Javier Jimenez

List of Publications by Year
in descending order

170 papers	15,183 citations	26567 56 h-index	17055 122 g-index
176 all docs	176 docs citations	176 times ranked	4823 citing authors

#	Article	IF	Citations
1	Linear instability and resonance effects in large-scale opposition flow control. Journal of Fluid Mechanics, 2022, 935, .	1.4	1
2	Interaction between near-wall streaks and large-scale motions in turbulent channel flows. Journal of Fluid Mechanics, 2022, 940, .	1.4	4
3	Entropy, irreversibility and cascades in the inertial range of isotropic turbulence. Journal of Fluid Mechanics, 2021, 915, .	1.4	13
4	An isolated logarithmic layer. Journal of Fluid Mechanics, 2021, 916, .	1.4	6
5	Collective organization and screening in two-dimensional turbulence. Physical Review Fluids, 2021, 6, .	1.0	1
6	Bifurcation structure of unstable periodic orbits in plane Couette flow with the Smagorinsky model. Physical Review Fluids, 2021, 6, .	1.0	2
7	A low-storage method consistent with second-order statistics for time-resolved databases of turbulent channel flow up to Reï„=5300. Journal of Computational Science, 2021, 56, 101476.	1.5	2
8	Computers and turbulence. European Journal of Mechanics, B/Fluids, 2020, 79, 1-11.	1.2	10
9	Dipoles and streams in two-dimensional turbulence. Journal of Fluid Mechanics, 2020, 904, .	1.4	6
10	Effect of limited near-wall inlet data on the direct numerical simulation of turbulent channel flow. Journal of Physics: Conference Series, 2020, 1522, 012019.	0.3	1
11	Momentum transfer by linearised eddies in turbulent channel flows. Journal of Fluid Mechanics, 2020, 895, .	1.4	13
12	Monte Carlo science. Journal of Turbulence, 2020, 21, 544-566.	0.5	10
13	The Turbulence Cascade in Physical Space. ERCOFTAC Series, 2019, , 45-50.	0.1	0
14	Logarithmic-layer turbulence: A view from the wall. Physical Review Fluids, 2019, 4, .	1.0	25
15	Coherent structures in wall-bounded turbulence. Journal of Fluid Mechanics, 2018, 842, .	1.4	305
16	Third Madrid Summer School on Turbulence. Journal of Physics: Conference Series, 2018, 1001, 011001.	0.3	1
17	Intense structures of different momentum fluxes in turbulent channels. Journal of Physics: Conference Series, 2018, 1001, 012003.	0.3	1
18	Description and detection of burst events in turbulent flows. Journal of Physics: Conference Series, 2018, 1001, 012015.	0.3	3

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19	Machine-aided turbulence theory. Journal of Fluid Mechanics, 2018, 854, .	1.4	34
20	Reynolds stress structures in a self-similar adverse pressure gradient turbulent boundary layer at the verge of separation.. Journal of Physics: Conference Series, 2018, 1001, 012001.	0.3	2
21	Intense structures of different momentum fluxes in turbulent channels. Physical Review Fluids, 2018, 3, .	1.0	14
22	Coherent structures in statistically stationary homogeneous shear turbulence. Journal of Fluid Mechanics, 2017, 816, 167-208.	1.4	65
23	Vertically localised equilibrium solutions in large-eddy simulations of homogeneous shearÂflow. Journal of Fluid Mechanics, 2017, 827, 225-249.	1.4	10
24	Direct numerical simulation of a self-similar adverse pressure gradient turbulent boundary layer at the verge of separation. Journal of Fluid Mechanics, 2017, 829, 392-419.	1.4	58
25	The turbulent cascade in five dimensions. Science, 2017, 357, 782-784.	6.0	84
26	Towards the Direct Numerical Simulation of a Self-similar Adverse Pressure Gradient Turbulent Boundary Layer Flow. , 2017, , 61-75.		2
27	Unstable periodic orbits in plane Couette flow with the Smagorinsky model. Journal of Physics: Conference Series, 2016, 708, 012003.	0.3	4
28	A POD-based analysis of turbulence in the reduced nonlinear dynamics system. Journal of Physics: Conference Series, 2016, 708, 012002.	0.3	2
29	Second Multiflow Summer School on Turbulence. Journal of Physics: Conference Series, 2016, 708, 011001.	0.3	0
30	Editorial opinion: public dissemination of raw turbulence data. Journal of Physics: Conference Series, 2016, 708, 011002.	0.3	2
31	The minimal channel: a fast and direct method for characterising roughness. Journal of Physics: Conference Series, 2016, 708, 012010.	0.3	3
32	A statistical state dynamics-based study of the structure and mechanism of large-scale motions in plane Poiseuille flow. Journal of Fluid Mechanics, 2016, 809, 290-315.	1.4	44
33	Properties of the turbulent/non-turbulent interface in boundary layers. Journal of Fluid Mechanics, 2016, 801, 554-596.	1.4	71
34	Homogeneous shear turbulence â€“ bypass concept via interplay of linear transient growth and nonlinear transverse cascade. Journal of Physics: Conference Series, 2016, 708, 012001.	0.3	1
35	Multiscale analysis of the topological invariants in the logarithmic region of turbulent channels at a friction Reynolds number of 932. Journal of Fluid Mechanics, 2016, 803, 356-394.	1.4	41
36	Optimal fluxes and Reynolds stresses. Journal of Fluid Mechanics, 2016, 809, 585-600.	1.4	11

