P K Yeung

List of Publications by Year
in descending order

68 papers	3,821 citations	117571 34 h-index	123376 61 g-index
69 all docs	69 docs citations	69 times ranked	1524 citing authors

#	Article	IF	Citations
1	Lagrangian statistics from direct numerical simulations of isotropic turbulence. Journal of Fluid Mechanics, 1989, 207, 531-586.	1.4	448
2	LAGRANGIANINVESTIGATIONS OFTURBULENCE. Annual Review of Fluid Mechanics, 2002, 34, 115-142.	10.8	296
3	Similarity scaling of acceleration and pressure statistics in numerical simulations of isotropic turbulence. Physics of Fluids, 1999, 11, 1208-1220.	1.6	168
4	Dissipation and enstrophy in isotropic turbulence: Resolution effects and scaling in direct numerical simulations. Physics of Fluids, 2008, 20, .	1.6	165
5	Extreme events in computational turbulence. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12633-12638.	3.3	119
6	Lagrangian characteristics of turbulence and scalar transport in direct numerical simulations. Journal of Fluid Mechanics, 2001, 427, 241-274.	1.4	117
7	Dissipation, enstrophy and pressure statistics in turbulence simulations at high Reynolds numbers. Journal of Fluid Mechanics, 2012, 700, 5-15.	1.4	113
8	Scalar dissipation rate and dissipative anomaly in isotropic turbulence. Journal of Fluid Mechanics, 2005, 532, 199-216.	1.4	109
9	Direct numerical simulations of passive scalars with Pr>1 advected by turbulent flow. Journal of Fluid Mechanics, 1997, 343, 111-130.	1.4	98
10	Dynamics of scalar dissipation in isotropic turbulence: a numerical and modelling study. Journal of Fluid Mechanics, 2001, 433, 29-60.	1.4	95
11	Simulations of Three-Dimensional Turbulent Mixing for Schmidt Numbers of the Order 1000. Flow, Turbulence and Combustion, 2004, 72, 333-347.	1.4	95
12	Very fine structures in scalar mixing. Journal of Fluid Mechanics, 2005, 531, 113-122.	1.4	94
13	Reynolds number dependence of Lagrangian statistics in large numerical simulations of isotropic turbulence. Journal of Turbulence, 2006, 7, N58.	0.5	87
14	Resolution effects and scaling in numerical simulations of passive scalar mixing in turbulence. Physica D: Nonlinear Phenomena, 2010, 239, 1278-1287.	1.3	82
15	Dynamics of direct large-small scale couplings in coherently forced turbulence: concurrent physical- and Fourier-space views. Journal of Fluid Mechanics, 1995, 283, 43-95.	1.4	80
16	Extreme velocity gradients in turbulent flows. New Journal of Physics, 2019, 21, 043004.	1.2	76
17	Direct numerical simulation of twoâ€particle relative diffusion in isotropic turbulence. Physics of Fluids, 1994, 6, 3416-3428.	1.6	73
18	The Batchelor Spectrum for Mixing of Passive Scalars in Isotropic Turbulence. Flow, Turbulence and Combustion, 2010, 85, 549-566.	1.4	71

#	ARTICLE	IF	CITATIONS
19	The curvature of material surfaces in isotropic turbulence. Physics of Fluids A, Fluid Dynamics, 1989, 1, 2010-2018.	1.6	69
20	One- and two-particle Lagrangian acceleration correlations in numerically simulated homogeneous turbulence. Physics of Fluids, 1997, 9, 2981-2990.	1.6	66
21	Relative dispersion in isotropic turbulence. Part 1. Direct numerical simulations and Reynolds-number dependence. Journal of Fluid Mechanics, 2004, 503, 93-124.	1.4	59
22	Relative dispersion in isotropic turbulence. Part 2. A new stochastic model with Reynolds-number dependence. Journal of Fluid Mechanics, 2004, 503, 125-160.	1.4	59
23	Reynolds number dependence of relative dispersion statistics in isotropic turbulence. Physics of Fluids, 2008, 20, .	1.6	59
24	Random Taylor hypothesis and the behavior of local and convective accelerations in isotropic turbulence. Physics of Fluids, 2001, 13, 1974-1984.	1.6	56
25	Lagrangian statistics in uniform shear flow: Direct numerical simulation and Lagrangian stochastic models. Physics of Fluids, 2001, 13, 2627-2634.	1.6	55
26	Effects of finite spatial and temporal resolution in direct numerical simulations of incompressible isotropic turbulence. Physical Review Fluids, 2018, 3, .	1.0	55
27	Differential diffusion of passive scalars in isotropic turbulence. Physics of Fluids A, Fluid Dynamics, 1993, 5, 2467-2478.	1.6	52
28	Kolmogorov similarity scaling for one-particle Lagrangian statistics. Physics of Fluids, 2011, 23, 091704.	1.6	50
29	Derivative moments in turbulent shear flows. Physics of Fluids, 2003, 15, 84-90.	1.6	45
30	Scaling exponents saturate in three-dimensional isotropic turbulence. Physical Review Fluids, 2020, 5, .	1.0	44
31	Characteristics of backward and forward two-particle relative dispersion in turbulence at different Reynolds numbers. Physics of Fluids, 2015, 27, .	1.6	43
32	Reynolds number scaling of velocity increments in isotropic turbulence. Physical Review E, 2017, 95, 021101.	0.8	42
33	Multi-scalar triadic interactions in differential diffusion with and without mean scalar gradients. Journal of Fluid Mechanics, 1996, 321, 235-278.	1.4	41
34	Lagrangian conditional statistics, acceleration and local relative motion in numerically simulated isotropic turbulence. Journal of Fluid Mechanics, 2007, 582, 399-422.	1.4	39
35	Correlations and conditional statistics in differential diffusion: Scalars with uniform mean gradients. Physics of Fluids, 1998, 10, 2621-2635.	1.6	35
36	High Schmidt number scalars in turbulence: Structure functions and Lagrangian theory. Physics of Fluids, 2004, 16, 3888-3899.	1.6	35

