Bin Ji

List of Publications by Year
in descending order

124 papers	5,005 citations	109321 35 h-index	102487 66 g-index
124 all docs	124 docs citations	124 times ranked	1316 citing authors

#	Article	IF	Citations
1	Large Eddy Simulation and theoretical investigations of the transient cavitating vortical flow structure around a NACA66 hydrofoil. International Journal of Multiphase Flow, 2015, 68, 121-134.	3.4	366
2	A review of cavitation in hydraulic machinery. Journal of Hydrodynamics, 2016, 28, 335-358.	3.2	324
3	Numerical simulation of three dimensional cavitation shedding dynamics with special emphasis on cavitationâ€“vortex interaction. Ocean Engineering, 2014, 87, 64-77.	4.3	303
4	Numerical analysis of unsteady cavitating turbulent flow and shedding horse-shoe vortex structure around a twisted hydrofoil. International Journal of Multiphase Flow, 2013, 51, 33-43.	3.4	265
5	Large eddy simulation of the tip-leakage cavitating flow with an insight on how cavitation influences vorticity and turbulence. Applied Mathematical Modelling, 2020, 77, 788-809.	4.2	233
6	Large eddy simulation and Eulerâ€“Lagrangian coupling investigation of the transient cavitating turbulent flow around a twisted hydrofoil. International Journal of Multiphase Flow, 2018, 100, 41-56.	3.4	161
7	Numerical analysis of cavitation evolution and excited pressure fluctuation around a propeller in non-uniform wake. International Journal of Multiphase Flow, 2012, 43, 13-21.	3.4	141
8	A review of microscopic interactions between cavitation bubbles and particles in silt-laden flow. Renewable and Sustainable Energy Reviews, 2016, 56, 303-318.	16.4	125
9	A new Euler-Lagrangian cavitation model for tip-vortex cavitation with the effect of non-condensable gas. International Journal of Multiphase Flow, 2021, 134, 103441.	3.4	111
10	Three-dimensional large eddy simulation and vorticity analysis of unsteady cavitating flow around a twisted hydrofoil. Journal of Hydrodynamics, 2013, 25, 510-519.	3.2	108
11	Partially-Averaged Navierâ€“Stokes method with modified kâ€“Îµ model for cavitating flow around a marine propeller in a non-uniform wake. International Journal of Heat and Mass Transfer, 2012, 55, 6582-6588.	4.8	105
12	Large eddy simulation of turbulent attached cavitating flow with special emphasis on large scale structures of the hydrofoil wake and turbulence-cavitation interactions. Journal of Hydrodynamics, 2017, 29, 27-39.	3.2	105
13	Verification and validation of Large Eddy Simulation of attached cavitating flow around a Clark-Y hydrofoil. International Journal of Multiphase Flow, 2019, 115, 93-107.	3.4	104
14	Combined experimental observation and numerical simulation of the cloud cavitation with U-type flow structures on hydrofoils. International Journal of Multiphase Flow, 2016, 79, 10-22.	3.4	103
15	Experimental Investigation of Mechanical Properties of Black Shales after CO2-Water-Rock Interaction. Materials, 2016, 9, 663.	2.9	97
16	Verification and validation of Urans simulations of the turbulent cavitating flow around the hydrofoil. Journal of Hydrodynamics, 2017, 29, 610-620.	3.2	87
17	Eulerâ€“Lagrange study of cavitating turbulent flow around a hydrofoil. Physics of Fluids, 2021, 33, .	4.0	73
18	A review of cavitation in tip-leakage flow and its control. Journal of Hydrodynamics, 2021, 33, 226-242.	3.2	66

