

Plamen Ch Ivanov

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1259084/publications.pdf>

Version: 2024-02-01

138
papers

26,074
citations

28274

55
h-index

17105

122
g-index

144
all docs

144
docs citations

144
times ranked

15203
citing authors

#	ARTICLE	IF	CITATIONS
1	Physiologic systems dynamics, coupling and network interactions across the sleep-wake cycle. , 2022, , 59-100.		1
2	Ensemble of coupling forms and networks among brain rhythms as function of states and cognition. Communications Biology, 2022, 5, 82.	4.4	10
3	FLUCTUATIONS, NOISE AND SCALING IN THE CARDIO-PULMONARY SYSTEM. , 2022, , 269-293.		0
4	Editorial: Inference, Causality and Control in Networks of Dynamical Systems: Data Science and Modeling Perspectives to Network Physiology With Implications for Artificial Intelligence. Frontiers in Physiology, 2022, 13, .	2.8	0
5	Dynamic networks of physiologic interactions of brain waves and rhythms in muscle activity. Human Movement Science, 2022, 84, 102971.	1.4	8
6	Quantifying financial market dynamics: Scaling law in rank mobility of Chinese stock prices. Finance Research Letters, 2021, 38, 101516.	6.7	1
7	The New Frontier of Network Physiology: Emerging Physiologic States in Health and Disease from Integrated Organ Network Interactions. MATRIX Book Series, 2021, , 237-254.	0.2	5
8	The New Field of Network Physiology: Building the Human Physiome. Frontiers in Network Physiology, 2021, 1, .	1.8	61
9	Spectral dynamics of muscle fiber activation in response to exercise and acute fatigue. , 2021, , .		3
10	Signal processing in Network Physiology: quantifying network dynamics of organ interactions. , 2021, , .		2
11	Network Physiology in Aging and Frailty: The Grand Challenge of Physiological Reserve in Older Adults. Frontiers in Network Physiology, 2021, 1, .	1.8	12
12	Critical Dynamics and Coupling in Bursts of Cortical Rhythms Indicate Non-Homeostatic Mechanism for Sleep-Stage Transitions and Dual Role of VLPO Neurons in Both Sleep and Wake. Journal of Neuroscience, 2020, 40, 171-190.	3.6	31
13	Universal spectral profile and dynamic evolution of muscle activation: a hallmark of muscle type and physiological state. Journal of Applied Physiology, 2020, 129, 419-441.	2.5	19
14	Network Physiology of Cortico-Muscular Interactions. Frontiers in Physiology, 2020, 11, 558070.	2.8	33
15	Network Physiology of Exercise: Vision and Perspectives. Frontiers in Physiology, 2020, 11, 611550.	2.8	64
16	β^2 Cells Operate Collectively to Help Maintain Glucose Homeostasis. Biophysical Journal, 2020, 118, 2588-2595.	0.5	21
17	Editorial: Fractal and Multifractal Facets in the Structure and Dynamics of Physiological Systems and Applications to Homeostatic Control, Disease Diagnosis and Integrated Cyber-Physical Platforms. Frontiers in Physiology, 2020, 11, 447.	2.8	4
18	Power-law correlations and coupling of active and quiet states underlie a class of complex systems with self-organization at criticality. EPJ Web of Conferences, 2020, 230, 00005.	0.3	12