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37	Direct numerical simulation of statistically stationary and homogeneous shear turbulence and its relation to other shear flows. Physics of Fluids, 2016, 28, .	1.6	64
38	Cascades and wall-normal fluxes in turbulent channel flows. Journal of Fluid Mechanics, 2016, 796, 417-436.	1.4	69
39	Direct numerical simulation of a self-similar adverse pressure gradient turbulent boundary layer. International Journal of Heat and Fluid Flow, 2016, 61, 129-136.	1.1	42
40	Dynamics of homogeneous shear turbulence: A key role of the nonlinear transverse cascade in the bypass concept. Physical Review E, 2016, 94, 023111.	0.8	24
41	Coherent Structures in Wall-Bounded Turbulence. ERCOFTAC Series, 2016, , 37-46.	0.1	3
42	A Marker for Studying the Turbulent Energy Cascade in Real Space. Springer Proceedings in Physics, 2016, , 27-31.	0.1	0
43	Linearised Structures in Shear Turbulence. Procedia IUTAM, 2015, 14, 122-128.	1.2	0
44	The temporal evolution of the energy flux across scales in homogeneous turbulence. Physics of Fluids, 2015, 27, .	1.6	35
45	Numerically accurate computation of the conditional trajectories of the topological invariants in turbulent flows. Journal of Computational Physics, 2015, 295, 805-814.	1.9	10
46	Direct detection of linearized bursts in turbulence. Physics of Fluids, 2015, 27, .	1.6	31
47	Turbulence in the highly restricted dynamics of a closure at second order: comparison with DNS. Journal of Physics: Conference Series, 2014, 506, 012004.	0.3	16
48	Scaling of pressure spectrum in turbulent boundary layers. Journal of Physics: Conference Series, 2014, 506, 012011.	0.3	0
49	Turbulent pipe flow: Statistics,Re-dependence, structures and similarities with channel and boundary layer flows. Journal of Physics: Conference Series, 2014, 506, 012010.	0.3	8
50	Possible modification of the large-scale flow structures by vortical structural interactions. Journal of Physics: Conference Series, 2014, 506, 012012.	0.3	0
51	Numerical issues in Lagrangian tracking and topological evolution of fluid particles in wall-bounded turbulent flows. Journal of Physics: Conference Series, 2014, 506, 012003.	0.3	0
52	Hairpin vortices in turbulent boundary layers. Journal of Physics: Conference Series, 2014, 506, 012008.	0.3	5
53	Two-point statistics for turbulent boundary layers and channels at Reynolds numbers up to Î´+ â‰ˆ 2000. Physics of Fluids, 2014, 26, .	1.6	190
54	Time-resolved evolution of coherent structures in turbulent channels: characterization of eddiesÂand cascades. Journal of Fluid Mechanics, 2014, 759, 432-471.	1.4	172

