Anatoly Karavaev

List of Publications by Year
in descending order

97	900	471061 17	500791 28
papers	citations	h-index	g-index

97	97	97	610
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Contribution of Cardiorespiratory Coupling to the Irregular Dynamics of the Human Cardiovascular System. Mathematics, 2022, 10, 1088.	1.1	3
2	Adaptation of the method of coupling analysis based on phase dynamics modeling to EEG signals during an epileptic seizure in comatose patients. Izvestiya of Saratov University, New Series: Physics, 2022, , 4-14.	0.1	0
3	Automatic wavelet-based assessment of behavioral sleep using multichannel electrocorticography in rats. Sleep and Breathing, 2021, 25, 2251-2258.	0.9	9
4	Development of a digital finger photoplethysmogram sensor. Izvestiya of Saratov University, New Series: Physics, 2021, 21, 58-68.	0.1	1
5	Gender-related specificities of photoplethysmogram spectral assessment dynamics in healthy subjects during the passive tilt test. Russian Open Medical Journal, 2021, 10, .	0.1	3
6	Interbeat interval variability versus frequency modulation of heart rate. Physical Review E, 2021, 103, 042404.	0.8	11
7	Low-frequency component of photoplethysmogram reflects the autonomic control of blood pressure. Biophysical Journal, 2021, 120, 2657-2664.	0.2	27
8	Decrease of coherence between the respiration and parasympathetic control of the heart rate with aging. Chaos, 2021, 31, 073105.	1.0	11
9	Spatial patterns in EEG activity during monotonous sound perception test. European Physical Journal Plus, 2021, 136, 1.	1.2	2
10	The method for diagnostics of the phase synchronization of the vegetative control of blood circulation in real time. Izvestiya of Saratov University, New Series: Physics, 2021, 21, 213-221.	0.1	0
11	Modified wavelet analysis of ECoG-pattern as promising tool for detection of the bloodâ€“brain barrier leakage. Scientific Reports, 2021, 11, 18505.	1.6	16
12	Synchronization Of Autonomic Control Loops Of Blood Circulation In Patients With COVID-19. Russian Open Medical Journal, 2021, 10, .	0.1	6
13	Spectral Analysis of Photoplethysmography Signal in Patients with Cardiovascular Diseases and Healthy Subjects. , 2021, , .		2
14	Modification of real-time method for diagnostics of synchronization between the autonomic control loops. , 2021, , .		0
15	Analysis of coupling between autonomic control loops of blood circulation in patients with Covid-19. , 2021, , .		2
16	Mathematical modeling of nonlinear dynamics of the cardiovascular system under different physiological conditions. , 2021, , .		1
17	Directional Couplings Between Electroencephalogram and Interbeat Intervals Signals in Awake State and Different Stages of Sleep. , 2021, 2021, 5398-5402.		1
18	Decrease of low-frequency spectral power in a heart rate variability signal in a mathematical model of the cardiovascular system of arterial hypertension patients. Izvestiya of Saratov University, New Series: Physics, 2021, 21, 363-371.	0.1	0

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19	Synchronization of the Processes of Autonomic Control of Blood Circulation in Humans Is Different in the Awake State and in Sleep Stages. Frontiers in Neuroscience, 2021, 15, 791510.	1.4	4
20	A Model-Based Approach To Detection Of The Circulating Melanoma Cells From The Photoacoustic Cytometry Data. Russian Open Medical Journal, 2021, 10, .	0.1	0
21	Missing value imputation with linear methods in the database of cardiological patients in prediction of mortality. Cardio-IT, 2021, 8, .	0.3	0
22	The intensity of oscillations of the photoplethysmographic waveform variability at frequencies 0.04â€“0.4â€‰Hz is effective marker of hypertension and coronary artery disease in males. Blood Pressure, 2020, 29, 55-62.	0.7	15
23	Comparison of methods of quantitative analysis of phase synchronization according to test data modeling non-stationary signals of biological nature. , 2020, , .		1
24	Mathematical modeling of the cardiovascular autonomic control in healthy subjects during a passive head-up tilt test. Scientific Reports, 2020, 10, 16525.	1.6	22
25	The influence of the photoplethysmographic sensors passband to the possibility of analyzing of low-frequency processes of autonomic control. , 2020, , .		0
26	Phase analysis of long-term signals by determining the protophase and phase of the signal. , 2020, , .		0
27	Reconstructing the model of baroreflex control loop from short time series. , 2020, , .		0
28	Development of features of the autonomic circulatory regulation in late premature and full term infants. , 2020, , .		0
29	Low-frequency variability in photoplethysmographic waveform and heart rate during on-pump cardiac surgery with or without cardioplegia. Scientific Reports, 2020, 10, 2118.	1.6	22
30	Reconstructions of model equations of time-delay system from short experimental time series. International Journal of Modeling, Simulation, and Scientific Computing, 2020, 11, 2050014.	0.9	2
31	Simulating Dynamics of Circulation in the Awake State and Different Stages of Sleep Using Non-autonomous Mathematical Model With Time Delay. Frontiers in Physiology, 2020, 11, 612787.	1.3	6
32	Synchronization and coherence of the low-frequency components of the signals of the cardiovascular system in newborns. , 2020, , .		1
33	Comparing the spectral properties of the laser-induced acoustic responses from blood and cancer cells in vitro. Russian Open Medical Journal, 2020, 9, .	0.1	1
34	Uncovering Interaction Between The Loops Of Autonomic Regulation Of Blood Circulation From Long Time Series. Russian Open Medical Journal, 2020, 9, .	0.1	3
35	Application of cross-recurrent analysis to coupling detection in mathematical model of circulation autonomic control. , 2020, , .		0
36	Decomposition method for dynamic contact problems of several deformable bodies. Journal of Physics: Conference Series, 2019, 1158, 032003.	0.3	0

