Jianchun Wang

List of Publications by Year
in descending order

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80	2,009	236833	265120
papers	citations	25	42
		h-index	g-index

82	82	82	870
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A hybrid numerical simulation of isotropic compressible turbulence. Journal of Computational Physics, 2010, 229, 5257-5279.	1.9	116
2	Reynolds-stress-constrained large-eddy simulation of wall-bounded turbulent flows. Journal of Fluid Mechanics, 2012, 703, 1-28.	1.4	112
3	Kinetic energy transfer in compressible isotropic turbulence. Journal of Fluid Mechanics, 2018, 841, 581-613.	1.4	112
4	Effect of compressibility on the small-scale structures in isotropic turbulence. Journal of Fluid Mechanics, 2012, 713, 588-631.	1.4	105
5	Cascade of Kinetic Energy in Three-Dimensional Compressible Turbulence. Physical Review Letters, 2013, 110, 214505.	2.9	78
6	Effect of shocklets on the velocity gradients in highly compressible isotropic turbulence. Physics of Fluids, 2011, 23, .	1.6	70
7	Modeling subgrid-scale forces by spatial artificial neural networks in large eddy simulation of turbulence. Physical Review Fluids, 2020, 5, .	1.0	68
8	Artificial neural network mixed model for large eddy simulation of compressible isotropic turbulence. Physics of Fluids, 2019, 31, .	1.6	66
9	Iridium-Based High-Sensitivity Oxygen Sensors and Photosensitizers with Ultralong Triplet Lifetimes. ACS Applied Materials & Interfaces, 2016, 8, 3591-3600.	4.0	63
10	Deconvolutional artificial neural network models for large eddy simulation of turbulence. Physics of Fluids, 2020, 32, .	1.6	56
11	Artificial neural network-based nonlinear algebraic models for large eddy simulation of turbulence. Physics of Fluids, 2020, 32, .	1.6	55
12	Spectra and statistics in compressible isotropic turbulence. Physical Review Fluids, 2017, 2, .	1.0	50
13	Scaling and Statistics in Three-Dimensional Compressible Turbulence. Physical Review Letters, 2012, 108, 214505.	2.9	48
14	Artificial neural network approach to large-eddy simulation of compressible isotropic turbulence. Physical Review E, 2019, 99, 053113.	0.8	48
15	Modeling subgrid-scale force and divergence of heat flux of compressible isotropic turbulence by artificial neural network. Physical Review Fluids, 2019, 4, .	1.0	42
16	Model Reduction with Memory and the Machine Learning of Dynamical Systems. Communications in Computational Physics, 2019, 25, .	0.7	39
17	Spectra and Mach number scaling in compressible homogeneous shear turbulence. Physics of Fluids, 2018, 30, .	1.6	31
18	Cascades of temperature and entropy fluctuations in compressible turbulence. Journal of Fluid Mechanics, 2019, 867, 195-215.	1.4	30

