

# Quan Zhou

## List of Publications by Year in descending order

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60  
papers

1,629  
citations

304743

22  
h-index

302126

39  
g-index

60  
all docs

60  
docs citations

60  
times ranked

584  
citing authors

#	ARTICLE	IF	CITATIONS
1	Origin of the Temperature Oscillation in Turbulent Thermal Convection. <i>Physical Review Letters</i> , 2009, 102, 044503.	7.8	112
2	Morphological Evolution of Thermal Plumes in Turbulent Rayleigh-B�nard Convection. <i>Physical Review Letters</i> , 2007, 98, 074501.	7.8	92
3	Statistics of kinetic and thermal energy dissipation rates in two-dimensional turbulent Rayleigh-B�nard convection. <i>Journal of Fluid Mechanics</i> , 2017, 814, 165-184.	3.4	88
4	How surface roughness reduces heat transport for small roughness heights in turbulent Rayleigh-B�nard convection. <i>Journal of Fluid Mechanics</i> , 2018, 836, .	3.4	80
5	Measured Instantaneous Viscous Boundary Layer in Turbulent Rayleigh-B�nard Convection. <i>Physical Review Letters</i> , 2010, 104, 104301.	7.8	75
6	Oscillations of the large-scale circulation in turbulent Rayleigh-B�nard convection: the sloshing mode and its relationship with the torsional mode. <i>Journal of Fluid Mechanics</i> , 2009, 630, 367-390.	3.4	74
7	Cascades of Velocity and Temperature Fluctuations in Buoyancy-Driven Thermal Turbulence. <i>Physical Review Letters</i> , 2006, 97, 144504.	7.8	73
8	Vibration-induced boundary-layer destabilization achieves massive heat-transport enhancement. <i>Science Advances</i> , 2020, 6, eaaz8239.	10.3	67
9	Prandtl-Blasius temperature and velocity boundary-layer profiles in turbulent Rayleigh-B�nard convection. <i>Journal of Fluid Mechanics</i> , 2010, 664, 297-312.	3.4	64
10	Thermal boundary layer structure in turbulent Rayleigh-B�nard convection in a rectangular cell. <i>Journal of Fluid Mechanics</i> , 2013, 721, 199-224.	3.4	57
11	Aspect ratio dependence of heat transport by turbulent Rayleigh-B�nard convection in rectangular cells. <i>Journal of Fluid Mechanics</i> , 2012, 710, 260-276.	3.4	49
12	Counter-gradient heat transport in two-dimensional turbulent Rayleigh-B�nard convection. <i>Journal of Fluid Mechanics</i> , 2013, 737, .	3.4	45
13	Flow reversals in two-dimensional thermal convection in tilted cells. <i>Journal of Fluid Mechanics</i> , 2018, 849, 355-372.	3.4	44
14	Enhanced heat transport in partitioned thermal convection. <i>Journal of Fluid Mechanics</i> , 2015, 784, .	3.4	43
15	Experimental investigation of homogeneity, isotropy, and circulation of the velocity field in buoyancy-driven turbulence. <i>Journal of Fluid Mechanics</i> , 2008, 598, 361-372.	3.4	42
16	Temporal evolution and scaling of mixing in two-dimensional Rayleigh-Taylor turbulence. <i>Physics of Fluids</i> , 2013, 25, .	4.0	37
17	Horizontal structures of velocity and temperature boundary layers in two-dimensional numerical turbulent Rayleigh-B�nard convection. <i>Physics of Fluids</i> , 2011, 23, 125104.	4.0	36
18	Experimental investigation of longitudinal space-time correlations of the velocity field in turbulent Rayleigh-B�nard convection. <i>Journal of Fluid Mechanics</i> , 2011, 683, 94-111.	3.4	34

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19	Influence of spatial arrangements of roughness elements on turbulent Rayleigh-Bénard convection. <i>Physics of Fluids</i> , 2020, 32, .	4.0	31
20	The $\alpha$ -dependence of the critical roughness height in two-dimensional turbulent Rayleigh-Bénard convection. <i>Journal of Fluid Mechanics</i> , 2021, 911, .	3.4	29
21	Scale-to-scale energy and enstrophy transport in two-dimensional Rayleigh-Taylor turbulence. <i>Journal of Fluid Mechanics</i> , 2016, 786, 294-308.	3.4	24
22	Comparative experimental study of local mixing of active and passive scalars in turbulent thermal convection. <i>Physical Review E</i> , 2008, 77, 056312.	2.1	23
23	Universality of Local Dissipation Scales in Buoyancy-Driven Turbulence. <i>Physical Review Letters</i> , 2010, 104, 124301.	7.8	23
24	Statistics of velocity and temperature fluctuations in two-dimensional Rayleigh-Bénard convection. <i>Physical Review E</i> , 2017, 96, 023105.	2.1	23
25	Experimental investigation of turbulent Rayleigh-Bénard convection of water in a cylindrical cell: The Prandtl number effects for $Pr \lesssim 1$ . <i>Physics of Fluids</i> , 2020, 32, .	4.0	23
26	On non-Oberbeck-Boussinesq effects in Rayleigh-Bénard convection of air for large temperature differences. <i>Journal of Fluid Mechanics</i> , 2020, 889, .	3.4	21
27	Penetrative turbulent Rayleigh-Bénard convection in two and three dimensions. <i>Journal of Fluid Mechanics</i> , 2019, 870, 718-734.	3.4	20
28	Phase decomposition analysis on oscillatory Rayleigh-Bénard turbulence. <i>Physics of Fluids</i> , 2021, 33, 045108.	4.0	18
29	Flow structures of turbulent Rayleigh-Bénard convection in annular cells with aspect ratio one and larger. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2021, 37, 1291-1298.	3.4	17
30	Experimental techniques for turbulent Taylor-Couette flow and Rayleigh-Bénard convection. <i>Nonlinearity</i> , 2014, 27, R89-R121.	1.4	16
31	Turbulent drag modification in open channel flow over an anisotropic porous wall. <i>Physics of Fluids</i> , 2020, 32, .	4.0	16
32	Turbulent vertical convection under vertical vibration. <i>Physics of Fluids</i> , 2022, 34, .	4.0	16
33	Dynamic coupling between carrier and dispersed phases in Rayleigh-Bénard convection laden with inertial isothermal particles. <i>Journal of Fluid Mechanics</i> , 2022, 930, .	3.4	15
34	Kinetic and thermal energy dissipation rates in two-dimensional Rayleigh-Taylor turbulence. <i>Physics of Fluids</i> , 2016, 28, .	4.0	13
35	Turbulent Rayleigh-Bénard convection in an annular cell. <i>Journal of Fluid Mechanics</i> , 2019, 869, .	3.4	13
36	Stabilizing/destabilizing the large-scale circulation in turbulent Rayleigh-Bénard convection with sidewall temperature control. <i>Journal of Fluid Mechanics</i> , 2021, 915, .	3.4	13