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19	Numerical Simulation of Cavity Shedding from a Three-Dimensional Twisted Hydrofoil and Induced Pressure Fluctuation by Large-Eddy Simulation. Journal of Fluids Engineering, Transactions of the ASME, 2012, 134, .	1.5	63
20	Experimental investigation of the global cavitation dynamic behavior in a venturi tube with special emphasis on the cavity length variation. International Journal of Multiphase Flow, 2017, 89, 290-298.	3.4	61
21	Numerical investigation of attached cavitation shedding dynamics around the Clark-Y hydrofoil with the FBDCM and an integral method. Ocean Engineering, 2017, 137, 247-261.	4.3	60
22	Multi-objective optimization of a mixed-flow pump impeller using modified NSGA-II algorithm. Science China Technological Sciences, 2015, 58, 2122-2130.	4.0	59
23	Numerical investigation of two typical cavitation shedding dynamics flow in liquid hydrogen with thermodynamic effects. International Journal of Heat and Mass Transfer, 2017, 109, 879-893.	4.8	55
24	Unsteady Numerical Simulation of Cavitating Turbulent Flow Around a Highly Skewed Model Marine Propeller. Journal of Fluids Engineering, Transactions of the ASME, 2011, 133, .	1.5	54
25	Numerical investigation of cavitation-vortex interaction in a mixed-flow waterjet pump. Journal of Mechanical Science and Technology, 2015, 29, 3707-3716.	1.5	53
26	Numerical Investigation of the Ventilated Cavitating Flow Around an Under-Water Vehicle Based on a Three-Component Cavitation Model. Journal of Hydrodynamics, 2010, 22, 753-759.	3.2	51
27	Unsteady cavitation characteristics and alleviation of pressure fluctuations around marine propellers with different skew angles. Journal of Mechanical Science and Technology, 2014, 28, 1339-1348.	1.5	49
28	Transient cavitating flow structure and acoustic analysis of a hydrofoil with whalelike wavy leading edge. Applied Mathematical Modelling, 2020, 85, 60-88.	4.2	44
29	LES investigation of the influence of cavitation on flow patterns in a confined tip-leakage flow. Ocean Engineering, 2019, 186, 106115.	4.3	42
30	Characteristics of the flow structures through and around a submerged canopy patch. Physics of Fluids, 2021, 33, .	4.0	39
31	Numerical simulation of cavitation surge and vortical flows in a diffuser with swirling flow. Journal of Mechanical Science and Technology, 2016, 30, 2507-2514.	1.5	38
32	Numerical investigation of unsteady cloud cavitating flow around the Clark-Y hydrofoil with adaptive mesh refinement using OpenFOAM. Ocean Engineering, 2020, 206, 107349.	4.3	38
33	Numerical and experimental investigation of three-dimensional cavitating flow around the straight NACA2412 hydrofoil. Ocean Engineering, 2016, 123, 357-382.	4.3	37
34	Unsteady vortical flow simulation in a Francis turbine with special emphasis on vortex rope behavior and pressure fluctuation alleviation. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2017, 231, 215-226.	1.4	36
35	LES of tip-leakage cavitating flow with special emphasis on different tip clearance sizes by a new Euler-Lagrangian cavitation model. Ocean Engineering, 2020, 213, 107661.	4.3	36
36	LES method of the tip clearance vortex cavitation in a propelling pump with special emphasis on the cavitation-vortex interaction. Journal of Hydrodynamics, 2020, 32, 1212-1216.	3.2	36

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37	Comparison of cavitation prediction for a centrifugal pump with or without volute casing. Journal of Mechanical Science and Technology, 2013, 27, 1643-1648.	1.5	35
38	Experimental investigation on the performance of jet pump cavitation reactor at different area ratios. Experimental Thermal and Fluid Science, 2016, 78, 309-321.	2.7	35
39	Experimental study of the cavitation noise and vibration induced by the choked flow in a Venturi reactor. Ultrasonics Sonochemistry, 2020, 67, 105183.	8.2	34
40	Suppressing tip-leakage vortex cavitation by overhanging grooves. Experiments in Fluids, 2020, 61, 1.	2.4	33
41	Numerical investigation of unsteady cavitating turbulent flows around twisted hydrofoil from the Lagrangian viewpoint. Journal of Hydrodynamics, 2016, 28, 709-712.	3.2	32
42	Cavitation shedding dynamics around a hydrofoil simulated using a filter-based density corrected model. Science China Technological Sciences, 2015, 58, 864-869.	4.0	29
43	Large eddy simulation of tip leakage cavitating flow focusing on cavitation-vortex interaction with Cartesian cut-cell mesh method. Journal of Hydrodynamics, 2018, 30, 750-753.	3.2	29
44	Numerical simulations of cavitating turbulent flow around a marine propeller behind the hull with analyses of the vorticity distribution and particle tracks. Ocean Engineering, 2019, 189, 106310.	4.3	29
45	Numerical Analysis of Mechanical Energy Dissipation for an Axial-Flow Pump Based on Entropy Generation Theory. Energies, 2019, 12, 4162.	3.1	29
46	Unsteady Cavitating Flow around a Hydrofoil Simulated Using the Partially-Averaged Navierâ€”Stokes Model. Chinese Physics Letters, 2012, 29, 076401.	3.3	28
47	Numerical analyses of ventilated cavitation over a 2-D NACA0015 hydrofoil using two turbulence modeling methods. Journal of Hydrodynamics, 2018, 30, 345-356.	3.2	27
48	Numerical investigation of tip flow dynamics and main flow characteristics with varying tip clearance widths for an axial-flow pump. Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy, 2019, 233, 476-488.	1.4	27
49	Numerical prediction of cavitation erosion risk in an axisymmetric nozzle using a multi-scale approach. Physics of Fluids, 2022, 34, .	4.0	27
50	Implicit large eddy simulation of unsteady cloud cavitation around a plane-convex hydrofoil. Journal of Hydrodynamics, 2015, 27, 815-823.	3.2	26
51	Numerical simulation of transient turbulent cavitating flows with special emphasis on shock wave dynamics considering the water/vapor compressibility. Journal of Hydrodynamics, 2018, 30, 573-591.	3.2	26
52	Experimental investigation on the cavitation performance in a venturi reactor with special emphasis on the choking flow. Experimental Thermal and Fluid Science, 2019, 106, 215-225.	2.7	26
53	Numerical investigation of unsteady cavitating turbulent flow around a full scale marine propeller. Journal of Hydrodynamics, 2010, 22, 705-710.	3.2	25
54	Analysis of ventilated cavitation around a cylinder vehicle with nature cavitation using a new simulation method. Science Bulletin, 2015, 60, 1833-1839.	9.0	25

