Lian Shen

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8982190/publications.pdf

Version: 2024-02-01

118 papers	2,606 citations	201575 27 h-index	233338 45 g-index
119 all docs	119 docs citations	119 times ranked	1579 citing authors

#	Article	IF	Citations
1	Turbulent flow over a flexible wall undergoing a streamwise travelling wave motion. Journal of Fluid Mechanics, 2003, 484, 197-221.	1.4	156
2	The Coupled Boundary Layers and Airâ€“Sea Transfer Experiment in Low Winds. Bulletin of the American Meteorological Society, 2007, 88, 341-356.	1.7	154
3	Direct-simulation-based study of turbulent flow over various waving boundaries. Journal of Fluid Mechanics, 2010, 650, 131-180.	1.4	114
4	Simulation-based study of COVID-19 outbreak associated with air-conditioning in a restaurant. Physics of Fluids, 2021, 33, 023301.	1.6	110
5	CASPER: Coupled Airâ€“Sea Processes and Electromagnetic Ducting Research. Bulletin of the American Meteorological Society, 2018, 99, 1449-1471.	1.7	99
6	The surface layer for free-surface turbulent flows. Journal of Fluid Mechanics, 1999, 386, 167-212.	1.4	88
7	Numerical study of turbulent flow past a rotating axial-flow pump based on a level-set immersed boundary method. Renewable Energy, 2021, 168, 960-971.	4.3	74
8	Large-eddy simulation of offshore wind farm. Physics of Fluids, 2014, 26, .	1.6	72
9	Energy loss mechanism due to tip leakage flow of axial flow pump as turbine under various operating conditions. Energy, 2022, 255, 124532.	4.5	68
10	Large-eddy simulation of free-surface turbulence. Journal of Fluid Mechanics, 2001, 440, 75-116.	1.4	65
11	Dynamic modelling of sea-surface roughness for large-eddy simulation of wind over ocean wavefield. Journal of Fluid Mechanics, 2013, 726, 62-99.	1.4	64
12	Effect of downwind swells on offshore wind energy harvesting â€“ A large-eddy simulation study. Renewable Energy, 2014, 70, 11-23.	4.3	59
13	Direct numerical simulation of wind turbulence over breaking waves. Journal of Fluid Mechanics, 2018, 850, 120-155.	1.4	51
14	Turbulent diffusion near a free surface. Journal of Fluid Mechanics, 2000, 407, 145-166.	1.4	47
15	Simulating air entrainment and vortex dynamics in a hydraulic jump. International Journal of Multiphase Flow, 2015, 72, 165-180.	1.6	47
16	Characteristics of coherent vortical structures in turbulent flows over progressive surface waves. Physics of Fluids, 2009, 21, .	1.6	45
17	Effect of wind turbine nacelle on turbine wake dynamics in large wind farms. Journal of Fluid Mechanics, 2019, 869, 1-26.	1.4	45
18	Simulation of viscous flows with undulatory boundaries. Part I: Basic solver. Journal of Computational Physics, 2011, 230, 5488-5509.	1.9	44