#	ARTICLE	IF	CITATIONS
19	Dynamic network interactions among distinct brain rhythms as a hallmark of physiologic state and function. <i>Communications Biology</i> , 2020, 3, 197.	4.4	46
20	Oscillatory brain activity during acute exercise: Tonic and transient neural response to an oddball task. <i>Psychophysiology</i> , 2019, 56, e13326.	2.4	18
21	Hippocampal and cortical communication around micro-arousals in slow-wave sleep. <i>Scientific Reports</i> , 2019, 9, 5876.	3.3	27
22	Non-equilibrium critical dynamics of bursts in \hat{I}_i and \hat{I}' rhythms as fundamental characteristic of sleep and wake micro-architecture. <i>PLoS Computational Biology</i> , 2019, 15, e1007268.	3.2	23
23	Neuronal noise as an origin of sleep arousals and its role in sudden infant death syndrome. <i>Science Advances</i> , 2018, 4, eaar6277.	10.3	34
24	Universal temporal characteristics and vanishing of multifractality in Barkhausen avalanches. <i>Physical Review E</i> , 2017, 96, 022159.	2.1	23
25	Entropy measures, entropy estimators, and their performance in quantifying complex dynamics: Effects of artifacts, nonstationarity, and long-range correlations. <i>Physical Review E</i> , 2017, 95, 062114.	2.1	151
26	Model of the Dynamic Construction Process of Texts and Scaling Laws of Words Organization in Language Systems. <i>PLoS ONE</i> , 2016, 11, e0168971.	2.5	7
27	Delay-correlation landscape reveals characteristic time delays of brain rhythms and heart interactions. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150182.	3.4	79
28	Magnitude and sign of long-range correlated time series: Decomposition and surrogate signal generation. <i>Physical Review E</i> , 2016, 93, 042201.	2.1	40
29	Early Detection of Sepsis—A Role for Network Physiology?. <i>Critical Care Medicine</i> , 2016, 44, e312-e313.	0.9	40
30	Focus on the emerging new fields of network physiology and network medicine. <i>New Journal of Physics</i> , 2016, 18, 100201.	2.9	176
31	First-Passage Time Properties of Correlated Time Series with Scale-Invariant Behavior and with Crossovers in the Scaling. <i>Contributions To Statistics</i> , 2016, , 89-102.	0.2	2
32	Time Series Analysis and Forecasting. <i>Contributions To Statistics</i> , 2016, , .	0.2	14
33	Scaling laws and model of words organization in spoken and written language. <i>Europhysics Letters</i> , 2016, 113, 18002.	2.0	18
34	Major component analysis of dynamic networks of physiologic organ interactions. <i>Journal of Physics: Conference Series</i> , 2015, 640, 012013.	0.4	46
35	Plasticity of brain wave network interactions and evolution across physiologic states. <i>Frontiers in Neural Circuits</i> , 2015, 9, 62.	2.8	105
36	Network Physiology: How Organ Systems Dynamically Interact. <i>PLoS ONE</i> , 2015, 10, e0142143.	2.5	311

#	ARTICLE	IF	CITATIONS
37	Impact of Stock Market Structure on Intertrade Time and Price Dynamics. PLoS ONE, 2014, 9, e92885.	2.5	18
38	Network Physiology: Mapping Interactions Between Networks of Physiologic Networks. Understanding Complex Systems, 2014, , 203-222.	0.6	78
39	Three Independent Forms of Cardio-Respiratory Coupling: Transitions across Sleep Stages. Computing in Cardiology, 2014, 41, 781-784.	0.4	33
40	Asymmetry and basic pathways in sleep-stage transitions. Europhysics Letters, 2013, 102, 10008.	2.0	48
41	Phase transitions in the first-passage time of scale-invariant correlated processes. Physical Review E, 2012, 85, 011139.	2.1	27
42	Phase transitions in physiologic coupling. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 10181-10186.	7.1	199
43	Dynamical patterns of human postural responses to emotional stimuli. Psychophysiology, 2012, 49, 1225-1229.	2.4	13
44	Segmentation of time series with long-range fractal correlations. European Physical Journal B, 2012, 85, 1.	1.5	26
45	Network physiology reveals relations between network topology and physiological function. Nature Communications, 2012, 3, 702.	12.8	548
46	Effects of coarse-graining on the scaling behavior of long-range correlated and anti-correlated signals. Physica A: Statistical Mechanics and Its Applications, 2011, 390, 4057-4072.	2.6	39
47	Zipf rank approach and cross-country convergence of incomes. Europhysics Letters, 2011, 94, 48001.	2.0	26
48	Aging Effects on Cardiac and Respiratory Dynamics in Healthy Subjects across Sleep Stages. Sleep, 2010, 33, 943-955.	1.1	97
49	Effect of extreme data loss on long-range correlated and anticorrelated signals quantified by detrended fluctuation analysis. Physical Review E, 2010, 81, 031101.	2.1	109
50	Correlated walks down the Babylonian markets. Europhysics Letters, 2010, 90, 18004.	2.0	15
51	Levels of complexity in scale-invariant neural signals. Physical Review E, 2009, 79, 041920.	2.1	143
52	Spiral wave annihilation by low-frequency planar fronts in a model of excitable media. Europhysics Letters, 2009, 86, 18005.	2.0	6
53	Stratification Pattern of Static and Scale-Invariant Dynamic Measures of Heartbeat Fluctuations Across Sleep Stages in Young and Elderly. IEEE Transactions on Biomedical Engineering, 2009, 56, 1564-1573.	4.2	93
54	Quantifying cross-correlations using local and global detrending approaches. European Physical Journal B, 2009, 71, 243-250.	1.5	380