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55	Analysis of a Turbulent Boundary Layer Subjected to a Strong Adverse Pressure Gradient. Journal of Physics: Conference Series, 2014, 506, 012007.	0.3	14
56	Effect of the computational domain on direct simulations of turbulent channels up to ReÏ„ = 4200. Physics of Fluids, 2014, 26, .	1.6	318
57	Stochastic self-energy subgrid model for the large eddy simulation of turbulent channel flows. Journal of Physics: Conference Series, 2014, 506, 012001.	0.3	3
58	The attached reverse and detached forward cascades in wall-turbulent flows. Journal of Physics: Conference Series, 2014, 506, 012005.	0.3	1
59	Scaling of velocity fluctuations in off-wall boundary conditions for turbulent flows. Journal of Physics: Conference Series, 2014, 506, 012002.	0.3	4
60	Characteristics of the turbulent/nonturbulent interface in boundary layers, jets and shear-free turbulence. Journal of Physics: Conference Series, 2014, 506, 012015.	0.3	22
61	Influence of solid boundary conditions on the evolution of free and wall-bounded turbulent flows. Journal of Physics: Conference Series, 2014, 506, 012014.	0.3	0
62	Granger causality in wall-bounded turbulence. Journal of Physics: Conference Series, 2014, 506, 012006.	0.3	8
63	Wall turbulence without walls. Journal of Fluid Mechanics, 2013, 723, 429-455.	1.4	64
64	Simulations of turbulent channels with prescribed velocity profiles. Journal of Fluid Mechanics, 2013, 723, 587-603.	1.4	32
65	A code for direct numerical simulation of turbulent boundary layers at high Reynolds numbers in BG/P supercomputers. Computers and Fluids, 2013, 80, 37-43.	1.3	60
66	How linear is wall-bounded turbulence?. Physics of Fluids, 2013, 25, .	1.6	86
67	One-point statistics for turbulent wall-bounded flows at Reynolds numbers up to Î´+ â‰ˆ 2000. Physics of Fluids, 2013, 25, .	1.6	311
68	Scaling of turbulent structures in riblet channels up to Re Ï„â€“â‰ˆ 550. Physics of Fluids, 2012, 24, .	1.6	36
69	Direct Numerical Simulations of Wake-Perturbed Separated Boundary Layers. Journal of Turbomachinery, 2012, 134, .	0.9	8
70	Cascades in Wall-Bounded Turbulence. Annual Review of Fluid Mechanics, 2012, 44, 27-45.	10.8	283
71	The three-dimensional structure of momentum transfer in turbulent channels. Journal of Fluid Mechanics, 2012, 694, 100-130.	1.4	199
72	Corrections to Taylorâ€™s Approximation fromÂComputed Turbulent Convection Velocities. ERCOFTAC Series, 2011, , 211-218.	0.1	0

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73	Time-resolved Evolution of the Wall-bounded Vorticity Cascade. Journal of Physics: Conference Series, 2011, 318, 062016.	0.3	5
74	Hydrodynamic stability and breakdown of the viscous regime over riblets. Journal of Fluid Mechanics, 2011, 678, 317-347.	1.4	165
75	Drag reduction by riblets. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 1412-1427.	1.6	246
76	Mean velocity and length-scales in the overlap region of wall-bounded turbulent flows. Physics of Fluids, 2011, 23, .	1.6	39
77	Direct simulation of a zero-pressure-gradient turbulent boundary layer up toRe_{Î¸}= 6650. Journal of Physics: Conference Series, 2011, 318, 022023.	0.3	9
78	Hybrid OpenMP-MPI Turbulent Boundary Layer Code Over 32k Cores. Lecture Notes in Computer Science, 2011, , 218-227.	1.0	3
79	Turbulent boundary layers and channels at moderate Reynolds numbers. Journal of Fluid Mechanics, 2010, 657, 335-360.	1.4	266
80	Hierarchy of minimal flow units in the logarithmic layer. Physics of Fluids, 2010, 22, .	1.6	169
81	Inner-Outer Interactions in Wall-Bounded Turbulence. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 3-14.	0.2	0
82	A high-resolution code for turbulent boundary layers. Journal of Computational Physics, 2009, 228, 4218-4231.	1.9	225
83	Estimation of turbulent convection velocities and corrections to Taylor's approximation. Journal of Fluid Mechanics, 2009, 640, 5-26.	1.4	306
84	Wall turbulence without walls. Springer Proceedings in Physics, 2009, , 597-600.	0.1	1
85	Reynolds number effects on the Reynolds-stress budgets in turbulent channels. Physics of Fluids, 2008, 20, .	1.6	291
86	Turbulent fluctuations above the buffer layer of wall-bounded flows. Journal of Fluid Mechanics, 2008, 611, 215-236.	1.4	216
87	Some Contributions and Challenges of Computational Turbulence Research. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2008, , 3-10.	0.1	0
88	Spontaneous generation of vortex crystals from forced two-dimensional homogeneous turbulence. Physics of Fluids, 2007, 19, .	1.6	12
89	What are we learning from simulating wall turbulence?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 715-732.	1.6	76
90	Vorticity organization in the outer layer of turbulent channels with disturbed walls. Journal of Fluid Mechanics, 2007, 591, 145-154.	1.4	62

