

Miguel Onorato

List of Publications by Year in descending order

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146
papers

8,457
citations

47409

49
h-index

53065

89
g-index

150
all docs

150
docs citations

150
times ranked

3611
citing authors

#	ARTICLE	IF	CITATIONS
1	Equilibrium and nonequilibrium description of negative temperature states in a one-dimensional lattice using a wave kinetic approach. <i>Physical Review E</i> , 2022, 105, 014206.	0.8	3
2	Hydroelastic potential flow solver suited for nonlinear wave dynamics in ice-covered waters. <i>Ocean Engineering</i> , 2022, 259, 111756.	1.9	2
3	“Extraordinary” modulation instability in optics and hydrodynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	36
4	Analysis of Dangerous Sea States in the Northwestern Mediterranean Area. <i>Journal of Marine Science and Engineering</i> , 2021, 9, 422.	1.2	4
5	Observation of a giant nonlinear wave-packet on the surface of the ocean. <i>Scientific Reports</i> , 2021, 11, 23606.	1.6	8
6	Experimental Realization of Periodic Deep-Water Wave Envelopes with and without Dissipation. <i>Water Waves</i> , 2020, 2, 113-122.	0.3	4
7	Fourier amplitude distribution and intermittency in mechanically generated surface gravity waves. <i>Physical Review E</i> , 2020, 102, 013106.	0.8	11
8	Anomalous Correlators in Nonlinear Dispersive Wave Systems. <i>Physical Review X</i> , 2020, 10, .	2.8	1
9	Drift of Pancake Ice Floes in the Winter Antarctic Marginal Ice Zone During Polar Cyclones. <i>Journal of Geophysical Research: Oceans</i> , 2020, 125, e2019JC015418.	1.0	34
10	On the Deterministic Prediction of Water Waves. <i>Fluids</i> , 2020, 5, 9.	0.8	32
11	Coexistence of Ballistic and Fourier Regimes in the $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"} \langle \text{mml:mi} \rangle^2 \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ Fermi-Pasta-Ulam-Tsingou Lattice. <i>Physical Review Letters</i> , 2020, 125, 024101.	2.9	13
12	Investigation of Nonlinear Wave-Ice Interaction Using Parameter Study and Numerical Simulation. <i>Journal of Offshore Mechanics and Arctic Engineering</i> , 2020, 142, .	0.6	3
13	A straightforward derivation of the four-wave kinetic equation in action-angle variables. <i>Journal of Physics Communications</i> , 2020, 4, 095016.	0.5	6
14	Phase-suppressed hydrodynamics of solitons on constant-background plane wave. <i>Physical Review Fluids</i> , 2020, 5, .	1.0	3
15	nlchains: A fast and accurate time integration of 1-D nonlinear chains on GPUs. <i>SoftwareX</i> , 2019, 10, 100255.	1.2	0
16	Starting Flow Past an Airfoil and its Acquired Lift in a Superfluid. <i>Physical Review Letters</i> , 2019, 123, 154502.	2.9	11
17	Hydrodynamic X Waves. <i>Physical Review Letters</i> , 2019, 123, 184501.	2.9	7
18	Brief communication: Pancake ice floe size distribution during the winter expansion of the Antarctic marginal ice zone. <i>Cryosphere</i> , 2019, 13, 41-48.	1.5	44

