Victor Yakhot

List of Publications by Year
in descending order

84	8,199	109311	66906
papers	citations	35	78
		h-index	g-index

86	86	86	3760
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Renormalization group analysis of turbulence. I. Basic theory. Journal of Scientific Computing, 1986, 1, 3-51.	2.3	3,379
2	Extended Boltzmann Kinetic Equation for Turbulent Flows. Science, 2003, 301, 633-636.	12.6	621
3	Renormalization-Group Analysis of Turbulence. Physical Review Letters, 1986, 57, 1722-1724.	7.8	618
4	The renormalization group, the ?-expansion and derivation of turbulence models. Journal of Scientific Computing, 1992, 7, 35-61.	2.3	390
5	Propagation Velocity of Premixed Turbulent Flames. Combustion Science and Technology, 1988, 60, 191-214.	2.3	256
6	Bose condensation and small-scale structure generation in a random force driven 2D turbulence. Physical Review Letters, 1993, 71, 352-355.	7.8	189
7	Limiting probability distributions of a passive scalar in a random velocity field. Physical Review Letters, 1989, 63, 1962-1964.	7.8	156
8	Finite-size effects in forced two-dimensional turbulence. Journal of Fluid Mechanics, 1994, 274, 115-138.	3.4	139
9	Analytical theories of turbulence and the É› expansion. Physics of Fluids, 1987, 30, 2021.	1.4	132
10	Velocity-Vorticity Patterns in Turbulent Flow. Physical Review Letters, 1985, 54, 2505-2508.	7.8	118
11	Asymptotic exponents from low-Reynolds-number flows. New Journal of Physics, 2007, 9, 89-89.	2.9	113
12	Kolmogorov turbulence in a random-force-driven Burgers equation. Physical Review E, 1995, 51, R2739-R2742.	2.1	110
13	Scaling Relations for a Randomly Advected Passive Scalar Field. Physical Review Letters, 1995, 75, 240-243.	7.8	99
14	Anomalous Scaling of Structure Functions and Dynamic Constraints on Turbulence Simulations. Journal of Statistical Physics, 2005, 121, 823-841.	1.2	96
15	Small-scale universality in fluid turbulence. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10961-10965.	7.1	92
16	Heat transfer in turbulent fluidsâ€”I. Pipe flow. International Journal of Heat and Mass Transfer, 1987, 30, 15-22.	4.8	86
17	Kolmogorov turbulence in a random-force-driven Burgers equation: Anomalous scaling and probability density functions. Physical Review E, 1995, 52, 5681-5684.	2.1	82
18	Energy spectrum of homogeneous and isotropic turbulence in far dissipation range. Physical Review Letters, 1994, 72, 344-347.	7.8	73

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19	Reynolds Number Scaling of Cellular-Automaton Hydrodynamics. Physical Review Letters, 1986, 56, 1691-1693.	7.8	72
20	4/5 Kolmogorov law for statistically stationary turbulence: Application to high-Rayleigh-number BÃ©nard convection. Physical Review Letters, 1992, 69, 769-771.	7.8	67
21	Mean-field approximation and a small parameter in turbulence theory. Physical Review E, 2001, 63, 026307.	2.1	66
22	Flame Front Propagation in Nonsteady Hydrodynamic Fields. Combustion Science and Technology, 1988, 62, 273-284.	2.3	64
23	Probability distributions in high-Rayleigh number BÃ©nard convection. Physical Review Letters, 1989, 63, 1965-1967.	7.8	61
24	Flame Broadening Effects on Premixed Turbulent Flame Speed. Combustion Science and Technology, 1992, 86, 31-43.	2.3	57
25	Probability densities in strong turbulence. Physica D: Nonlinear Phenomena, 2006, 215, 166-174.	2.8	54
26	Algebraic Tails of Probability Density Functions in the Random-Force-Driven Burgers Turbulence. Physical Review Letters, 1996, 77, 3118-3121.	7.8	52
27	Quasicrystallization of Vortices in Drift-Wave Turbulence. Physical Review Letters, 1995, 75, 2486-2489.	7.8	51
28	Stokes' second flow problem in a high-frequency limit: application to nanomechanical resonators. Journal of Fluid Mechanics, 2007, 586, 249-258.	3.4	49
29	Spaceâ€time correlations in turbulence: Kinematical versus dynamical effects. Physics of Fluids A, Fluid Dynamics, 1989, 1, 184-186.	1.6	46
30	Long-time, large-scale properties of a randomly stirred compressible fluid. Physical Review Letters, 1990, 65, 171-174.	7.8	40
31	Renormalization group and local order in strong turbulence. Nuclear Physics, Section B, Proceedings Supplements, 1987, 2, 417-440.	0.4	39
32	Probability density and scaling exponents of the moments of longitudinal velocity difference in strong turbulence. Physical Review E, 1998, 57, 1737-1751.	2.1	38
33	Two-dimensional turbulence in the inverse cascade range. Physical Review E, 1999, 60, 5544-5551.	2.1	37
34	Long-time, large-scale properties of the random-forceâ€"driven Burgers equation. Physical Review Letters, 1988, 60, 1840-1843.	7.8	35
35	Hidden conservation laws in hydrodynamics; energy and dissipation rate fluctuation spectra in strong turbulence. Physica D: Nonlinear Phenomena, 1993, 64, 379-394.	2.8	35
36	Passive scalar advected by a rapidly changing random velocity field: Probability density of scalar differences. Physical Review E, 1997, 55, 329-336.	2.1	35

