Uriel Frisch

List of Publications by Citations

114 papers	**9,019** citations	**45** h-index	**94** g-index
120 ext. papers	**9,920** ext. citations	**3.8** avg, IF	**5.6** L-index

#	Paper	IF	Citations
114	A simple dynamical model of intermittent fully developed turbulence. *Journal of Fluid Mechanics*, **1978**, 87, 719	3.7	845
113	Strong MHD helical turbulence and the nonlinear dynamo effect. *Journal of Fluid Mechanics*, **1976**, 77, 321-354	3.7	805
112	Small-scale structure of the Taylor–Green vortex. *Journal of Fluid Mechanics*, **1983**, 130, 411	3.7	551
111	Chaotic streamlines in the ABC flows. *Journal of Fluid Mechanics*, **1986**, 167, 353	3.7	546
110	Possibility of an inverse cascade of magnetic helicity in magnetohydrodynamic turbulence. *Journal of Fluid Mechanics*, **1975**, 68, 769-778	3.7	419
109	Helical and Nonhelical Turbulent Dynamos. *Physical Review Letters*, **1981**, 47, 1060-1064	7.4	288
108	Lattice Gas Models for 3D Hydrodynamics. *Europhysics Letters*, **1986**, 2, 291-297	1.6	254
107	Solving linear stochastic differential equations. *Journal of Mathematical Physics*, **1974**, 15, 524-534	1.2	222
106	Intermittency in nonlinear dynamics and singularities at complex times. *Physical Review A*, **1981**, 23, 2673-2705	2.6	190
105	Wavelet analysis of turbulence reveals the multifractal nature of the Richardson cascade. *Nature*, **1989**, 338, 51-53	50.4	178
104	Transverse velocity increments in turbulent flow using the RELIEF technique. *Journal of Fluid Mechanics*, **1997**, 339, 287-307	3.7	170
103	Theory of Stark broadening—exact line profile with model microfield. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **1971**, 11, 1767-1783	2.1	166
102	Dynamo action in a family of flows with chaotic streamlines. *Geophysical and Astrophysical Fluid Dynamics*, **1986**, 36, 53-83	1.4	161
101	Brownian motion of harmonic oscillator with stochastic frequency. *Physica*, **1973**, 65, 303-320		154
100	The inviscid Burgers equation with initial data of Brownian type. *Communications in Mathematical Physics*, **1992**, 148, 623-641	2	145
99	d-dimensional turbulence. *Physical Review A*, **1978**, 17, 747-762	2.6	142
98	Large-scale flow driven by the anisotropic kinetic alpha effect. *Physica D: Nonlinear Phenomena*, **1987**, 28, 382-392	3.3	138

97	Viscoelastic behaviour of cellular solutions to the Kuramoto-Sivashinsky model. *Journal of Fluid Mechanics*, **1986**, 168, 221	3.7	130
96	Numerical simulation of the inverse cascade in two-dimensional turbulence. *Physics of Fluids*, **1984**, 27, 1921		129
95	Hyperviscosity, Galerkin truncation, and bottlenecks in turbulence. *Physical Review Letters*, **2008**, 101, 144501	7.4	128
94	Remarks on the renormalization group in statistical fluid dynamics. *Physical Review A*, **1983**, 28, 1000-1002	2.6	112
93	Turbulence: Challenges for Theory and Experiment. *Physics Today*, **1990**, 43, 24-32	0.9	109
92	A reconstruction of the initial conditions of the universe by optimal mass transportation. *Nature*, **2002**, 417, 260-2	50.4	101
91	Intermittency in Passive Scalar Advection. *Physical Review Letters*, **1998**, 80, 5532-5535	7.4	99
90	Extreme Deviations and Applications. *Journal De Physique, I*, **1997**, 7, 1155-1171		99
89	Finite time analyticity for the two and three dimensional Kelvin-Helmholtz instability. *Communications in Mathematical Physics*, **1981**, 80, 485-516	2	97
88	On the decay of Burgers turbulence. *Journal of Fluid Mechanics*, **1997**, 344, 339-374	3.7	96
87	Further results on multifractality in shell models. *Physics of Fluids A, Fluid Dynamics*, **1993**, 5, 2533-2538		96
86	Eddy viscosity of parity-invariant flow. *Physical Review A*, **1991**, 43, 5355-5364	2.6	96
85	Growth of correlations in magnetohydrodynamic turbulence. *Physical Review A*, **1986**, 33, 4266-4276	2.6	95
84	Spontaneous Singularity in Three-Dimensional Inviscid, Incompressible Flow. *Physical Review Letters*, **1980**, 44, 572-575	7.4	91
83	Reconstruction of the early Universe as a convex optimization problem. *Monthly Notices of the Royal Astronomical Society*, **2003**, 346, 501-524	4.3	90
82	Negative eddy viscosity in isotropically forced two-dimensional flow: linear and nonlinear dynamics. *Journal of Fluid Mechanics*, **1994**, 260, 95-126	3.7	77
81	A note on the stability of a family of space-periodic Beltrami flows. *Journal of Fluid Mechanics*, **1987**, 180, 557	3.7	66
80	Fully developed MHD turbulence near critical magnetic Reynolds number. *Journal of Fluid Mechanics*, **1981**, 104, 419-443	3.7	66