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37	Choosing parameters for the analysis of synchronization of the autonomic regulatory contours of blood circulation in newborns. , 2019, , .		0
38	Dynamics of Low-Frequency Components of Photoplethysmogram Signals in Hypertension. , 2019, , .		1
39	Assymetry of coupling between the P3 and P4 electroencephalographic leads during the motions. , 2019, , .		0
40	Experimental Observation of the Self-Oscillatory Dynamics of the Regulation Contours of the Cardiovascular System. Radiophysics and Quantum Electronics, 2019, 61, 681-688.	0.1	1
41	Experimental observation of Arnold tongues in the analysis of the signal from contour of the autonomous regulation of heart rate and respiration. , 2019, , .		0
42	Autonomic control is a source of dynamical chaos in the cardiovascular system. Chaos, 2019, 29, 121101.	1.0	27
43	Synchronization of the process of autonomous regulation of blood circulation with low-frequency components of the laser Doppler flowmetry signal. , 2019, , .		0
44	Autonomic control of cardiorespiratory coupling in healthy subjects under moderate physical exercises. Russian Open Medical Journal, 2019, 8, .	0.1	4
45	Diagnostics of coupling between low-frequency loops in cardiovascular autonomic control in adults, newborns and mathematical model using cross-recurrence analysis. Russian Open Medical Journal, 2019, 8, .	0.1	1
46	Application of the coupling detection to the analysis of the low-frequency rhythms in the autonomic controlof circulation. Cybernetics and Physics, 2019, , 128-131.	0.2	3
47	Dynamics of spectral indices of the heart rate variability and the photoplethysmogram and synchronization of the low-frequency oscillations in healthy subjects during the tilt test. , 2019, , .		1
48	Detection of Couplings Between the EEG Signals During the Limb Movements. , 2018, , .		0
49	Interaction between cardiovascular autonomic control and sex hormones in perimenopausal women under menopausal hormone therapy. Cardiovascular Endocrinology and Metabolism, 2018, 7, 58-63.	0.5	4
50	Synchronization of infra-slow oscillations of brain potentials with respiration. Chaos, 2018, 28, 081102.	1.0	25
51	Numerical modeling of dynamics of heart rate and arterial pressure during passive orthostatic test. , 2018, , .		3
52	On trans-parenchymal transport after blood brain barrier opening: pump-diffuse-pump hypothesis. , 2018, , .		3
53	Mutual Dynamics of Synchronization of Low-frequency Oscillations in Circulation Vegetative Regulation and Indicators of Variability of the Heart Rhythm in Patients after Operations with Artificial Circulation in the Early Postoperative Period. Novosti Khirurgii, 2018, 26, 24-33.	0.2	0
54	Comparative study of short-term cardiovascular autonomic control in cardiac surgery patients who underwent coronary artery bypass grafting or correction of valvular heart disease. Journal of Cardiovascular and Thoracic Research, 2018, 10, 28-35.	0.3	3