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37	Turbulence in a randomly stirred fluid. Physics of Fluids A, Fluid Dynamics, 1989, 1, 1045-1053.	1.6	33
38	Non-invasive measurement of the pressure distribution in a deformable micro-channel. Journal of Fluid Mechanics, 2013, 734, .	3.4	31
39	Pressure–velocity correlations and scaling exponents in turbulence. Journal of Fluid Mechanics, 2003, 495, 135-143.	3.4	30
40	Scaling of global properties of turbulence and skin friction in pipe and channel flows. Journal of Fluid Mechanics, 2010, 652, 65-73.	3.4	30
41	Emergence of Multiscaling in a Random-Force Stirred Fluid. Physical Review Letters, 2017, 119, 044501.	7.8	29
42	Deviations from the classical Kolmogorov theory of the inertial range of homogeneous turbulence. Physics of Fluids A, Fluid Dynamics, 1989, 1, 289-293.	1.6	27
43	Towards a dynamical theory of multifractals in turbulence. Physica A: Statistical Mechanics and Its Applications, 2004, 343, 147-155.	2.6	26
44	Relation between the Kolmogorov and Batchelor constants. Physics of Fluids, 1987, 30, 3.	1.4	20
45	Large-scale structure generation by anisotropic small-scale flows. Physics of Fluids, 1987, 30, 1272.	1.4	19
46	Phenomenological theory of probability distributions in turbulence. Journal of Scientific Computing, 1990, 5, 199-221.	2.3	19
47	Mean-Field Approximation and Extended Self-Similarity in Turbulence. Physical Review Letters, 2001, 87, 234501.	7.8	18
48	Lattice Boltzmann simulation of electromechanical resonators in gaseous media. Journal of Fluid Mechanics, 2010, 652, 241-257.	3.4	18
49	Dynamics of three-dimensional turbulence from Navier-Stokes equations. Physical Review Fluids, 2021, 6, .	2.5	18
50	Computational test of the renormalization group theory of turbulence. Journal of Scientific Computing, 1988, 3, 139-147.	2.3	17
51	Large-scale coherence and ''anomalous scaling'' of high-order moments of velocity differences in strong turbulence. Physical Review E, 1994, 49, 2887-2899.	2.1	16
52	Short- and long-time behavior of eddy-viscosity models. Theoretical and Computational Fluid Dynamics, 1993, 4, 197-207.	2.2	14
53	Characteristics of Turbulence in a Turbofan Stage. Journal of Turbomachinery, 2013, 135, .	1.7	13
54	Anomalous exponents in strong turbulence. Physica D: Nonlinear Phenomena, 2018, 384-385, 12-17.	2.8	13