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91	Effect of wall-boundary disturbances on turbulent channel flows. Journal of Fluid Mechanics, 2006, 566, 357.	1.4	110
92	Self-similar vortex clusters in the turbulent logarithmic region. Journal of Fluid Mechanics, 2006, 561, 329.	1.4	312
93	Linear energy amplification in turbulent channels. Journal of Fluid Mechanics, 2006, 559, 205.	1.4	282
94	Intermittency in Turbulence. , 2006, , 144-151.		6
95	Scaling of the velocity fluctuations in turbulent channels up to Reï„=2003. Physics of Fluids, 2006, 18, 011702.	1.6	770
96	CLUSTERING OF INTENSE STRUCTURES IN ISOTROPIC TURBULENCE: NUMERICAL AND EXPERIMENTAL EVIDENCE. Fluid Mechanics and Its Applications, 2006, , 3-12.	0.1	2
97	THE NEAR-WALL STRUCTURES OF TURBULENT WALL FLOWS. , 2006, , 53-70.		2
98	The Near-Wall Structures of the Turbulent Boundary Layer. Solid Mechanics and Its Applications, 2006, , 209-220.	0.1	0
99	Characterization of near-wall turbulence in terms of equilibrium and â€œburstingâ€•solutions. Physics of Fluids, 2005, 17, 015105.	1.6	94
100	The growth of a mixing layer in a laminar channel. Journal of Fluid Mechanics, 2005, 535, 245-254.	1.4	26
101	The Contributions of A. N. Kolmogorov to the theory of turbulence. Arbor, 2004, CLXXVIII, 589-606.	0.1	9
102	Geometry and clustering of intense structures in isotropic turbulence. Journal of Fluid Mechanics, 2004, 513, 111-133.	1.4	173
103	The large-scale dynamics of near-wall turbulence. Journal of Fluid Mechanics, 2004, 505, 179-199.	1.4	157
104	Scaling of the energy spectra of turbulent channels. Journal of Fluid Mechanics, 2004, 500, 135-144.	1.4	574
105	TURBULENT FLOWS OVER ROUGH WALLS. Annual Review of Fluid Mechanics, 2004, 36, 173-196.	10.8	1,168
106	Preface by Javier JimÃ©nez and the Editors. Annual Review of Fluid Mechanics, 2004, 36, .	10.8	1
107	Linear instability of a corrugated vortex sheet â€“ a model for streak instability. Journal of Fluid Mechanics, 2003, 483, 315-342.	1.4	35
108	Computing high-Reynolds-number turbulence: will simulations ever replace experiments?. Journal of Turbulence, 2003, 4, .	0.5	51