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19	Effect of flow topology on the kinetic energy flux in compressible isotropic turbulence. Journal of Fluid Mechanics, 2020, 883, .	1.4	30
20	Attention-enhanced neural network models for turbulence simulation. Physics of Fluids, 2022, 34, .	1.6	30
21	Effect of shock waves on the statistics and scaling in compressible isotropic turbulence. Physical Review E, 2018, 97, 043108.	0.8	29
22	Effects of compressibility and Atwood number on the single-mode Rayleigh-Taylor instability. Physics of Fluids, 2020, 32, 012110.	1.6	29
23	Simulation of three-dimensional compressible decaying isotropic turbulence using a redesigned discrete unified gas kinetic scheme. Physics of Fluids, 2020, 32, .	1.6	29
24	Shocklet statistics in compressible isotropic turbulence. Physical Review Fluids, 2017, 2, .	1.0	29
25	Effect of wall temperature on the kinetic energy transfer in a hypersonic turbulent boundary layer. Journal of Fluid Mechanics, 2021, 929, .	1.4	26
26	Scaling and intermittency in compressible isotropic turbulence. Physical Review Fluids, 2017, 2, .	1.0	25
27	A modified optimal LES model for highly compressible isotropic turbulence. Physics of Fluids, 2018, 30, 065108.	1.6	24
28	Effects of bulk viscosity on compressible homogeneous turbulence. Physics of Fluids, 2019, 31, .	1.6	24
29	Spatially multi-scale artificial neural network model for large eddy simulation of compressible isotropic turbulence. AIP Advances, 2020, 10, .	0.6	24
30	Compressibility effect in hypersonic boundary layer with isothermal wall condition. Physical Review Fluids, 2021, 6, .	1.0	24
31	Artificial neural network-based spatial gradient models for large-eddy simulation of turbulence. AIP Advances, 2021, 11, .	0.6	24
32	Effect of compressibility on small scale statistics in homogeneous shear turbulence. Physics of Fluids, 2019, 31, 025107.	1.6	23
33	Spatial artificial neural network model for subgrid-scale stress and heat flux of compressible turbulence. Theoretical and Applied Mechanics Letters, 2020, 10, 27-32.	1.3	22
34	Interactions between inertial particles and shocklets in compressible turbulent flow. Physics of Fluids, 2014, 26, .	1.6	21
35	Skin-friction and heat-transfer decompositions in hypersonic transitional and turbulent boundary layers. Journal of Fluid Mechanics, 2022, 941, .	1.4	20
36	Dual channels of helicity cascade in turbulent flows. Journal of Fluid Mechanics, 2020, 894, .	1.4	19

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37	Dynamic iterative approximate deconvolution models for large-eddy simulation of turbulence. Physics of Fluids, 2021, 33, .	1.6	19
38	Acceleration of Passive Tracers in Compressible Turbulent Flow. Physical Review Letters, 2013, 110, 064503.	2.9	18
39	Effect of compressibility on the local flow topology in homogeneous shear turbulence. Physics of Fluids, 2020, 32, 015118.	1.6	17
40	Data-driven model development for large-eddy simulation of turbulence using gene-expression programing. Physics of Fluids, 2021, 33, .	1.6	17
41	Statistics and structures of pressure and density in compressible isotropic turbulence. Journal of Turbulence, 2013, 14, 21-37.	0.5	16
42	Flow structures and kinetic-potential exchange in forced rotating stratified turbulence. Physical Review Fluids, 2020, 5, .	1.0	16
43	A dynamic spatial gradient model for the subgrid closure in large-eddy simulation of turbulence. Physics of Fluids, 2021, 33, 075119.	1.6	13
44	Interscale kinetic energy transfer in chemically reacting compressible isotropic turbulence. Journal of Fluid Mechanics, 2021, 912, .	1.4	12
45	Effects of Atwood number and stratification parameter on compressible multi-mode Rayleighâ€“Taylor instability. Physics of Fluids, 2021, 33, .	1.6	12
46	Study of the instability of the Poiseuille flow using a thermodynamic formalism. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9518-9523.	3.3	11
47	Deconvolutional artificial-neural-network framework for subfilter-scale models of compressible turbulence. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 1773-1785.	1.5	11
48	Analysis of Reynolds number scaling for viscous vortex reconnection. Physics of Fluids, 2012, 24, .	1.6	10
49	Intermittency caused by compressibility: aÂLagrangian study. Journal of Fluid Mechanics, 2016, 786, .	1.4	10
50	Spectra and scaling in chemically reacting compressible isotropic turbulence. Physical Review Fluids, 2020, 5, .	1.0	10
51	Dynamic nonlinear algebraic models with scale-similarity dynamic procedure for large-eddy simulation of turbulence. Advances in Aerodynamics, 2022, 4, .	1.3	10
52	Temporally sparse data assimilation for the small-scale reconstruction of turbulence. Physics of Fluids, 2022, 34, .	1.6	10
53	Transfer of internal energy fluctuation in compressible isotropic turbulence with vibrational non-equilibrium. Journal of Fluid Mechanics, 2021, 919, .	1.4	9
54	Artificial neural network approach for turbulence models: A local framework. Physical Review Fluids, 2021, 6, .	1.0	9