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19	Experimental Evidence of a Hydrodynamic Soliton Gas. <i>Physical Review Letters</i> , 2019, 122, 214502.	2.9	51
20	Effects of an Explosive Polar Cyclone Crossing the Antarctic Marginal Ice Zone. <i>Geophysical Research Letters</i> , 2019, 46, 5948-5958.	1.5	59
21	On Natural Modulational Bandwidth of Deep-Water Surface Waves. <i>Fluids</i> , 2019, 4, 67.	0.8	4
22	Directional soliton and breather beams. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 9759-9763.	3.3	17
23	Exact discrete resonances in the Fermi-Pasta-Ulam-Tsingou system. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2019, 73, 437-471.	1.7	16
24	Predicting ocean rogue waves from point measurements: An experimental study for unidirectional waves. <i>Physical Review E</i> , 2019, 99, 032201.	0.8	21
25	Experimental Evidence of Hydrodynamic Instantons: The Universal Route to Rogue Waves. <i>Physical Review X</i> , 2019, 9, .	2.8	40
26	Observation of turbulence and intermittency in wave-induced oscillatory flows. <i>Wave Motion</i> , 2019, 84, 81-89.	1.0	13
27	Universal route to thermalization in weakly-nonlinear one-dimensional chains. <i>Mathematics in Engineering</i> , 2019, 1, 672-698.	0.5	22
28	Thermalization in the discrete nonlinear Klein-Gordon chain in the wave-turbulence framework. <i>Europhysics Letters</i> , 2018, 121, 44003.	0.7	24
29	Double Scaling in the Relaxation Time in the $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" > \langle mml:mi > \hat{\rho}^2 </mml:mi > </mml:math \rangle$ -Fermi-Pasta-Ulam-Tsingou Model. <i>Physical Review Letters</i> , 2018, 120, 144301.	2.9	45
30	Spontaneous emergence of rogue waves in partially coherent waves: A quantitative experimental comparison between hydrodynamics and optics. <i>Physical Review E</i> , 2018, 97, 012208.	0.8	32
31	Wave turbulence and intermittency in directional wave fields. <i>Wave Motion</i> , 2018, 83, 94-101.	1.0	14
32	Rogue Waves in Wind Seas: An Experimental Model in an Annular Wind-Wave Flume. , 2017, , .		0
33	Optical-fluid dark line and X solitary waves in Kerr media. <i>Optical Data Processing and Storage</i> , 2017, 3, 1-7.	3.3	8
34	Wind Generated Rogue Waves in an Annular Wave Flume. <i>Physical Review Letters</i> , 2017, 118, 144503.	2.9	60
35	Rogue waves: a unique approach to multidisciplinary physics. <i>Contemporary Physics</i> , 2017, 58, 53-69.	0.8	31
36	Weak versus strong wave turbulence in the Majda-McLaughlin-Tabak model. <i>Physical Review Fluids</i> , 2017, 2, .	1.0	12

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37	Nonlinear random optical waves: Integrable turbulence, rogue waves and intermittency. <i>Physica D: Nonlinear Phenomena</i> , 2016, 333, 323-335.	1.3	39
38	Decay of gravity-capillary waves in air/water sheared turbulence. <i>International Journal of Heat and Fluid Flow</i> , 2016, 61, 137-144.	1.1	7
39	Hydrodynamic and Optical Waves: A Common Approach for Unidimensional Propagation. <i>Lecture Notes in Physics</i> , 2016, , 1-22.	0.3	4
40	Hydrodynamic Envelope Solitons and Breathers. <i>Lecture Notes in Physics</i> , 2016, , 55-87.	0.3	3
41	Experimental Observation and Theoretical Description of Multisoliton Fission in Shallow Water. <i>Physical Review Letters</i> , 2016, 117, 144102.	2.9	51
42	On the origin of heavy-tail statistics in equations of the Nonlinear Schrödinger type. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2016, 380, 3173-3177.	0.9	28
43	Twenty years of progresses in oceanic rogue waves: the role played by weakly nonlinear models. <i>Natural Hazards</i> , 2016, 84, 541-548.	1.6	22
44	Peregrine breathers as design waves for wave-structure interaction. <i>Ocean Engineering</i> , 2016, 128, 199-212.	1.9	27
45	Modulation Instability and Phase-Shifted Fermi-Pasta-Ulam Recurrence. <i>Scientific Reports</i> , 2016, 6, 28516.	1.6	112
46	Modelling of the temporal and spatial evolutions of weakly nonlinear random directional waves with the modified nonlinear Schrödinger equations. <i>Applied Ocean Research</i> , 2016, 55, 130-140.	1.8	10
47	Observation of dispersive shock waves developing from initial depressions in shallow water. <i>Physica D: Nonlinear Phenomena</i> , 2016, 333, 276-284.	1.3	44
48	Occurrence of Extreme Waves in Finite Water Depth. , 2016, , 45-62.		2
49	Spatiotemporal optical dark X solitary waves. <i>Optics Letters</i> , 2016, 41, 5571.	1.7	25
50	Rogue waves in opposing currents: an experimental study on deterministic and stochastic wave trains. <i>Journal of Fluid Mechanics</i> , 2015, 769, 277-297.	1.4	58
51	Growth and spectra of gravity-capillary waves in countercurrent air/water turbulent flow. <i>Journal of Fluid Mechanics</i> , 2015, 777, 245-259.	1.4	35
52	Modelling of the spatial evolution of extreme laboratory wave crest and trough heights with the NLS-type equations. <i>Applied Ocean Research</i> , 2015, 52, 140-150.	1.8	14
53	Comparison of Distributions of Wave Heights From Nonlinear Schrödinger Equation Simulations and Laboratory Experiments. <i>Journal of Offshore Mechanics and Arctic Engineering</i> , 2015, 137, .	0.6	5
54	Ring-type multisoliton dynamics in shallow water. <i>Physical Review E</i> , 2015, 91, 012921.	0.8	3