#	ARTICLE	IF	CITATIONS
55	Maternal fetal heartbeat phase synchronization. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 13641-13642.	7.1	41
56	Modeling long-range cross-correlations in two-component ARFIMA and FIARCH processes. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 3954-3959.	2.6	130
57	Influence of corruption on economic growth rate and foreign investment. European Physical Journal B, 2008, 63, 547-550.	1.5	88
58	Patterns of phase-dependent spiral wave attenuation in excitable media. Physical Review E, 2007, 75, 051923.	2.1	7
59	Endogenous circadian rhythm in human motor activity uncoupled from circadian influences on cardiac dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 20702-20707.	7.1	119
60	The suprachiasmatic nucleus functions beyond circadian rhythm generation. Neuroscience, 2007, 149, 508-517.	2.3	109
61	Patterns of spiral wave attenuation by low-frequency periodic planar fronts. Chaos, 2007, 17, 015109.	2.5	11
62	Fractal scale-invariant and nonlinear properties of cardiac dynamics remain stable with advanced age: a new mechanistic picture of cardiac control in healthy elderly. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2007, 293, R1923-R1937.	1.8	101
63	Scale-Invariant Aspects of Cardiac Dynamics Across Sleep Stages and Circadian Phases. IEEE Engineering in Medicine and Biology Magazine, 2007, 26, 33-37.	0.8	56
64	Power-law autocorrelated stochastic processes with long-range cross-correlations. European Physical Journal B, 2007, 56, 47-52.	1.5	118
65	Quantitative relations between corruption and economic factors. European Physical Journal B, 2007, 56, 157-166.	1.5	64
66	Scale-invariant Aspects of Cardiac Dynamics Across Sleep Stages and Circadian Phases. , 2006, 2006, 445-8.		5
67	Cross-correlation of instantaneous phase increments in pressure-flow fluctuations: Applications to cerebral autoregulation. Physical Review E, 2006, 73, 031915.	2.1	55
68	Spurious detection of phase synchronization in coupled nonlinear oscillators. Physical Review E, 2006, 73, 065201.	2.1	52
69	Scale-invariant Aspects of Cardiac Dynamics Across Sleep Stages and Circadian Phases. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0
70	Fractionally integrated process with power-law correlations in variables and magnitudes. Physical Review E, 2005, 72, 026121.	2.1	74
71	Power-law correlated processes with asymmetric distributions. Physical Review E, 2005, 71, 025104.	2.1	43
72	Analysis of Sleep Fragmentation and Sleep Structure in Patients With Sleep Apnea and Normal Volunteers. , 2005, 2005, 2591-4.		13