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37	Improved Lagrangian mixing models for passive scalars in isotropic turbulence. Physics of Fluids, 2003, 15, 961-985.	1.6	31
38	Eulerian acceleration statistics as a discriminator between Lagrangian stochastic models in uniform shear flow. Physics of Fluids, 2000, 12, 2033-2045.	1.6	30
39	A conditionally cubic-Gaussian stochastic Lagrangian model for acceleration in isotropic turbulence. Journal of Fluid Mechanics, 2007, 582, 423-448.	1.4	29
40	Random-sweeping hypothesis for passive scalars in isotropic turbulence. Journal of Fluid Mechanics, 2002, 459, 129-138.	1.4	28
41	Direct numerical simulation of differential diffusion with Schmidt numbers up to 4.0. Physics of Fluids, 2000, 12, 1601-1604.	1.6	27
42	Multi-particle and tetrad statistics in numerical simulations of turbulent relative dispersion. Physics of Fluids, 2011, 23, .	1.6	27
43	A Lagrangian study of turbulent mixing: forward and backward dispersion of molecular trajectories in isotropic turbulence. Journal of Fluid Mechanics, 2016, 799, 352-382.	1.4	27
44	Steep Cliffs and Saturated Exponents in Three-Dimensional Scalar Turbulence. Physical Review Letters, 2018, 121, 264501.	2.9	23
45	Conditional Fluid-Particle Accelerations in Turbulence. Theoretical and Computational Fluid Dynamics, 1998, 11, 69-93.	0.9	22
46	Small-Scale Isotropy and Ramp-Cliff Structures in Scalar Turbulence. Physical Review Letters, 2021, 126, 034504.	2.9	22
47	Fluid particle dispersion in homogeneous turbulent shear flow. Physics of Fluids, 1997, 9, 3472-3484.	1.6	21
48	Spectrum of passive scalars of high molecular diffusivity in turbulent mixing. Journal of Fluid Mechanics, 2013, 716, .	1.4	19
49	The Turbulent Schmidt Number. Journal of Fluids Engineering, Transactions of the ASME, 2014, 136, .	0.8	19
50	Advancing understanding of turbulence through extreme-scale computation: Intermittency and simulations at large problem sizes. Physical Review Fluids, 2020, 5, .	1.0	19
51	Direct numerical simulation of turbulent mixing at very low Schmidt number with a uniform mean gradient. Physics of Fluids, 2014, 26, .	1.6	18
52	Direct numerical simulation studies of Lagrangian intermittency in turbulence. Physics of Fluids, 2015, 27, .	1.6	17
53	Turbulence is an Ineffective Mixer when Schmidt Numbers Are Large. Physical Review Letters, 2021, 126, 074501.	2.9	16
54	GPU acceleration of a petascale application for turbulent mixing at high Schmidt number using OpenMP 4.5. Computer Physics Communications, 2018, 228, 100-114.	3.0	15

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55	Gaussian Lagrangian stochastic models for multi-particle dispersion. Physics of Fluids, 2013, 25, .	1.6	13
56	Schmidt number dependence of derivative moments for quasi-static straining motion. Journal of Fluid Mechanics, 2003, 479, 221-230.	1.4	12
57	Spectral transfer of selfâ€similar passive scalar fields in isotropic turbulence. Physics of Fluids, 1994, 6, 2245-2247.	1.6	11
58	Effects of rotation on turbulent mixing: Nonpremixed passive scalars. Physics of Fluids, 2004, 16, 93-103.	1.6	11
59	Structure functions and applicability of Yaglom's relation in passive-scalar turbulent mixing at low Schmidt numbers with uniform mean gradient. Physics of Fluids, 2014, 26, .	1.6	10
60	A dual communicator and dual grid-resolution algorithm for petascale simulations of turbulent mixing at high Schmidt number. Computer Physics Communications, 2017, 219, 313-328.	3.0	10
61	On the role of vortical structures for turbulent mixing using direct numerical simulation and wavelet-based coherent vorticity extraction. Journal of Turbulence, 2011, 12, N20.	0.5	9
62	Refined similarity hypothesis using three-dimensional local averages. Physical Review E, 2015, 92, 063024.	0.8	9
63	Oscillations Modulating Power Law Exponents in Isotropic Turbulence: Comparison of Experiments with Simulations. Physical Review Letters, 2021, 126, 254501.	2.9	9
64	Fractal iso-level sets in high-Reynolds-number scalar turbulence. Physical Review Fluids, 2020, 5, .	1.0	9
65	A numerical study of turbulence under temporally evolving axisymmetric contraction and subsequent relaxation. Journal of Fluid Mechanics, 2016, 805, 460-493.	1.4	8
66	Conditional Relative Acceleration Statistics and Relative Dispersion Modelling. Flow, Turbulence and Combustion, 2010, 85, 345-362.	1.4	5
67	Cancellation exponents in isotropic turbulence and magnetohydrodynamic turbulence. Physical Review E, 2019, 99, 023102.	0.8	5
68	Nonlinear amplification in hydrodynamic turbulence. Journal of Fluid Mechanics, 2022, 930, .	1.4	0