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55	Constrained large-eddy simulation of turbulent flow over inhomogeneous rough surfaces. Theoretical and Applied Mechanics Letters, 2021, 11, 100229.	1.3	9
56	High-order gas-kinetic scheme for large eddy simulation of turbulent channel flows. Physics of Fluids, 2021, 33, 125102.	1.6	9
57	Contribution of flow topology to the kinetic energy flux in hypersonic turbulent boundary layer. Physics of Fluids, 2022, 34, 046103.	1.6	9
58	Effect of pressure on joint cascade of kinetic energy and helicity in compressible helical turbulence. Physical Review E, 2019, 99, 033114.	0.8	8
59	Vibrational relaxation in compressible isotropic turbulence with thermal nonequilibrium. Physical Review Fluids, 2020, 5, .	1.0	8
60	Dense gas effect on small-scale structures of compressible isotropic turbulence. Physics of Fluids, 2021, 33, .	1.6	8
61	Simulation of three-dimensional forced compressible isotropic turbulence by a redesigned discrete unified gas kinetic scheme. Physics of Fluids, 2022, 34, 025106.	1.6	8
62	Effect of compressibility on the small-scale structures in hypersonic turbulent boundary layer. Physics of Fluids, 2022, 34, .	1.6	8
63	Recent progress in compressible turbulence. Acta Mechanica Sinica/Lixue Xuebao, 2015, 31, 275-291.	1.5	7
64	Influence of Turbulent Inlet Boundary Condition on Large Eddy Simulation Over a Flat Plate Boundary Layer. International Journal of Computational Fluid Dynamics, 2022, 36, 232-259.	0.5	7
65	A Hybrid Numerical Simulation of Supersonic Isotropic Turbulence. Communications in Computational Physics, 2019, 25, .	0.7	6
66	Compressibility effect on interaction of shock wave and turbulent boundary layer. Physics of Fluids, 2022, 34, .	1.6	6
67	Constrained large-eddy simulation of turbulent flow over rough walls. Physical Review Fluids, 2021, 6, .	1.0	5
68	Kinetic energy transfer in compressible homogeneous anisotropic turbulence. Physical Review Fluids, 2021, 6, .	1.0	5
69	An Approximate Second-Order Closure Model for Large-Eddy Simulation of Compressible Isotropic Turbulence. Communications in Computational Physics, 2020, 27, 775-808.	0.7	5
70	Cross-chirality transfer of kinetic energy and helicity in compressible helical turbulence. Physical Review Fluids, 2020, 5, .	1.0	5
71	Kinetic-energy-flux-constrained model using an artificial neural network for large-eddy simulation of compressible wall-bounded turbulence. Journal of Fluid Mechanics, 2022, 932, .	1.4	5
72	Density-unweighted subgrid-scale models for large-eddy simulations of compressible turbulence. Physics of Fluids, 2022, 34, .	1.6	5

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73	Subgrid-scale modelling using deconvolutional artificial neural networks in large eddy simulations of chemically reacting compressible turbulence. International Journal of Heat and Fluid Flow, 2022, 96, 109000.	1.1	4
74	Effect of the Inlet Boundary Conditions on the Flow over Complex Terrain Using Large Eddy Simulation. Designs, 2021, 5, 34.	1.3	3
75	Effect of heat source on statistics and scaling in compressible homogeneous shear turbulence. Physics of Fluids, 2021, 33, 125128.	1.6	3
76	Identifying the pattern of breakdown in a laminar-turbulent transition via binary sequence statistics and cellular-automaton simulations. Physical Review E, 2019, 100, 023110.	0.8	2
77	Spectral energy transfers and kinetic-potential energy exchange in rotating stratified turbulence. Physical Review Fluids, 2020, 5, .	1.0	2
78	Constrained Large Eddy Simulation of Wall-Bounded Turbulent Flows. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2012, , 121-130.	0.2	1
79	A thermodynamic study of the two-dimensional pressure-driven channel flow. Discrete and Continuous Dynamical Systems, 2016, 36, 4349-4366.	0.5	0
80	Flow topology and enstrophy production in chemically reacting compressible isotropic turbulence. Physical Review Fluids, 2022, 7, .	1.0	0