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55	The nonlinear Schrödinger equation and the propagation of weakly nonlinear waves in optical fibers and on the water surface. <i>Annals of Physics</i> , 2015, 361, 490-500.	1.0	75
56	Route to thermalization in the $\langle i \rangle \pm \langle /i \rangle$ -Fermiâ€Pastaâ€Ulam system. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4208-4213.	3.3	105
57	Modeling extreme wave heights from laboratory experiments with the nonlinear Schrödinger equation. <i>Natural Hazards and Earth System Sciences</i> , 2014, 14, 959-968.	1.5	16
58	Modulational instability and wave amplification in finite water depth. <i>Natural Hazards and Earth System Sciences</i> , 2014, 14, 705-711.	1.5	20
59	Vector Rogue Waves and Modulation Instability in the Defocusing Regime. , 2014, , .		0
60	Intermittency in Integrable Turbulence. <i>Physical Review Letters</i> , 2014, 113, 113902.	2.9	68
61	Modeling of oceanâ€atmosphere interaction phenomena during the breaking of modulated wave trains. <i>Journal of Computational Physics</i> , 2014, 271, 151-171.	1.9	17
62	Gray solitons on the surface of water. <i>Physical Review E</i> , 2014, 89, 011002.	0.8	16
63	Ring localized structures in nonlinear shallow water wave dynamics. <i>Journal of Physics: Conference Series</i> , 2014, 482, 012030.	0.3	1
64	Bose-Einstein condensation and Berezinskii-Kosterlitz-Thouless transition in the two-dimensional nonlinear Schrödinger model. <i>Physical Review A</i> , 2014, 90, .	1.0	35
65	Vector Rogue Waves and Baseband Modulation Instability in the Defocusing Regime. <i>Physical Review Letters</i> , 2014, 113, 034101.	2.9	302
66	Five-wave classical scattering matrix and integrable equations. <i>Theoretical and Mathematical Physics(Russian Federation)</i> , 2014, 180, 759-764.	0.3	5
67	Modelling of the spatial evolution of extreme laboratory wave Heights with the nonlinear Schrödinger and Dysthe equations. <i>Ocean Engineering</i> , 2014, 89, 1-9.	1.9	22
68	Application of Higher Order Spectral Method for Deterministic Wave Forecast. , 2014, , .		3
69	Torus quantum vortex knots in the Gross-Pitaevskii model for Bose-Einstein condensates. <i>Journal of Physics: Conference Series</i> , 2014, 544, 012022.	0.3	19
70	Intermittency in integrable turbulence. , 2014, , .		0
71	Super-rogue waves in simulations based on weakly nonlinear and fully nonlinear hydrodynamic equations. <i>Physical Review E</i> , 2013, 88, 012909.	0.8	65
72	Hydrodynamic Supercontinuum. <i>Physical Review Letters</i> , 2013, 111, 054104.	2.9	57