79	Theory of Stark broadening☐soluble scalar model as a test. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **1971**, 11, 1753-1766	2.1	66
78	On the multifractal properties of the energy dissipation derived from turbulence data. *Journal of Fluid Mechanics*, **1992**, 238, 467-486	3.7	63
77	Parastochastics. *Journal of Mathematical Physics*, **1970**, 11, 364-390	1.2	60
76	A numerical investigation of magnetic field generation in a flow with chaotic streamlines. *Geophysical and Astrophysical Fluid Dynamics*, **1984**, 29, 13-18	1.4	59
75	Generation of large-scale structures in threedimensional flow lacking parity-invariance. *Journal of Fluid Mechanics*, **1989**, 205, 341	3.7	50
74	A Markovian random coupling model for turbulence. *Journal of Fluid Mechanics*, **1974**, 65, 145-152	3.7	50
73	Singularities of Euler Flow? Not Out of the Blue!. *Journal of Statistical Physics*, **2003**, 113, 761-781	1.5	49
72	Simulating Fully Three-Dimensional External Flow by Lattice Gas Methods. *Europhysics Letters*, **1988**, 7, 231-236	1.6	49
71	Is multiscaling an artifact in the stochastically forced Burgers equation?. *Physical Review Letters*, **2005**, 94, 194501	7.4	47
70	Cauchy☐ almost forgotten Lagrangian formulation of the Euler equation for 3D incompressible flow. *European Physical Journal H*, **2014**, 39, 325-351	0.9	45
69	Time-analyticity of Lagrangian particle trajectories in ideal fluid flow. *Journal of Fluid Mechanics*, **2014**, 749, 404-430	3.7	43
68	Wavelet transforms of self-similar processes. *Physica D: Nonlinear Phenomena*, **1991**, 54, 58-64	3.3	43
67	Helicity is unnecessary for alpha effect dynamos, but it helps. *Geophysical and Astrophysical Fluid Dynamics*, **1988**, 42, 151-161	1.4	43
66	Turbulence in noninteger dimensions by fractal Fourier decimation. *Physical Review Letters*, **2012**, 108, 074501	7.4	42
65	Modified dissipativity for a non-linear evolution equation arising in turbulence. *Archive for Rational Mechanics and Analysis*, **1979**, 71, 237-256	2.3	41
64	Kicked Burgers turbulence. *Journal of Fluid Mechanics*, **2000**, 416, 239-267	3.7	37
63	Stochastic Resonance in One-Dimensional Random Media. *Physical Review A*, **1973**, 8, 1416-1421	2.6	36
62	Low-viscosity lattice gases. *Journal of Statistical Physics*, **1990**, 59, 1187-1226	1.5	34