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37	Disentangle plume-induced anisotropy in the velocity field in buoyancy-driven turbulence. <i>Journal of Fluid Mechanics</i> , 2011, 684, 192-203.	3.4	12
38	Shear-induced modulation on thermal convection over rough plates. <i>Journal of Fluid Mechanics</i> , 2022, 936, .	3.4	12
39	An efficient parallel algorithm for DNS of buoyancy-driven turbulent flows. <i>Journal of Hydrodynamics</i> , 2019, 31, 1159-1169.	3.2	11
40	Tomographic particle image velocimetry flow structures downstream of a dynamic cylindrical element in a turbulent boundary layer by multi-scale proper orthogonal decomposition. <i>Physics of Fluids</i> , 2020, 32, .	4.0	11
41	Predicting micro-bubble dynamics with semi-physics-informed deep learning. <i>AIP Advances</i> , 2022, 12, .	1.3	11
42	Local dissipation scales in two-dimensional Rayleigh-Taylor turbulence. <i>Physical Review E</i> , 2014, 90, 043012.	2.1	10
43	Controlling flow reversal in two-dimensional Rayleigh-Bénard convection. <i>Journal of Fluid Mechanics</i> , 2020, 891, .	3.4	10
44	Massive heat transfer enhancement of Rayleigh-Bénard turbulence over rough surfaces and under horizontal vibration. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2022, 38, .	3.4	10
45	Spectra and structure functions of the temperature and velocity fields in supergravitational thermal turbulence. <i>Physics of Fluids</i> , 2022, 34, .	4.0	9
46	Modulation of turbulent Rayleigh-Bénard convection under spatially harmonic heating. <i>Physical Review E</i> , 2022, 105, .	2.1	9
47	Intermittency measurement in two-dimensional bacterial turbulence. <i>Physical Review E</i> , 2016, 93, 062226.	2.1	8
48	Transport modes of inertial particles and their effects on flow structures and heat transfer in Rayleigh-Bénard convection. <i>Physics of Fluids</i> , 2022, 34, .	4.0	8
49	Drag reduction of turbulent channel flows over an anisotropic porous wall with reduced spanwise permeability. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2019, 40, 1041-1052.	3.6	6
50	Horizontal convection in a rectangular enclosure driven by a linear temperature profile. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2021, 42, 1183-1190.	3.6	6
51	The heat transfer enhancement by unipolar charge injection in a rectangular Rayleigh-Bénard convection. <i>AIP Advances</i> , 2022, 12, .	1.3	6
52	Taylor dispersion in two-dimensional bacterial turbulence. <i>Physics of Fluids</i> , 2017, 29, 051901.	4.0	5
53	Measurements of heat transport by turbulent Rayleigh-Bénard convection in rectangular cells of widely varying aspect ratios. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013, 56, 989-994.	5.1	4
54	Scaling of maximum probability density function of velocity increments in turbulent Rayleigh-Bénard convection. <i>Journal of Hydrodynamics</i> , 2014, 26, 351-362.	3.2	4

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55	Flow modulation and heat transport of radiatively heated particles settling in Rayleigh-Bénard convection. <i>Computers and Fluids</i> , 2022, 241, 105454.	2.5	4
56	Lagrangian coherent structures and their heat-transport mechanism in the turbulent Rayleigh-Bénard convection. <i>Science China Technological Sciences</i> , 2022, 65, 966-976.	4.0	3
57	The driven cavity turbulent flow with porous walls: Energy transfer, dissipation, and time-space correlations. <i>Journal of Hydrodynamics</i> , 2021, 33, 712-724.	3.2	2
58	The Influence of Anisotropic Sediment Layer on Dissolved Oxygen Transfer in Turbulent Flows. <i>Water Resources Research</i> , 2021, 57, e2020WR027932.	4.2	1
59	Thermal convection in a tilted rectangular box. <i>AIP Advances</i> , 2021, 11, .	1.3	1
60	Tuning turbulent convection through rough element arrangement. <i>Journal of Hydrodynamics</i> , 0, , 1.	3.2	0