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73	Experimental Observation of Dark Solitons on the Surface of Water. <i>Physical Review Letters</i> , 2013, 110, 124101.	2.9	87
74	Rogue waves and their generating mechanisms in different physical contexts. <i>Physics Reports</i> , 2013, 528, 47-89.	10.3	885
75	Modulational Instability, Wave Breaking, and Formation of Large-Scale Dipoles in the Atmosphere. <i>Physical Review Letters</i> , 2013, 110, 184504.	2.9	49
76	Excitation of rogue waves in a variable medium: An experimental study on the interaction of water waves and currents. <i>Physical Review E</i> , 2013, 87, 051201.	0.8	58
77	Simulations and experiments of short intense envelope solitons of surface water waves. <i>Physics of Fluids</i> , 2013, 25, .	1.6	50
78	Stokes drift for inertial particles transported by water waves. <i>Europhysics Letters</i> , 2013, 102, 14003.	0.7	40
79	Experimental evidence of the modulation of a plane wave to oblique perturbations and generation of rogue waves in finite water depth. <i>Physics of Fluids</i> , 2013, 25, .	1.6	36
80	Comparison of Distributions of Wave Heights From Nonlinear Schrödinger Equation Simulations and Laboratory Experiments. , 2013, , .		4
81	Rogue Waves: From Nonlinear Schrödinger Breather Solutions to Sea-Keeping Test. <i>PLoS ONE</i> , 2013, 8, e54629.	1.1	110
82	Application of Breather Solutions for the Investigation of Wave/Structure Interaction in High Steep Waves. , 2012, , .		7
83	Approximate rogue wave solutions of the forced and damped nonlinear Schrödinger equation for water waves. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2012, 376, 3057-3059.	0.9	67
84	Super Rogue Waves: Observation of a Higher-Order Breather in Water Waves. <i>Physical Review X</i> , 2012, 2, .	2.8	199
85	Observation of a hierarchy of up to fifth-order rogue waves in a water tank. <i>Physical Review E</i> , 2012, 86, 056601.	0.8	172
86	Warm cascade states in a forced-dissipated Boltzmann gas of hard spheres. <i>Physica D: Nonlinear Phenomena</i> , 2012, 241, 600-615.	1.3	7
87	Vortex knots in a Bose-Einstein condensate. <i>Physical Review E</i> , 2012, 85, 036306.	0.8	76
88	Rogue waves in crossing seas: The Louis Majesty accident. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	93
89	Surface waves and wave-coupled effects in lower atmosphere and upper ocean. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	32
90	Turbulence and internal waves in stably-stratified channel flow with temperature-dependent fluid properties. <i>Journal of Fluid Mechanics</i> , 2012, 697, 175-203.	1.4	53