#	Article	IF	Citations
19	Interaction of a deformable free surface with statistically steady homogeneous turbulence. Journal of Fluid Mechanics, 2010, 658, 33-62.	1.4	43
20	Simulation of viscous flows with undulatory boundaries: Part II. Coupling with other solvers for two-fluid computations. Journal of Computational Physics, 2011, 230, 5510-5531.	1.9	36
21	Using machine learning to detect the turbulent region in flow past a circular cylinder. Journal of Fluid Mechanics, 2020, 905, .	1.4	35
22	Fluidâ€“structure interaction simulation of floating structures interacting with complex, large-scale ocean waves and atmospheric turbulence with application to floating offshore wind turbines. Journal of Computational Physics, 2018, 355, 144-175.	1.9	33
23	Complex modal analysis of the movements of swimming fish propelled by body and/or caudal fin. Wave Motion, 2018, 78, 83-97.	1.0	32
24	Windâ€“wave coupling study using LES of windÂand phase-resolved simulation of nonlinearÂwaves. Journal of Fluid Mechanics, 2019, 874, 391-425.	1.4	32
25	The mechanism of vortex connection at a free surface. Journal of Fluid Mechanics, 1999, 384, 207-241.	1.4	30
26	Idealized numerical simulation of breaking water wave propagating over a viscous mud layer. Physics of Fluids, 2012, 24, .	1.6	30
27	Life and death of inertial particle clusters in turbulence. Journal of Fluid Mechanics, 2020, 902, .	1.4	29
28	Investigation of coupled air-water turbulent boundary layers using direct numerical simulations. Physics of Fluids, 2009, 21, .	1.6	28
29	A Sharp-Interface Immersed Boundary Method for Simulating Incompressible Flows with Arbitrarily Deforming Smooth Boundaries. International Journal of Computational Methods, 2018, 15, 1750080.	0.8	27
30	Direct numerical simulation of scalar transport in turbulent flows over progressive surface waves. Journal of Fluid Mechanics, 2017, 819, 58-103.	1.4	26
31	Numerical simulation of sediment suspension and transport under plunging breaking waves. Computers and Fluids, 2017, 158, 57-71.	1.3	25
32	Patterns and statistics of inâ€water polarization under conditions of linear and nonlinear ocean surface waves. Journal of Geophysical Research, 2011, 116, .	3.3	24
33	Numerical investigation of vorticity and bubble clustering in an air entraining hydraulic jump. Computers and Fluids, 2018, 172, 162-180.	1.3	23
34	Numerical study of pressure forcing of wind on dynamically evolving water waves. Physics of Fluids, 2010, 22, .	1.6	22
35	Numerical study of the effect of surface waves on turbulence underneath. PartÂ1. Mean flow and turbulence vorticity. Journal of Fluid Mechanics, 2013, 733, 558-587.	1.4	22
36	On the generation and maintenance of waves and turbulence in simulations of free-surface turbulence. Journal of Computational Physics, 2009, 228, 7313-7332.	1.9	21

#	Article	IF	Citations
37	An efficacious model for predicting icing-induced energy loss for wind turbines. Applied Energy, 2022, 305, 117809.	5.1	20
38	Surface age of surface renewal in turbulent interfacial transport. Geophysical Research Letters, 2009, 36, .	1.5	19
39	Statistics of surface renewal of passive scalars in free-surface turbulence. Journal of Fluid Mechanics, 2011, 678, 379-416.	1.4	19
40	Transport of passive scalar in turbulent shear flow under a clean or surfactant-contaminated free surface. Journal of Fluid Mechanics, 2011, 670, 527-557.	1.4	19
41	Introduction to special section on Recent Advances in the Study of Optical Variability in the Nearâ€Surface and Upper Ocean. Journal of Geophysical Research, 2012, 117, .	3.3	19
42	Numerical study of mechanisms of air-core vortex evolution inÂanÂintakeÂflow. International Journal of Heat and Fluid Flow, 2020, 81, 108517.	1.1	19
43	The principal stage in wind-wave generation. Journal of Fluid Mechanics, 2022, 934, .	1.4	19
44	High-fidelity simulations and field measurements for characterizing wind fields in a utility-scale wind farm. Applied Energy, 2021, 281, 116115.	5.1	18
45	Bubble production by air filament and cavity breakup in plunging breaking wave crests. Journal of Fluid Mechanics, 2021, 929, .	1.4	18
46	Effect of surfactants on free-surface turbulent flows. Journal of Fluid Mechanics, 2004, 506, 79-115.	1.4	17
47	Numerical study of the effect of surface wave on turbulence underneath. Part 2. Eulerian and Lagrangian properties of turbulence kinetic energy. Journal of Fluid Mechanics, 2014, 744, 250-272.	1.4	17
48	WRF modeling of PM2.5 remediation by SALSCS and its clean air flow over Beijing terrain. Science of the Total Environment, 2018, 626, 134-146.	3.9	17
49	Numerical Study on the Generation and Transport of Spume Droplets in Wind over Breaking Waves. Atmosphere, 2017, 8, 248.	1.0	16
50	Study of wave effect on vorticity in Langmuir turbulence using wave-phase-resolved large-eddyÂsimulation. Journal of Fluid Mechanics, 2019, 875, 173-224.	1.4	16
51	Influence of Langmuir circulations on turbulence in the bottom boundary layer ofÂshallow water. Journal of Fluid Mechanics, 2019, 861, 275-308.	1.4	16
52	A simulation-based mechanistic study of turbulent wind blowing over opposing water waves. Journal of Fluid Mechanics, 2020, 901, .	1.4	16
53	Surface wave effects on energy transfer in overlying turbulent flow. Journal of Fluid Mechanics, 2020, 893, .	1.4	16
54	Characteristics of turbulence transport for momentum and heat in particle-laden turbulent vertical channel flows. Acta Mechanica Sinica/Lixue Xuebao, 2017, 33, 833-845.	1.5	15