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55	Propagating high-frequency shear waves in simple fluids. Physics of Fluids, 2009, 21, 013105.	4.0	11
56	A simple model for self-sustained oscillations in homogeneous shear flow. Physics of Fluids, 2003, 15, L17-L20.	4.0	10
57	Dissipation-scale fluctuations and mixing transition in turbulent flows. Journal of Fluid Mechanics, 2008, 606, 325-337.	3.4	10
58	RNG-based turbulence transport approximations with applications to transonic flows. , 1989, , .		9
59	Title is missing!. Journal of Scientific Computing, 1999, 14, 147-178.	2.3	9
60	Analogy between hyperscale transport and cellular automaton fluid dynamics. Physics of Fluids, 1986, 29, 2025.	1.4	8
61	Inverse energy cascade in a time–dependent flow. Physics of Fluids A, Fluid Dynamics, 1989, 1, 1383-1386.	1.6	8
62	Universal Law of Enstrophy Decay in Two-Dimensional Large-Reynolds-Number Turbulence. Physical Review Letters, 2004, 93, .	7.8	8
63	Correspondence principle for turbulence: Application to the Chicago experiments on high Rayleigh number BÃ©nard convection. Physics of Fluids A, Fluid Dynamics, 1989, 1, 175-178.	1.6	7
64	Energy Spectrum of Homogeneous and Isotropic Turbulence in Far Dissipation Range [Phys. Rev. Lett. 72, 344 (1994)]. Physical Review Letters, 1995, 74, 1492-1492.	7.8	7
65	Computational coarse graining of a randomly forced one-dimensional Burgers equation. Physics of Fluids, 2008, 20, 035111.	4.0	7
66	Transition to turbulence scaling in Rayleigh-BÃ©nard convection. Physical Review E, 2018, 98, .	2.1	7
67	Spectra of fluctuations of velocity, kinetic energy, and the dissipation rate in strong turbulence. Physical Review E, 1994, 50, R20-R23.	2.1	6
68	Normal and anomalous scaling in a problem of a passively advected magnetic field. Physical Review E, 1996, 53, R5576-R5579.	2.1	6
69	Onset of intermittency in two-dimensional decaying turbulence. Physical Review E, 1997, 55, 5458-5464.	2.1	6
70	Decay of three-dimensional turbulence at high Reynolds numbers. Journal of Fluid Mechanics, 2004, 505, 87-91.	3.4	6
71	Lattice Boltzmann two-equation model for turbulence simulations: High-Reynolds number flow past circular cylinder. International Journal of Heat and Fluid Flow, 2013, 42, 1-9.	2.4	6
72	Generalized Boltzmann equation: Slip-no-slip dynamic transition in flows of strongly non-linear fluids. Physica A: Statistical Mechanics and Its Applications, 2006, 362, 146-150.	2.6	5

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73	On non-perturbative formulation of hydrodynamics using kinetic theory. Physica Scripta, 2013, T155, 014040.	2.5	5
74	Reynolds number of transition and self-organized criticality of strong turbulence. Physical Review E, 2014, 90, 043019.	2.1	5
75	Title is missing!. Journal of Scientific Computing, 1998, 13, 229-252.	2.3	4
76	Crossover in the Enstrophy Decay in Two-Dimensional Turbulence in a Finite Box. Physical Review Letters, 2004, 93, 154502.	7.8	4
77	Reynolds number scaling of turbulent diffusivity in wall flows. Physics of Fluids, 1988, 31, 709.	1.4	3
78	Dissipation fluctuations of a passive scalar advected by a random velocity field. Physical Review E, 1996, 54, 2610-2615.	2.1	2
79	LATTICE BOLTZMANN SIMULATION OF A NON-NEWTONIAN OSCILLATING FLOW IN A HIGH-FREQUENCY LIMIT. International Journal of Modern Physics C, 2007, 18, 473-482.	1.7	1
80	Computational Test of the Renormalization Group Theory of Turbulence. Lecture Notes in Engineering, 1989, , 112-124.	0.1	1
81	LES of turbulence and turbulent combustion: Advances and theoretical limitations. , 1999, , 263-278.		0
82	Skin friction in zero-pressure-gradient boundary layers. Physical Review E, 2010, 82, 045301.	2.1	0
83	Statistics of Transverse Velocity Differences in Turbulence. Fluid Mechanics and Its Applications, 2001, , 97-106.	0.2	0
84	Experiments on Strong Turbulence: Do We Really Measure What We Say We Measure?. , 1998, , 300-311.		0