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55	Turbulent Flows Over a Backward Facing Step Simulated Using a Modified Partially Averaged Navierâ€“Stokes Model. Journal of Fluids Engineering, Transactions of the ASME, 2017, 139, .	1.5	24
56	Performance of cavitation flow and its induced noise of different jet pump cavitation reactors. Ultrasonics Sonochemistry, 2019, 55, 322-331.	8.2	24
57	Numerical investigation of condensation shock and re-entrant jet dynamics around a cavitating hydrofoil using a dynamic cubic nonlinear subgrid-scale model. Applied Mathematical Modelling, 2021, 100, 410-431.	4.2	24
58	Vortex dynamic characteristics of unsteady tip clearance cavitation in a waterjet pump determined with different vortex identification methods. Journal of Mechanical Science and Technology, 2019, 33, 5901-5912.	1.5	23
59	Numerical simulation of the transient cavitating turbulent flows around the Clark-Y hydrofoil using modified partially averaged Navier-Stokes method. Journal of Mechanical Science and Technology, 2017, 31, 2849-2859.	1.5	22
60	Verification and validation of large eddy simulations of turbulent cavitating flow around two marine propellers with emphasis on the skew angle effects. Applied Ocean Research, 2020, 101, 102167.	4.1	22
61	Experimental investigation of the cavitation characteristics of jet pump cavitation reactors with special emphasis on negative flow ratios. Experimental Thermal and Fluid Science, 2018, 96, 33-42.	2.7	21
62	3-D Lagrangian-based investigations of the time-dependent cloud cavitating flows around a Clark-Y hydrofoil with special emphasis on shedding process analysis. Journal of Hydrodynamics, 2018, 30, 122-130.	3.2	20
63	Comparative Study of different vortex identification methods in a tip-leakage cavitating flow. Ocean Engineering, 2020, 207, 107373.	4.3	20
64	Experimental investigation of cavity length pulsation characteristics of jet pumps during limited operation stage. Energy, 2018, 163, 61-73.	8.8	19
65	Experimental investigation of vortex generator influences on propeller cavitation and hull pressure fluctuations. Journal of Hydrodynamics, 2020, 32, 82-92.	3.2	19
66	LES Investigation of the noise characteristics of sheet and tip leakage vortex cavitating flow. International Journal of Multiphase Flow, 2022, 146, 103880.	3.4	19
67	Biochar effects on soil properties, water movement and irrigation water use efficiency of cultivated land in Qinghai-Tibet Plateau. Science of the Total Environment, 2022, 829, 154520.	8.0	19
68	Numerical study on the drag characteristics of rigid submerged vegetation patches. Physics of Fluids, 2021, 33, .	4.0	18
69	Numerical investigation of three-dimensional cavitation evolution and excited pressure fluctuations around a twisted hydrofoil. Journal of Mechanical Science and Technology, 2014, 28, 2659-2668.	1.5	17
70	Verification and validation of Delayed Detached Eddy Simulation for cavitating turbulent flow around a hydrofoil and a marine propeller behind the hull. Applied Mathematical Modelling, 2021, 96, 382-401.	4.2	17
71	Transient cavitating vortical flows around a hydrofoil using k-ï‰ partially averaged Navierâ€“Stokes model. Modern Physics Letters B, 2016, 30, 1550262.	1.9	16
72	Numerical investigation of ventilated cavitating vortex shedding over a bluff body. Ocean Engineering, 2018, 159, 129-138.	4.3	16