#	Article	IF	Citations
55	Study of a hydrodynamic threshold system for controlling dinoflagellate blooms in reservoirs. Environmental Pollution, 2021, 278, 116822.	3.7	15
56	Letter: The effects of streamwise system rotation on pressure fluctuations in a turbulent channel flow. Physics of Fluids, 2018, 30, .	1.6	14
57	Mixing of a passive scalar near a free surface. Physics of Fluids, 2001, 13, 913-926.	1.6	13
58	A conservative scheme for simulation of free-surface turbulent and wave flows. Journal of Computational Physics, 2019, 378, 18-43.	1.9	12
59	A numerical and theoretical study of wind over fast-propagating water waves. Journal of Fluid Mechanics, 2021, 919, .	1.4	12
60	Simulation-based study of wind-wave interaction. Procedia IUTAM, 2018, 26, 162-173.	1.2	11
61	Multiresolution Largeâ€Eddy Simulation of an Array of Hydrokinetic Turbines in a Fieldâ€Scale River: The Roosevelt Island Tidal Energy Project in New York City. Water Resources Research, 2018, 54, 10,188.	1.7	11
62	Numerical study on the dynamic process of single plume flow in thermal convection with polymers. Physics of Fluids, 2019, 31, 023105.	1.6	11
63	A robust and accurate technique for Lagrangian tracking of bubbles and detecting fragmentation and coalescence. International Journal of Multiphase Flow, 2021, 135, 103523.	1.6	11
64	Radiative transfer in ocean turbulence and its effect on underwater light field. Journal of Geophysical Research, 2012, 117, .	3.3	10
65	Unsteady Reynolds-averaged Navierâ€“Stokes investigation of free surface wave impact on tidal turbine wake. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20200703.	1.0	10
66	Investigation on the air-core vortex in a vertical hydraulic intake system. Renewable Energy, 2021, 177, 1333-1345.	4.3	10
67	Free-surface turbulent wake behind towed ship models: experimental measurements, stability analyses and direct numerical simulations. Journal of Fluid Mechanics, 2002, 469, 89-120.	1.4	9
68	Numerical Study on the Effect of Airâ€“Seaâ€“Land Interaction on the Atmospheric Boundary Layer in Coastal Area. Atmosphere, 2018, 9, 51.	1.0	9
69	Heat Transfer Modulation by Inertial Particles in Particle-Laden Turbulent Channel Flow. Journal of Heat Transfer, 2018, 140, .	1.2	9
70	Steady laminar plume generated from a heated line in polymer solutions. Physics of Fluids, 2019, 31, .	1.6	9
71	Measurement-Based Numerical Study of the Effects of Realistic Land Topography and Stratification on the Coastal Marine Atmospheric Surface Layer. Boundary-Layer Meteorology, 2019, 171, 289-314.	1.2	9
72	Simulation-based study of wind loads on semi-submersed object in ocean wave field. Physics of Fluids, 2016, 28, .	1.6	8