61	Non-Lte Transfer. ▯▯Revisited. *Monthly Notices of the Royal Astronomical Society*, **1975**, 173, 167-182	4.3	34
60	Bounds on energy flux for finite energy turbulence. *Journal of Fluid Mechanics*, **1975**, 72, 417	3.7	34
59	Resonance phenomenon for the Galerkin-truncated Burgers and Euler equations. *Physical Review E*, **2011**, 84, 016301	2.4	33
58	Relation between the lattice Boltzmann equation and the Navier-stokes equations. *Physica D: Nonlinear Phenomena*, **1991**, 47, 231-232	3.3	33
57	On the exponential flattening of current sheets near neutral X-points in two-dimensional ideal MHD flow. *Journal of Plasma Physics*, **1985**, 33, 191-198	2.7	33
56	Extended self-similarity works for the Burgers equation and why. *Journal of Fluid Mechanics*, **2010**, 649, 275-285	3.7	31
55	Nature of complex singularities for the 2D Euler equation. *Physica D: Nonlinear Phenomena*, **2006**, 219, 40-59	3.3	30
54	Crossover Dimensions for Fully Developed Turbulence. *Physical Review Letters*, **1976**, 37, 895-897	7.4	30
53	Dynamo effect in parity-invariant flow with large and moderate separation of scales. *Geophysical and Astrophysical Fluid Dynamics*, **2001**, 95, 227-268	1.4	27
52	Geometric formulation of the Cauchy invariants for incompressible Euler flow in flat and curved spaces. *Journal of Fluid Mechanics*, **2017**, 825, 412-478	3.7	26
51	Total reflection of a plane wave by a semi-infinite random medium ▯ *Journal of Plasma Physics*, **1972**, 8, 217-229	2.7	24
50	Large-scale Kolmogorov flow on the beta-plane and resonant wave interactions. *Physica D: Nonlinear Phenomena*, **1996**, 94, 36-56	3.3	23
49	Turbulence with a spectral gap. *Physics of Fluids*, **1983**, 26, 877		23
48	How smooth are particle trajectories in a ▯DM Universe?. *Monthly Notices of the Royal Astronomical Society*, **2015**, 452, 1421-1436	4.3	21
47	A Borel Transform Method for Locating Singularities of Taylor and Fourier Series. *Journal of Statistical Physics*, **2007**, 127, 1095-1119	1.5	20
46	The analytic structure of 2D Euler flow at short times. *Fluid Dynamics Research*, **2005**, 36, 221-237	1.2	20
45	On the probability density function of velocity gradients in fully developed turbulence. *Fluid Dynamics Research*, **1991**, 8, 139-142	1.2	20
44	The Taylor-Green vortex and fully developed turbulence. *Journal of Statistical Physics*, **1984**, 34, 1049-1063	6.3	20

43	Non-Lte Transfer -- II TWO-LEVEL ATOMS WITH STOCHASTIC VELOCITY FIELD. *Monthly Notices of the Royal Astronomical Society*, **1976**, 175, 157-175	4.3	20
42	Universal decay of scalar turbulence. *Physical Review Letters*, **2001**, 86, 2305-8	7.4	19
41	Dispersive Stabilization of the Inverse Cascade for the Kolmogorov Flow. *Physical Review Letters*, **1999**, 82, 4440-4443	7.4	19
40	Probability distribution functions of derivatives and increments for decaying burgers turbulence. *Physical Review E*, **2000**, 61, 1395-402	2.4	18
39	Eddy viscosity of three-dimensional flow. *Journal of Fluid Mechanics*, **1995**, 288, 249-264	3.7	18
38	A Very Smooth Ride in a Rough Sea. *Communications in Mathematical Physics*, **2014**, 326, 499-505	2	17
37	Shell-crossing in quasi-one-dimensional flow. *Monthly Notices of the Royal Astronomical Society*, **2017**, 471, 671-679	4.3	17
36	Real-space manifestations of bottlenecks in turbulence spectra. *Physical Review Letters*, **2013**, 110, 064501	7.4	17
35	Intermittency in fractal Fourier hydrodynamics: Lessons from the Burgers equation. *Physical Review E*, **2016**, 93, 033109	2.4	16
34	The two-dimensional Navier-Stokes equations with a large-scale instability of the Kuramoto-Sivashinsky type: Numerical exploration on the Connection Machine. *Journal of Scientific Computing*, **1991**, 6, 425-452	2.3	16
33	Comments on the quasi-normal Markovian approximation for fully-developed turbulence. *Journal of Fluid Mechanics*, **1980**, 97, 181	3.7	16
32	The Cauchy Lagrangian method for numerical analysis of Euler flow. *Journal of Computational Physics*, **2016**, 306, 320-342	4.1	15
31	The Monge Ampre equation: Various forms and numerical solution. *Journal of Computational Physics*, **2010**, 229, 5043-5061	4.1	15
30	Genesis of d Alembert s paradox and analytical elaboration of the drag problem. *Physica D: Nonlinear Phenomena*, **2008**, 237, 1878-1886	3.3	13
29	Bifractality of the devil s staircase appearing in the burgers equation with brownian initial velocity. *Journal of Statistical Physics*, **1997**, 88, 1151-1164	1.5	12
28	From Newton s mechanics to Euler s equations. *Physica D: Nonlinear Phenomena*, **2008**, 237, 1855-1869	3.3	12
27	A method of cauchy integral equation for non-coherent transfer in half-space. *Journal of Quantitative Spectroscopy and Radiative Transfer*, **1982**, 28, 361-375	2.1	12
26	Entire Solutions of Hydrodynamical Equations with Exponential Dissipation. *Communications in Mathematical Physics*, **2010**, 293, 519-543	2	11