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109	Spectra of the very large anisotropic scales in turbulent channels. Physics of Fluids, 2003, 15, L41.	1.6	408
110	Very Large Anisotropic Scales in Turbulent Wall-Bounded Flows. , 2003, , 105-112.		0
111	COMPUTING HIGH-REYNOLDS NUMBER CHANNELS: WILL DNS EVER SUBSTITUTE EXPERIMENTS?. , 2002, , 17-27.		1
112	Coherent dynamics in wall turbulence. , 2002, , 229-240.		0
113	Turbulent shear flow over active and passive porous surfaces. Journal of Fluid Mechanics, 2001, 442, 89-117.	1.4	150
114	Low-dimensional dynamics of a turbulent wall flow. Journal of Fluid Mechanics, 2001, 435, 81-91.	1.4	60
115	The Largest Scales in Turbulent Flow: The Structures of the Wall Layer. Lecture Notes in Physics, 2001, , 39-57.	0.3	0
116	A Critical Evaluation of the Resolution Properties of B-Spline and Compact Finite Difference Methods. Journal of Computational Physics, 2001, 174, 510-551.	1.9	49
117	Self-Similarity and Coherence in the Turbulent Cascade. Fluid Mechanics and Its Applications, 2001, , 57-66.	0.1	2
118	Intermittency and cascades. Journal of Fluid Mechanics, 2000, 409, 99-120.	1.4	40
119	Large-Eddy Simulations: Where Are We and What Can We Expect?. AIAA Journal, 2000, 38, 605-612.	1.5	66
120	Large-eddy simulations - Where are we and what can we expect?. AIAA Journal, 2000, 38, 605-612.	1.5	30
121	The autonomous cycle of near-wall turbulence. Journal of Fluid Mechanics, 1999, 389, 335-359.	1.4	676
122	The physics of wall turbulence. Physica A: Statistical Mechanics and Its Applications, 1999, 263, 252-262.	1.2	54
123	On the survival of strong vortex filaments in â€˜modelâ€™ turbulence. Journal of Fluid Mechanics, 1999, 394, 261-279.	1.4	9
124	Dynamics of the Structures of Near Wall Turbulence. Fluid Mechanics and Its Applications, 1999, , 41-49.	0.1	0
125	Small scale intermittency in turbulence. European Journal of Mechanics, B/Fluids, 1998, 17, 405-419.	1.2	16
126	On the characteristics of vortex filaments in isotropic turbulence. Journal of Fluid Mechanics, 1998, 373, 255-285.	1.4	181

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127	Turbulent velocity fluctuations need not be Gaussian. Journal of Fluid Mechanics, 1998, 376, 139-147.	1.4	56
128	The Role of Coherent Structure Interactions in the Regeneration of Wall Turbulence. Fluid Mechanics and Its Applications, 1998, , 155-158.	0.1	7
129	On the Generation of Intermittent Gradients in a Deterministically Forced Burgersâ€™ Equation. Fluid Mechanics and Its Applications, 1998, , 223-226.	0.1	0
130	A priori testing of subgrid models for chemically reacting non-premixed turbulent shear flows. Journal of Fluid Mechanics, 1997, 349, 149-171.	1.4	102
131	The structure of the vortices in freely decaying two-dimensional turbulence. Journal of Fluid Mechanics, 1996, 313, 209-222.	1.4	77
132	Algebraic probability density tails in decaying isotropic two-dimensional turbulence. Journal of Fluid Mechanics, 1996, 313, 223-240.	1.4	43
133	What do we need to substitute experiments with simulations in turbulence?. , 1996, , 1-8.		0
134	A binary tree implementation of a parallel distributed tridiagonal solver. Parallel Computing, 1995, 21, 233-241.	1.3	7
135	Fourier/Chebyshev methods for the incompressible Navier-Stokes equations in infinite domains. Journal of Computational Physics, 1995, 121, 261-270.	1.9	13
136	On steady columnar vortices under local compression. Journal of Fluid Mechanics, 1995, 299, 367-388.	1.4	35
137	Statistical Properties of Decaying Two-Dimensional Turbulence. Fluid Mechanics and Its Applications, 1995, , 11-15.	0.1	1
138	A Preliminary Study on the Formation of Elongated Vortices in Turbulence. Fluid Mechanics and Its Applications, 1995, , 519-523.	0.1	0
139	On the generation of turbulent wall friction. Physics of Fluids, 1994, 6, 634-641.	1.6	131
140	On the structure and control of near wall turbulence. Physics of Fluids, 1994, 6, 944-953.	1.6	76
141	Hyperviscous vortices. Journal of Fluid Mechanics, 1994, 279, 169-176.	1.4	39
142	Solitary waves on a vorticity layer. Journal of Fluid Mechanics, 1994, 264, 303-319.	1.4	0
143	The structure of intense vorticity in isotropic turbulence. Journal of Fluid Mechanics, 1993, 255, 65.	1.4	883
144	The rollup of a vortex layer near a wall. Journal of Fluid Mechanics, 1993, 248, 297-313.	1.4	37