#	Article	IF	Citations
73	Numerical study on the dissipation of water waves over a viscous fluid-mud layer. Computers and Fluids, 2017, 158, 107-119.	1.3	8
74	Numerical study of effect of wave phase on Reynolds stresses and turbulent kinetic energy in Langmuir turbulence. Journal of Fluid Mechanics, 2020, 904, .	1.4	8
75	A parallel cell-centered adaptive level set framework for efficient simulation of two-phase flows with subcycling and non-subcycling. Journal of Computational Physics, 2022, 448, 110740.	1.9	8
76	Characteristics and mechanisms of air-core vortex meandering in a free-surface intake flow. International Journal of Multiphase Flow, 2022, 152, 104070.	1.6	8
77	A Numerical Study on the Development of Self-Similarity in a Wind Turbine Wake Using an Improved Pseudo-Spectral Large-Eddy Simulation Solver. Energies, 2019, 12, 643.	1.6	7
78	On the self-constraint mechanism of the cross-stream secondary flow in a streamwise-rotating channel. Physics of Fluids, 2020, 32, .	1.6	7
79	Numerical investigation of ventilated cavitating flow in the wake of a circular cylinder. Physical Review Fluids, 2021, 6, .	1.0	7
80	Interfacial mass transfer intensification with highly viscous mixture. Chemical Engineering Science, 2021, 236, 116531.	1.9	7
81	Particle resolved simulation of sediment transport by a hybrid parallel approach. International Journal of Multiphase Flow, 2022, 152, 104072.	1.6	7
82	Coupled fluid-structure interaction simulation of floating offshore wind turbines and waves: a large eddy simulation approach. Journal of Physics: Conference Series, 2014, 524, 012091.	0.3	6
83	Mechanistic study of shoaling effect on momentum transfer between turbulent flow and traveling wave using large-eddy simulation. Physical Review Fluids, 2021, 6, .	1.0	6
84	Numerical simulation of interaction between multiphase flows and thin flexible structures. Journal of Computational Physics, 2022, 448, 110691.	1.9	6
85	Sustaining mechanism of Taylorâ€“GÃ¶rtler-like vortices in a streamwise-rotating channel flow. Physical Review Fluids, 2020, 5, .	1.0	6
86	Pore-Scale Flow Effects on Solute Transport in Turbulent Channel Flows Over Porous Media. Transport in Porous Media, 2023, 146, 223-248.	1.2	6
87	CLASI: Coordinating Innovative Observations and Modeling to Improve Coastal Environmental Prediction Systems. Bulletin of the American Meteorological Society, 2022, 103, E889-E898.	1.7	6
88	A subcycling/non-subcycling time advancement scheme-based DLM immersed boundary method framework for solving single and multiphase fluidâ€“structure interaction problems on dynamically adaptive grids. Computers and Fluids, 2022, 238, 105358.	1.3	6
89	An Assessment of Dynamic Subgrid-Scale Sea-Surface Roughness Models. Flow, Turbulence and Combustion, 2013, 91, 541-563.	1.4	5
90	Impact of spray droplets on momentum and heat transport in a turbulent marine atmospheric boundary layer. Theoretical and Applied Mechanics Letters, 2019, 9, 71-78.	1.3	5