#	ARTICLE	IF	CITATIONS
73	Effect of nonlinear filters on detrended fluctuation analysis. <i>Physical Review E</i> , 2005, 71, 011104.	2.1	215
74	Quantifying signals with power-law correlations: A comparative study of detrended fluctuation analysis and detrended moving average techniques. <i>Physical Review E</i> , 2005, 71, 051101.	2.1	254
75	New Class of Level Statistics in Correlated Disordered Chains. <i>Physical Review Letters</i> , 2004, 93, 176804.	7.8	35
76	Steady-State Visual Evoked Potentials and Phase Synchronization in Migraine Patients. <i>Physical Review Letters</i> , 2004, 93, 038103.	7.8	100
77	Common scaling patterns in intertrade times of U. S. stocks. <i>Physical Review E</i> , 2004, 69, 056107.	2.1	149
78	Common scale-invariant patterns of sleep-wake transitions across mammalian species. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 17545-17548.	7.1	231
79	Endogenous circadian rhythm in an index of cardiac vulnerability independent of changes in behavior. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 18223-18227.	7.1	132
80	Heart Rate Sonification: A New Approach to Medical Diagnosis. <i>Leonardo</i> , 2004, 37, 41-46.	0.3	31
81	Variance fluctuations in nonstationary time series: a comparative study of music genres. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 336, 585-594.	2.6	54
82	ARCH and GARCH approaches to modeling high-frequency financial data. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 344, 216-220.	2.6	19
83	Multiscale aspects of cardiac control. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 344, 685-704.	2.6	89
84	Non-random fluctuations and multi-scale dynamics regulation of human activity. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2004, 337, 307-318.	2.6	146
85	Distributions and Long-Range Correlations in the Trading of US Stocks. , 2004, , 51-57.		0
86	Magnitude and sign scaling in power-law correlated time series. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2003, 323, 19-41.	2.6	160
87	Time correlations and 1/f behavior in backscattering radar reflectivity measurements from cirrus cloud ice fluctuations. <i>Journal of Geophysical Research</i> , 2003, 108, n/a-n/a.	3.3	15
88	FLUCTUATIONS, NOISE AND SCALING IN THE CARDIO-PULMONARY SYSTEM. <i>Fluctuation and Noise Letters</i> , 2003, 03, R1-R25.	1.5	31
89	Modeling transient correlations in heartbeat dynamics during sleep. <i>Europhysics Letters</i> , 2003, 62, 147-153.	2.0	61
90	Novel multiscale regulation in human motor activity. , 2003, 5110, 235.		1

#	ARTICLE	IF	CITATIONS
91	Electronic Delocalization in Finite One-Dimensional Correlated-Disordered Binary Solids. AIP Conference Proceedings, 2003, , .	0.4	0
92	Quantifying Heartbeat Dynamics by Magnitude and Sign Correlations. AIP Conference Proceedings, 2003, , .	0.4	4
93	Long-Range Dependence in Heartbeat Dynamics. Lecture Notes in Physics, 2003, , 339-372.	0.7	4
94	Synchronization patterns in cerebral blood flow and peripheral blood pressure under minor stroke. , 2003, , .		0
95	Dynamics of sleep-wake transitions during sleep. Europhysics Letters, 2002, 57, 625-631.	2.0	165
96	Correlation differences in heartbeat fluctuations during rest and exercise. Physical Review E, 2002, 66, 062902.	2.1	113
97	Characterization of sleep stages by correlations in the magnitude and sign of heartbeat increments. Physical Review E, 2002, 65, 051908.	2.1	161
98	Complex patterns of abnormal heartbeats. Physical Review E, 2002, 66, 031901.	2.1	33
99	Fractal dynamics in physiology: Alterations with disease and aging. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 2466-2472.	7.1	1,731
100	Metal-insulator transition in chains with correlated disorder. Nature, 2002, 418, 955-959.	27.8	192
101	A stochastic model of human gait dynamics. Physica A: Statistical Mechanics and Its Applications, 2002, 316, 662-670.	2.6	157
102	Effect of nonstationarities on detrended fluctuation analysis. Physical Review E, 2002, 65, 041107.	2.1	792
103	Fractal and Multifractal Approaches in Physiology. , 2002, , 218-257.		12
104	STOCHASTIC APPROACHES TO MODELING OF PHYSIOLOGICAL RHYTHMS. , 2002, , .		1
105	Effect of trends on detrended fluctuation analysis. Physical Review E, 2001, 64, 011114.	2.1	1,070
106	Generating power-law tails in probability distributions. AIP Conference Proceedings, 2001, , .	0.4	0
107	Truncated Lévy process with scale-invariant behavior. Physica A: Statistical Mechanics and Its Applications, 2001, 299, 154-160.	2.6	23
108	Time evolution of stochastic processes with correlations in the variance: stability in power-law tails of distributions. Physica A: Statistical Mechanics and Its Applications, 2001, 300, 300-309.	2.6	26