25	Complex-space singularities of 2D Euler flow in Lagrangian coordinates. *Physica D: Nonlinear Phenomena*, **2008**, 237, 1951-1955	3.3	11
24	Does multifractal theory of turbulence have logarithms in the scaling relations?. *Journal of Fluid Mechanics*, **2005**, 542, 97	3.7	11
23	Chaotic cascades with Kolmogorov 1941 scaling. *Journal of Statistical Physics*, **1994**, 75, 781-795	1.5	11
22	Renormalization-group approach to noncoherent radiative transfer. *Physical Review A*, **1978**, 17, 1049-1057	2.6	10
21	Nelkin scaling for the Burgers equation and the role of high-precision calculations. *Physical Review E*, **2012**, 85, 015301	2.4	8
20	Inertial-diffusive range for a passive scalar advected by a white-in-time velocity field. *Europhysics Letters*, **1996**, 35, 683-688	1.6	8
19	Report on workshop on small-diffusivity dynamos and dynamical systems. *Geophysical and Astrophysical Fluid Dynamics*, **1990**, 52, 263-270	1.4	8
18	Non-LTE transfer - III. Asymptotic expansion for small isin. *Monthly Notices of the Royal Astronomical Society*, **1977**, 181, 273-280	4.3	8
17	Suppressing thermalization and constructing weak solutions in truncated inviscid equations of hydrodynamics: Lessons from the Burgers equation. *Physical Review Research*, **2020**, 2,	3.9	7
16	A Constructive Approach to Regularity of Lagrangian Trajectories for Incompressible Euler Flow in a Bounded Domain. *Communications in Mathematical Physics*, **2017**, 351, 689-707	2	6
15	A new large-scale instability in three-dimensional incompressible flows lacking parity-invariance. *Fluid Dynamics Research*, **1988**, 3, 295-298	1.2	6
14	Backscattering and localization of high-frequency waves in a one-dimensional random medium. *Journal of Mathematical Physics*, **1984**, 25, 1378-1381	1.2	6
13	A contemporary look at Hermann Hankel's 1861 pioneering work on Lagrangian fluid dynamics. *European Physical Journal H*, **2017**, 42, 537-556	0.9	5
12	The collective birth of multifractals. *Journal of Physics A: Mathematical and Theoretical*, **2016**, 49, 451002	2	5
11	Application of Optimal Transport Theory to Reconstruction of the Early Universe. *Journal of Mathematical Sciences*, **2006**, 133, 1539-1542	0.4	4
10	On Multifractality and Fractional Derivatives. *Journal of Statistical Physics*, **2002**, 108, 1181-1202	1.5	4
9	Is there finite-time blow-up in 3-D Euler flow?. *Current Developments in Mathematics*, **1997**, 1997, 193-196	5	3
8	Asymptotic Solutions to Dynamics of Many-Body Systems and Classical Continuum Equations. *Current Developments in Mathematics*, **1998**, 1998, 155-236	0	3

7	Unveiling the singular dynamics in the cosmic large-scale structure. *Monthly Notices of the Royal Astronomical Society: Letters*, **2021**, 505, L90-L94	4.3	3
6	Lattice gas automata for the Navier-Stokes equations. a new approach to hydrodynamics and turbulence. *Physica Scripta*, **1989**, 40, 423-423	2.6	2
5	Multifractality of the Feigenbaum Attractor and Fractional Derivatives. *Journal of Statistical Physics*, **2005**, 121, 671-695	1.5	1
4	The two-dimensional Navier-Stokes-Kuramoto-Sivashinsky equation on the Connection Machine. *Computing Systems in Engineering: an International Journal*, **1995**, 6, 325-329		1
3	The Cauchy-Lagrange method for 3D-axisymmetric wall-bounded and potentially singular incompressible Euler flows. *Journal of Computational Physics*, **2022**, 449, 110758	4.1	1
2	Book Review of Magnetohydrodynamic Turbulence, by Dieter Biskamp, Cambridge University Press, 2003, XII+297 pp., £65.00, $95, hardback (ISBN 0-521-81011-6).. *Geophysical and Astrophysical Fluid Dynamics*, **2004**, 98, 173-174	1.4	
1	Wavelet analysis of the standard map: Structure and scaling. *Celestial Mechanics and Dynamical Astronomy*, **1993**, 56, 263-272	1.4	