#	Article	IF	Citations
91	Large eddy simulation coupled with immersed boundary method for turbulent flows over a backward facing step. Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, 2021, 235, 2705-2714.	1.1	5
92	Direct simulation of surface roughness signature of internal wave with deterministic energy-conservative model. Journal of Fluid Mechanics, 2020, 891, .	1.4	5
93	Wake Characteristics and Power Performance of a Drag-Driven in-Bank Vertical Axis Hydrokinetic Turbine. Energies, 2019, 12, 3611.	1.6	4
94	Relationship between wall shear stresses and streamwise vortices. Applied Mathematics and Mechanics (English Edition), 2019, 40, 381-396.	1.9	4
95	Large-eddy simulation and Co-Design strategy for a drag-type vertical axis hydrokinetic turbine in open channel flows. Renewable Energy, 2022, 181, 1305-1316.	4.3	4
96	An improved adjoint-based ocean wave reconstruction and prediction method. Flow, 2022, 2, .	1.0	4
97	Direct numerical simulation of a stationary spherical particle in fluctuating inflows. AIP Advances, 2022, 12, .	0.6	4
98	Flow modulation and heat transport of radiatively heated particles settling in Rayleighâ€“BÃ©nard convection. Computers and Fluids, 2022, 241, 105454.	1.3	4
99	Localizing effect of Langmuir circulations on small-scale turbulence in shallow water. Journal of Fluid Mechanics, 2020, 893, .	1.4	3
100	Analyses of wave-phase variation of Reynolds shear stress underneath surface wave using streamline coordinates. Journal of Fluid Mechanics, 2022, 931, .	1.4	3
101	Using Computer Simulations to Help Understand Flow Statistics and Structures at the Air-Ocean Interface. Oceanography, 2006, 19, 52-63.	0.5	2
102	A Coupled Wind-Wave-Turbine Solver for Offshore Wind Farm. , 2018, , .		2
103	A numerical simulation framework for bubbly flow and sound generation in laboratory-scale breaking waves. JASA Express Letters, 2021, 1, 100801.	0.5	2
104	A data-driven analysis of inhomogeneous wave field based on two-dimensional Hilbertâ€“Huang transform. Wave Motion, 2022, 110, 102896.	1.0	2
105	Spatial variability of global lake evaporation regulated by vertical vapor pressure difference. Environmental Research Letters, 2022, 17, 054006.	2.2	2
106	Coherent vortical structures responsible for strong flux of scalar at free surface. International Journal of Heat and Mass Transfer, 2012, 55, 5157-5170.	2.5	1
107	Numerical Study of Nearâ€Surface Jet in the Atmospheric Surface Layer Over an Oceanic Temperature Front. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD032934.	1.2	1
108	Influence of Coriolis Parameter Variation on Langmuir Turbulence in the Ocean Upper Mixed Layer with Large Eddy Simulation. Advances in Atmospheric Sciences, 2022, 39, 1487-1500.	1.9	1

#	Article	IF	Citations
109	Asymmetric flow and mass transfer of twin-liquid films. International Journal of Heat and Mass Transfer, 2022, 194, 122912.	2.5	1
110	Numerical study on the effects of progressive gravity waves on turbulence. Journal of Hydrodynamics, 2016, 28, 1011-1017.	1.3	0
111	Simulation-based study of windâ€"wave interactions under various sea conditions. Journal of Hydrodynamics, 2019, 31, 1148-1152.	1.3	0
112	Safe zone for phase-resolved simulation of interactions between waves and vertically sheared currents. Applied Mathematics Letters, 2020, 104, 106272.	1.5	0
113	Effects of operating condition on fish behavior and fish injury in an axial pump. Science China Technological Sciences, 0, , 1.	2.0	0
114	Numerical Study of Turbulenceâ€"Wave Interaction. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 37-49.	0.2	0
115	On the convergence of solving a nonlinear Volterraâ€type integral equation for surface divergence based on surface thermal information. Mathematical Methods in the Applied Sciences, 0, , .	1.2	0
116	A high-order spectral method for effective simulation of surface waves interacting with an internal wave of large amplitude. Ocean Modelling, 2022, 173, 101996.	1.0	0
117	Bottom wall shear stress fluctuations in shallow-water Langmuir turbulence. Journal of Fluid Mechanics, 2022, 942, .	1.4	0
118	A novel machine learning method for accelerated modeling of the downwelling irradiance field in the upper ocean. Geophysical Research Letters, 0, , .	1.5	0