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73	LES investigation of cavitating flows around a sphere with special emphasis on the cavitationâ€“vortex interactions. Acta Mechanica Sinica/Lixue Xuebao, 2020, 36, 1238-1257.	3.4	16
74	LES investigation of the cavitating hydrofoils with various wavy leading edges. Ocean Engineering, 2022, 243, 110331.	4.3	16
75	LES investigation of cavitation harmonic tone around a Delft twist-11 hydrofoil. Ocean Engineering, 2022, 253, 111313.	4.3	16
76	Experimental investigation on the transport of different fish species in a jet fish pump. Aquacultural Engineering, 2017, 79, 42-48.	3.1	15
77	URANS simulations of the tip-leakage cavitating flow with verification and validation procedures. Journal of Hydrodynamics, 2018, 30, 531-534.	3.2	15
78	Numerical investigation of turbulent flow coherent structures in annular jet pumps using the LES method. Science China Technological Sciences, 2018, 61, 86-97.	4.0	15
79	Cavitation Simulation with Consideration of the Viscous Effect at Large Liquid Temperature Variation. Chinese Physics Letters, 2014, 31, 086401.	3.3	14
80	Some notes on numerical simulation and error analyses of the attached turbulent cavitating flow by LES. Journal of Hydrodynamics, 2018, 30, 369-372.	3.2	14
81	Prediction of the precessing vortex core in the Francis-99 draft tube under off-design conditions by using Liutex/Rortex method. Journal of Hydrodynamics, 2020, 32, 623-628.	3.2	14
82	Numerical assessment of the erosion risk for cavitating twisted hydrofoil by three methods. Journal of Hydrodynamics, 2021, 33, 698-711.	3.2	14
83	One-dimensional/three-dimensional analysis of transient cavitating flow in a venturi tube with special emphasis on cavitation excited pressure fluctuation prediction. Science China Technological Sciences, 2020, 63, 223-233.	4.0	13
84	A Thermodynamic Cavitation Model for Cavitating Flow Simulation in a Wide Range of Water Temperatures. Chinese Physics Letters, 2010, 27, 016401.	3.3	12
85	Cavitating Flow over a Mini Hydrofoil. Chinese Physics Letters, 2012, 29, 016401.	3.3	12
86	Numerical simulation and analysis of the internal flow in a Francis turbine with air admission. IOP Conference Series: Materials Science and Engineering, 2015, 72, 042047.	0.6	11
87	Large eddy simulation of a vertical buoyant jet in a vegetated channel. International Journal of Heat and Fluid Flow, 2018, 70, 114-124.	2.4	11
88	An experimental study of cavitation damage on tissue of Carassius auratus in a jet fish pump. Ocean Engineering, 2019, 174, 43-50.	4.3	11
89	Spatial and spectral investigation of turbulent kinetic energy in cavitating flow generated by Clark-Y hydrofoil. Journal of Hydrodynamics, 2020, 32, 175-178.	3.2	11
90	RANS simulation of unsteady cavitation around a Clark-Y hydrofoil with the assistance of machine learning. Ocean Engineering, 2021, 231, 109058.	4.3	11

