.5	37
68	Self-propelled heaving and pitching flexible fin in a quiescent flow. <i>International Journal of Heat and Fluid Flow</i> , 2016, 62, 273-281.	2.4	34
69	Origin of effectiveness degradation in active drag reduction control of turbulent channel flow at $Re_{\tau} = 1000$. <i>Journal of Turbulence</i> , 2016, 17, 758-786.	1.4	25
70	Suboptimal control of wall turbulence with arrayed dimple actuators for drag reduction. <i>Journal of Turbulence</i> , 2016, 17, 379-399.	1.4	3
71	Actively flapping tandem flexible flags in a viscous flow. <i>Journal of Fluid Mechanics</i> , 2015, 780, 120-142.	3.4	41
72	Migration of Elastic Capsules by an Optical Force in a Uniform flow. <i>Procedia IUTAM</i> , 2015, 16, 50-59.	1.2	1

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73	Vortex interactions between forewing and hindwing of dragonfly in hovering flight. Theoretical and Applied Mechanics Letters, 2015, 5, 24-29.	2.8	24
74	A ghost-cell immersed boundary method for large eddy simulation of flows in complex geometries. International Journal of Computational Fluid Dynamics, 2015, 29, 12-25.	1.2	8
75	Direct numerical simulation of spatially developing turbulent boundary layers with opposition control. Fluid Dynamics Research, 2015, 47, 025503.	1.3	15
76	Dynamics of prolate jellyfish with a jet-based locomotion. Journal of Fluids and Structures, 2015, 57, 331-343.	3.4	33
77	Direct numerical simulation of turbulent flow in a rotating square duct. Physics of Fluids, 2015, 27, .	4.0	17
78	On hairpin vortex generation from near-wall streamwise vortices. Acta Mechanica Sinica/Lixue Xuebao, 2015, 31, 139-152.	3.4	28
79	Synergistic Effects of Chiral Morphology and Reconfiguration in Cattail Leaves. Journal of Bionic Engineering, 2015, 12, 634-642.	5.0	21
80	Cross-type optical separation of elastic oblate capsules in a uniform flow. Journal of Applied Physics, 2015, 117, 034701.	2.5	3
81	Optimal transient growth in turbulent pipe flow. Applied Mathematics and Mechanics (English) Tj ETQq1 1 0.784314 rgBT /Oyerlock 3.6 2	3.6	2
82	Simulation of swimming oblate jellyfish with a paddling-based locomotion. Journal of Fluid Mechanics, 2014, 748, 731-755.	3.4	39
83	Strengthened opposition control for skin-friction reduction in wall-bounded turbulent flows. Journal of Turbulence, 2014, 15, 122-143.	1.4	27
84	Optical separation of ellipsoidal particles in a uniform flow. Physics of Fluids, 2014, 26, 062001.	4.0	10
85	Flapping dynamics of a flexible flag in a uniform flow. Fluid Dynamics Research, 2014, 46, 055517.	1.3	13
86	Coherent structures in wall turbulence and mechanism for drag reduction control. Science China: Physics, Mechanics and Astronomy, 2013, 56, 1053-1061.	5.1	12
87	Effect of active control on optimal structures in wall turbulence. Science China: Physics, Mechanics and Astronomy, 2013, 56, 290-297.	5.1	8
88	Interaction modes of multiple flexible flags in a uniform flow. Journal of Fluid Mechanics, 2013, 729, 563-583.	3.4	50
89	Transient response of enstrophy transport to opposition control in turbulent channel flow. Applied Mathematics and Mechanics (English Edition), 2013, 34, 127-138.	3.6	6
90	Optical levitation of a non-spherical particle in a loosely focused Gaussian beam. Optics Express, 2012, 20, 24068.	3.4	17

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91	Flexible ring flapping in a uniform flow. <i>Journal of Fluid Mechanics</i> , 2012, 707, 129-149.	3.4	12
92	Lateral migration of an elastic capsule by optical force in a uniform flow. <i>Physical Review E</i> , 2012, 86, 066306.	2.1	8
93	Multiple Modes of Filament Flapping in a Uniform Flow. <i>Chinese Physics Letters</i> , 2012, 29, 094702.	3.3	2
94	Simulation of small swimmer motions driven by tail/flagellum beating. <i>Computers and Fluids</i> , 2012, 55, 109-117.	2.5	19
95	Three-dimensional simulation of elastic capsules in shear flow by the penalty immersed boundary method. <i>Journal of Computational Physics</i> , 2012, 231, 3340-3364.	3.8	74
96	Flow-Induced Deformation of 3D Elastic Capsules. , 2011, , .		0
97	An Improved Penalty Immersed Boundary Method for Fluid-Flexible Body Interaction. , 2011, , .		0
98	An improved penalty immersed boundary method for fluid–flexible body interaction. <i>Journal of Computational Physics</i> , 2011, 230, 5061-5079.	3.8	67
99	A composite model for complex building street configuration in a large eddy simulation of local urban atmospheric environment. <i>Science China: Physics, Mechanics and Astronomy</i> , 2011, 54, 716-723.	5.1	6
100	Three-dimensional simulation of a flapping flag in a uniform flow. <i>Journal of Fluid Mechanics</i> , 2010, 653, 301-336.	3.4	158
101	Constructive and destructive interaction modes between two tandem flexible flags in viscous flow. <i>Journal of Fluid Mechanics</i> , 2010, 661, 511-521.	3.4	105
102	An immersed boundary method for fluid–flexible structure interaction. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 2650-2661.	6.6	132
103	Assessment of regularized delta functions and feedback forcing schemes for an immersed boundary method. <i>International Journal for Numerical Methods in Fluids</i> , 2008, 58, 263-286.	1.6	119
104	Simulation of liquid transfer between separating walls for modeling micro-gravure-offset printing. <i>International Journal of Heat and Fluid Flow</i> , 2008, 29, 1436-1446.	2.4	70
105	Improvement of mass source/sink for an immersed boundary method. <i>International Journal for Numerical Methods in Fluids</i> , 2007, 53, 1659-1671.	1.6	34
106	Vortex shedding from a circular cylinder near a moving wall. <i>Journal of Fluids and Structures</i> , 2007, 23, 1064-1076.	3.4	59
107	Simulation of flexible filaments in a uniform flow by the immersed boundary method. <i>Journal of Computational Physics</i> , 2007, 226, 2206-2228.	3.8	328
108	Transient response of Reynolds stress transport to spanwise wall oscillation in a turbulent channel flow. <i>Physics of Fluids</i> , 2005, 17, 018101-018101-4.	4.0	39