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91	A note on an alternative derivation of the Benney equations for short wave–long wave interactions. <i>European Journal of Mechanics, B/Fluids</i> , 2012, 34, 1-6.	1.2	3
92	Sustained turbulence in the three-dimensional Gross–Pitaevskii model. <i>Physica D: Nonlinear Phenomena</i> , 2012, 241, 304-314.	1.3	32
93	Statistics of Wave Orbital Velocity in Deep Water Random Directional Wave Fields. , 2012, , .		3
94	Extreme waves in random crossing seas: Laboratory experiments and numerical simulations. <i>Geophysical Research Letters</i> , 2011, 38, n/a-n/a.	1.5	80
95	Occurrence of extreme waves in three-dimensional mechanically generated wave fields propagating over an oblique current. <i>Natural Hazards and Earth System Sciences</i> , 2011, 11, 895-903.	1.5	34
96	Triggering Rogue Waves in Opposing Currents. <i>Physical Review Letters</i> , 2011, 107, 184502.	2.9	131
97	Warm turbulence in the Boltzmann equation. <i>Europhysics Letters</i> , 2011, 96, 24004.	0.7	2
98	Formation of Extraordinarily High Waves in Space and Time. , 2011, , .		15
99	On the Estimation of the Kurtosis in Directional Sea States for Freak Wave Forecasting. <i>Journal of Physical Oceanography</i> , 2011, 41, 1484-1497.	0.7	124
100	Evolution of weakly nonlinear random directional waves: laboratory experiments and numerical simulations. <i>Journal of Fluid Mechanics</i> , 2010, 664, 313-336.	1.4	143
101	Rogue waves – towards a unifying concept?: Discussions and debates. <i>European Physical Journal: Special Topics</i> , 2010, 185, 5-15.	1.2	100
102	Freak waves in crossing seas. <i>European Physical Journal: Special Topics</i> , 2010, 185, 45-55.	1.2	60
103	Maximum steepness of oceanic waves: Field and laboratory experiments. <i>Geophysical Research Letters</i> , 2010, 37, .	1.5	90
104	Development of a bimodal structure in ocean wave spectra. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	40
105	Extreme Waves in Sea States Crossing an Oblique Current. , 2010, , .		2
106	The effect of third-order nonlinearity on statistical properties of random directional waves in finite depth. <i>Nonlinear Processes in Geophysics</i> , 2009, 16, 131-139.	0.6	50
107	Statistical Properties of Directional Ocean Waves: The Role of the Modulational Instability in the Formation of Extreme Events. <i>Physical Review Letters</i> , 2009, 102, 114502.	2.9	206
108	Statistical properties of mechanically generated surface gravity waves: a laboratory experiment in a three-dimensional wave basin. <i>Journal of Fluid Mechanics</i> , 2009, 627, 235-257.	1.4	170

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109	Quantum turbulence cascades in the Gross-Pitaevskii model. <i>Physical Review A</i> , 2009, 80, .	1.0	56
110	Four-wave resonant interactions in the classical quadratic Boussinesq equations. <i>Journal of Fluid Mechanics</i> , 2009, 618, 263-277.	1.4	22
111	ASSESSING THE EFFECT OF FINITE WATER DEPTH ON THE OCCURRENCE OF EXTREME WAVES USING A DIRECT NUMERICAL SIMULATION METHOD. , 2009, , .		0
112	DIRECTIONAL EFFECTS ON FREAK WAVE PREDICTION. , 2009, , .		0
113	Surface gravity waves from direct numerical simulations of the Euler equations: A comparison with second-order theory. <i>Ocean Engineering</i> , 2008, 35, 367-379.	1.9	64
114	Wave crest and trough distributions in a broad-banded directional wave field. <i>Ocean Engineering</i> , 2008, 35, 1784-1792.	1.9	69
115	Non-normal stability analysis of a shear current under surface gravity waves. <i>Journal of Fluid Mechanics</i> , 2008, 609, 49-58.	1.4	1
116	Non-Gaussian Properties of Shallow Water Waves in Crossing Seas. , 2008, , 53-69.		2
117	Statistical Properties of a Directional Wave Field: Direct Simulations of the Euler Equations and Second-Order Theory. , 2008, , .		0
118	Second-Order Theory and Setup in Surface Gravity Waves: A Comparison with Experimental Data. <i>Journal of Physical Oceanography</i> , 2007, 37, 2726-2739.	0.7	43
119	The Intermediate Water Depth Limit of the Zakharov Equation and Consequences for Wave Prediction. <i>Journal of Physical Oceanography</i> , 2007, 37, 2389-2400.	0.7	98
120	Directional Effects on Freak Wave Prediction. <i>Proceedings of Coastal Engineering Jsce</i> , 2007, 54, 96-100.	0.1	2
121	On the extreme statistics of long-crested deep water waves: Theory and experiments. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	80
122	On the relation between two numerical methods for the computation of random surface gravity waves. <i>European Journal of Mechanics, B/Fluids</i> , 2007, 26, 43-48.	1.2	20
123	Wave modelling " The state of the art. <i>Progress in Oceanography</i> , 2007, 75, 603-674.	1.5	425
124	Freely decaying Turbulence and Bose-Einstein Condensation in Gross-Pitaevski Model. <i>Journal of Low Temperature Physics</i> , 2007, 146, 31-46.	0.6	51
125	NON-GAUSSIAN PROPERTIES OF SURFACE ELEVATION IN CROSSING SEA STATES IN SHALLOW WATER. , 2007, , .		0
126	ç°ã,æ³çæµããæ,ããããæZã©şç²³/4ã° ãããã,ã . <i>Proceedings of Coastal Engineering Jsce</i> , 2006, 53, 306-310.	0.1	0