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145	Small Scale Vortices in Turbulent Flows. , 1993, , 95-110.		4
146	Kinematic alignment effects in turbulent flows. Physics of Fluids A, Fluid Dynamics, 1992, 4, 652-654.	1.6	116
147	The minimal flow unit in near-wall turbulence. Journal of Fluid Mechanics, 1991, 225, 213-240.	1.4	892
148	Fractal interfaces and product generation in the twoâ€dimensional mixing layer. Physics of Fluids A, Fluid Dynamics, 1991, 3, 1261-1268.	1.6	9
149	The Role of Computation in Transition Research. , 1991, , 170-181.		0
150	Transition to turbulence in two-dimensional Poiseuille flow. Journal of Fluid Mechanics, 1990, 218, 265.	1.4	85
151	Boltzmann Approach to Lattice Gas Simulations. Europhysics Letters, 1989, 9, 663-668.	0.7	713
152	Linear stability of a non-symmetric, inviscid, KÃ¡rmÃ¡n street of small uniform vortices. Journal of Fluid Mechanics, 1988, 189, 337-348.	1.4	15
153	Ejection mechanisms in the sublayer of a turbulent channel. Physics of Fluids, 1988, 31, 1311.	1.4	36
154	Bifurcations and bursting in two-dimensional Poiseuille flow. Physics of Fluids, 1987, 30, 3644.	1.4	27
155	On the performance of particle tracking. Journal of Fluid Mechanics, 1987, 185, 447-468.	1.4	185
156	A boundary-layer analysis of Rayleigh-BÃ©nard convection at large Rayleigh number. Journal of Fluid Mechanics, 1987, 178, 53-71.	1.4	25
157	On the linear stability of the inviscid KÃ¡rmÃ¡n vortex street. Journal of Fluid Mechanics, 1987, 178, 177-194.	1.4	30
158	A thinning algorithm based on contours. Computer Vision, Graphics, and Image Processing, 1987, 39, 186-201.	1.1	53
159	Approximate reconstruction of randomly sampled signals. Signal Processing, 1987, 12, 153-168.	2.1	7
160	Computer graphic display method for visualizing three-dimensional biological structures. Science, 1986, 232, 1113-1115.	6.0	78
161	A perspective view of the plane mixing layer. Journal of Fluid Mechanics, 1985, 152, 125-143.	1.4	106
162	A spanwise structure in the plane shear layer. Journal of Fluid Mechanics, 1983, 132, 319-336.	1.4	166

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163	Computer analysis of a high-speed film of the plane turbulent mixing layer. Journal of Fluid Mechanics, 1982, 119, 323-345.	1.4	130
164	Some Experiments in Image Vectorization. IBM Journal of Research and Development, 1982, 26, 724-734.	3.2	37
165	Hot-film sensors calibration drift in water. Journal of Physics E: Scientific Instruments, 1981, 14, 569-572.	0.7	4
166	Shear layer models and computer analysis of data. , 1981, , 41-61.		3
167	On the visual growth of a turbulent mixing layer. Journal of Fluid Mechanics, 1980, 96, 447-460.	1.4	35
168	Stability of a pair of co-rotating vortices. Physics of Fluids, 1975, 18, 1580.	1.4	65
169	Nonlinear gas oscillations in pipes. Part 1. Theory. Journal of Fluid Mechanics, 1973, 59, 23-46.	1.4	46
170	Dynamics of Wall-Bounded Turbulence. , 0, , 221-268.		5