#	ARTICLE	IF	CITATIONS
109	When human walking becomes random walking: fractal analysis and modeling of gait rhythm fluctuations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2001, 302, 138-147.	2.6	188
110	From 1/f noise to multifractal cascades in heartbeat dynamics. <i>Chaos</i> , 2001, 11, 641-652.	2.5	431
111	Noise Effects on the Complex Patterns of Abnormal Heartbeats. <i>Physical Review Letters</i> , 2001, 87, 068104.	7.8	52
112	Magnitude and Sign Correlations in Heartbeat Fluctuations. <i>Physical Review Letters</i> , 2001, 86, 1900-1903.	7.8	361
113	Behavioral-Independent Features of Complex Heartbeat Dynamics. <i>Physical Review Letters</i> , 2001, 86, 6026-6029.	7.8	305
114	Scale Invariance in the Nonstationarity of Human Heart Rate. <i>Physical Review Letters</i> , 2001, 87, 168105.	7.8	222
115	Monofractal and multifractal approaches to complex biomedical signals. <i>AIP Conference Proceedings</i> , 2000, , .	0.4	4
116	Scale invariance and universality: organizing principles in complex systems. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 281, 60-68.	2.6	100
117	Beyond 1/f: Multifractality in human heartbeat dynamics. <i>AIP Conference Proceedings</i> , 2000, , .	0.4	0
118	Scale-invariant truncated Lévy process. <i>Europhysics Letters</i> , 2000, 52, 491-497.	2.0	51
119	Systems with correlations in the variance: Generating power law tails in probability distributions. <i>Europhysics Letters</i> , 2000, 50, 711-717.	2.0	54
120	PhysioBank, PhysioToolkit, and PhysioNet. <i>Circulation</i> , 2000, 101, E215-20.	1.6	10,241
121	Application of statistical physics to heartbeat diagnosis. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 274, 99-110.	2.6	102
122	Statistical physics and physiology: Monofractal and multifractal approaches. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 270, 309-324.	2.6	323
123	Scaling in nature: from DNA through heartbeats to weather. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1999, 273, 46-69.	2.6	79
124	Multifractality in human heartbeat dynamics. <i>Nature</i> , 1999, 399, 461-465.	27.8	1,474
125	Modeling heart rate variability by stochastic feedback. <i>Computer Physics Communications</i> , 1999, 121-122, 126-128.	7.5	17
126	Sleep-wake differences in scaling behavior of the human heartbeat: Analysis of terrestrial and long-term space flight data. <i>Europhysics Letters</i> , 1999, 48, 594-600.	2.0	223

#	ARTICLE	IF	CITATIONS
127	Scaling and universality in heart rate variability distributions. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1998, 249, 587-593.	2.6	82
128	Stochastic feedback and the regulation of biological rhythms. <i>Europhysics Letters</i> , 1998, 43, 363-368.	2.0	223
129	Scale-Independent Measures and Pathologic Cardiac Dynamics. <i>Physical Review Letters</i> , 1998, 81, 2388-2391.	7.8	126
130	Scaling behaviour of heartbeat intervals obtained by wavelet-based time-series analysis. <i>Nature</i> , 1996, 383, 323-327.	27.8	477
131	Pattern formation in sedimentary rocks: Connectivity, permeability, and spatial correlations. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1996, 233, 587-605.	2.6	25
132	Long-range correlations in permeability fluctuations in porous rock. <i>Physical Review E</i> , 1996, 54, 3129-3134.	2.1	32
133	Frustrated two-dimensional quantum Heisenberg antiferromagnet at low temperatures. <i>Physical Review B</i> , 1992, 46, 8206-8213.	3.2	28
134	Quantum ferrimagnets. <i>Journal of Physics Condensed Matter</i> , 1991, 3, 2665-2677.	1.8	16
135	Decomposition of heartbeat time series: scaling analysis of the sign sequence. , 0, , .		9
136	Detection of obstructive sleep apnea from cardiac interbeat interval time series. , 0, , .		55
137	Detection of obstructive sleep apnea through auditory display of heart rate variability. , 0, , .		7
138	Finding hidden patterns in complex ventricular ectopy. , 0, , .		0