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127	Extreme waves, modulational instability and second order theory: wave flume experiments on irregular waves. <i>European Journal of Mechanics, B/Fluids</i> , 2006, 25, 586-601.	1.2	198
128	Wave statistics in unimodal and bimodal seas from a second-order model. <i>European Journal of Mechanics, B/Fluids</i> , 2006, 25, 649-661.	1.2	47
129	Wave turbulence and vortices in Bose-Einstein condensation. <i>Physica D: Nonlinear Phenomena</i> , 2006, 219, 1-12.	1.3	87
130	Modulational Instability in Crossing Sea States: A Possible Mechanism for the Formation of Freak Waves. <i>Physical Review Letters</i> , 2006, 96, 014503.	2.9	281
131	Modulational instability and non-Gaussian statistics in experimental random water-wave trains. <i>Physics of Fluids</i> , 2005, 17, 078101.	1.6	117
132	Observation of strongly non-Gaussian statistics for random sea surface gravity waves in wave flume experiments. <i>Physical Review E</i> , 2004, 70, 067302.	0.8	143
133	Landau damping and coherent structures in narrow-banded 1+1 deep water gravity waves. <i>Physical Review E</i> , 2003, 67, 046305.	0.8	49
134	Interaction of two quasi-monochromatic waves in shallow water. <i>Physics of Fluids</i> , 2003, 15, 3871-3874.	1.6	19
135	Freely Decaying Weak Turbulence for Sea Surface Gravity Waves. <i>Physical Review Letters</i> , 2002, 89, 144501.	2.9	85
136	Extreme wave events in directional, random oceanic sea states. <i>Physics of Fluids</i> , 2002, 14, L25-L28.	1.6	126
137	Landau damping of partially incoherent Langmuir waves. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2002, 303, 61-66.	0.9	29
138	Envelope solitons induced by high-order effects of light-plasma interaction. <i>European Physical Journal B</i> , 2002, 29, 613-618.	0.6	9
139	Freak Waves in Random Oceanic Sea States. <i>Physical Review Letters</i> , 2001, 86, 5831-5834.	2.9	469
140	Unsteady behavior of back-facing step flow. <i>Experiments in Fluids</i> , 2001, 30, 551-561.	1.1	116
141	Probability density function and ϵ^+ and ϵ^- structure functions in a turbulent channel flow. <i>Physical Review E</i> , 2001, 63, 025302.	0.8	4
142	The nonlinear dynamics of rogue waves and holes in deep-water gravity wave trains. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2000, 275, 386-393.	0.9	326
143	Small scale intermittency and bursting in a turbulent channel flow. <i>Physical Review E</i> , 2000, 61, 1447-1454.	0.8	70
144	Intermittency and nongaussian statistics of air transmittency fluctuations. <i>Physics and Chemistry of the Earth</i> , 1999, 24, 953-957.	0.3	0

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145	Soliton Creation and Destruction, Resonant Interactions, and Inelastic Collisions in Shallow Water Waves. <i>Physical Review Letters</i> , 1998, 81, 3559-3562.	2.9	19
146	Multifractality of Air Transmittency at Small Time Scales. <i>Fractals</i> , 1998, 06, 159-170.	1.8	4