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91	Some notes on numerical simulation of the turbulent cavitating flow with a dynamic cubic nonlinear sub-grid scale model in OpenFOAM. Journal of Hydrodynamics, 2020, 32, 790-794.	3.2	10
92	Flow dynamics in lateral vegetation cavities constructed by an array of emergent vegetation patches along the open-channel bank. Physics of Fluids, 2022, 34, .	4.0	10
93	NUMERICAL AND EXPERIMENTAL STUDY ON UNSTEADY SHEDDING OF PARTIAL CAVITATION. Modern Physics Letters B, 2010, 24, 1441-1444.	1.9	9
94	An integral calculation approach for numerical simulation of cavitating flow around a marine propeller behind the ship hull. Journal of Hydrodynamics, 2018, 30, 1186-1189.	3.2	9
95	Large eddy simulation of the transient cavitating vortical flow in a jet pump with special emphasis on the unstable limited operation stage. Journal of Hydrodynamics, 2020, 32, 345-360.	3.2	9
96	Investigation on cavitation initiation in jet pump cavitation reactors with special emphasis on two mechanisms of cavitation initiation. Physics of Fluids, 2022, 34, .	4.0	9
97	A new method of LES verification and validation for attached turbulent cavitating flow. Journal of Hydrodynamics, 2021, 33, 170-174.	3.2	8
98	A Three-Component Model Suitable for Natural and Ventilated Cavitation. Chinese Physics Letters, 2010, 27, 096401.	3.3	7
99	Numerical analysis of bubble dynamics in the diffuser of a jet pump under variable ambient pressure. Journal of Hydrodynamics, 2017, 29, 510-519.	3.2	7
100	A miniature pump with a fluid dynamic bearing. Science China Technological Sciences, 2012, 55, 795-801.	4.0	6
101	Numerical study of unsteady cavitation on 2D NACA0015 hydrofoil using free/open source software. Science Bulletin, 2014, 59, 3276-3282.	1.7	6
102	Evaluating the hydrodynamics of a round jet in a vegetated crossflow through large eddy simulation. Environmental Fluid Mechanics, 2019, 19, 181-201.	1.6	6
103	Impact of fish locomotion on the internal flow in a jet fish pump. Ocean Engineering, 2019, 187, 106227.	4.3	6
104	Verification and Validation of URANS Simulations of the Round Buoyant Jet in Counterflow. Water (Switzerland), 2018, 10, 1509.	2.7	5
105	Experimental and numerical analysis of the unsteady influence of the inlet guide vanes on cavitation performance of an axial pump. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2019, 233, 3816-3826.	2.1	5
106	LES investigation on vortex dynamics of transient sheet/cloud cavitating flow using different vortex identification methods. Modern Physics Letters B, 2020, 34, 2150011.	1.9	5
107	Verification and Validation of Large Eddy Simulation for Tip Clearance Vortex Cavitating Flow in a Waterjet Pump. Energies, 2021, 14, 7635.	3.1	5
108	Removal of field-collected Microcystis aeruginosa in pilot-scale by a jet pump cavitation reactor. Ultrasonics Sonochemistry, 2022, 83, 105924.	8.2	5

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109	Numerical investigation of the influence of vortex generator on propeller cavitation and hull pressure fluctuation by DDES. Journal of Hydrodynamics, 2022, 34, 444-450.	3.2	5
110	Numerical evaluation of cavitation shedding structure around 3D Hydrofoil: Comparison of PANS, LES and RANS results with experiments. Journal of Physics: Conference Series, 2015, 656, 012127.	0.4	4
111	Two timescales for longitudinal dispersion in a laminar open-channel flow. Journal of Hydrodynamics, 2017, 29, 1081-1084.	3.2	4
112	Vortical structures in the cavitating flow in the Francis-99 draft tube cone under off-design conditions with the new omega vortex identification method. Journal of Physics: Conference Series, 2019, 1296, 012011.	0.4	4
113	Temporal and spatial characteristics of monopole acoustic energy dominated by unsteady thermodynamic cavitating flow. Journal of Hydrodynamics, 2021, 33, 867-871.	3.2	3
114	The effect of flow speed on the bubble dynamics: A numerical study. Ocean Engineering, 2022, 259, 111888.	4.3	3
115	Numerical Study of Cavitating Turbulent Flow Around Propellers: Relationship of Cavity Volume Evolution and Pressure Fluctuation. , 2011, , .		1
116	Numerical analysis of unsteady cavitation shedding dynamics around NACA66 hydrofoil by large-eddy simulation. IOP Conference Series: Materials Science and Engineering, 2013, 52, 062016.	0.6	1
117	Numerical Investigation of Unsteady Cavitation Flow around E779A Propeller in a Nonuniform Wake with an Insight on How Cavitation Influences Vortex. Shock and Vibration, 2021, 2021, 1-10.	0.6	1
118	Large eddy simulation of turbulent cavitating flow in a Venturi-type section with special emphasis on LES errors and pressure fluctuation analyses. Modern Physics Letters B, 2021, 35, 2150440.	1.9	1
119	Modeling Cavitating Flow in High Temperature Water. , 2009, , .		0
120	Scale Effects on the Cavitation Development in Fluid Machinery. , 2011, , .		0
121	Cavitation performance evaluation for a condensate pump. IOP Conference Series: Materials Science and Engineering, 2013, 52, 062014.	0.6	0
122	Internal Flow Analysis in a Two-Channel Pump Used for Salt Transportation. , 2018, , .		0
123	On the Comparison of Liutex Method with Other Vortex Identification Methods in a Confined Tip-Leakage Cavitating Flow. , 2021, , 139-155.		0
124	LES investigation of different shedding cloud behaviors around the typical NACA66 hydrofoil. Journal of Physics: Conference Series, 2022, 2217, 012014.	0.4	0