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55	Reconstructions of parameters of radiophysical chaotic generator with delayed feedback from short time series. , 2018, , .		0
56	Influence of phase noise on coupling diagnostics by the method of phase dynamics modelling using time series of the mathematical model of cardiovascular system. Cardio-IT, 2018, 5, e0101.	0.3	0
57	PECULIARITIES OF HEART RATE VARIABILITY IN NEWBORNS. Rossiyskiy Vestnik Perinatologii I Pediatrii, 2018, 63, 52-57.	0.1	2
58	Statistical properties of the phase synchronization index of cardiovascular autonomic control contours. Russian Open Medical Journal, 2018, 7, e0403.	0.1	3
59	Simulation of autonomic blockade in mathematical model of cardiovascular regulation. Cardio-IT, 2018, 5, e0201.	0.3	0
60	A model of human cardiovascular system containing a loop for the autonomic control of mean blood pressure. Human Physiology, 2017, 43, 61-70.	0.1	7
61	Collective dynamics of identical bistable self-sustained oscillators with delayed feedback coupled via a mean field. Technical Physics Letters, 2017, 43, 309-312.	0.2	3
62	Estimation of Delay Times in Coupling Between Autonomic Regulatory Loops of Human Heart Rate and Blood Flow Using Phase Dynamics Analysis. Open Hypertension Journal, 2017, 9, 16-22.	0.8	2
63	A comprehensive assessment of cardiovascular autonomic control using photoplethysmograms recorded from the earlobe and fingers. Physiological Measurement, 2016, 37, 580-595.	1.2	28
64	Modulation and detection of the THz range signals using the highest harmonics of the fundamental frequency of the superlattice-based generator for biomedical applications. Proceedings of SPIE, 2016, , .	0.8	1
65	Phase and frequency locking in the model of cardiovascular system baroreflectory regulation. Proceedings of SPIE, 2016, , .	0.8	2
66	Noise-resistant system of concealed information transfer on a chaotic delayed feedback oscillator with switchable delay time. Technical Physics, 2016, 61, 639-647.	0.2	2
67	Comparing methods for estimating parameters in a system of baroreflex control over mean arterial pressure. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 180-185.	0.1	0
68	Model of human cardiovascular system with a loop of autonomic regulation of the mean arterial pressure. Journal of the American Society of Hypertension, 2016, 10, 235-243.	2.3	28
69	Method of estimation of synchronization strength between low-frequency oscillations in heart rate variability and photoplethysmographic waveform variability. Russian Open Medical Journal, 2016, 5, e0101.	0.1	35
70	Investigation of statistical characteristics of interaction between the low-frequency oscillations in heart rate variability and photoplethysmographic waveform variability in healthy subjects and myocardial infarction patients. Russian Open Medical Journal, 2016, 5, e0203.	0.1	4
71	Correlations Between Cardiovascular Autonomic Control Indices During the Two-hour Immobilization Test in Healthy Subjects. Open Cardiovascular Medicine Journal, 2016, 10, 35-43.	0.6	2
72	Methods to increase clinical applicability of heart rate variability analysis for noninvasive detecting severity of coronary lesions in patients with coronary heart disease. Anatolian Journal of Cardiology, 2015, 15, 431-432.	0.5	3

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73	An experimental system for hidden data transmission based on a delayed-feedback generator with switching of chaotic modes. Technical Physics Letters, 2015, 41, 1-4.	0.2	4
74	An Experimental Communication Scheme Based on Chaotic Time-Delay System with Switched Delay. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2015, 25, 1550134.	0.7	9
75	Communication system based on chaotic delayed feedback oscillator with switched delay. , 2015, , .		0
76	The possibility of using spectral indices of heart rate variability to improve the diagnostic value of cardiovascular autonomic function tests in rheumatoid arthritis patients. Anatolian Journal of Cardiology, 2015, 15, 510-511.	0.5	1
77	Autonomic control of cardiovascular system in pre- and postmenopausal women: a cross-sectional study. Journal of the Turkish German Gynecology Association, 2015, 16, 11-20.	0.2	16
78	Comparison of Methods for Phase Synchronization Diagnostics from Test Data Modeling Nonstationary Signals of Biological Nature. Izvestiya of Saratov University, New Series: Physics, 2015, 15, 36-42.	0.1	4
79	Effects of antihypertensive treatment on cardiovascular autonomic control: a prospective study. Anatolian Journal of Cardiology, 2014, 14, 701-710.	0.4	17
80	An experimental digital communication scheme based on chaotic time-delay system. Nonlinear Dynamics, 2013, 74, 1013-1020.	2.7	20
81	Synchronization of low-frequency oscillations in the cardiovascular system: Application to medical diagnostics and treatment. European Physical Journal: Special Topics, 2013, 222, 2687-2696.	1.2	21
82	Phase and frequency locking of 0.1-Hz oscillations in heart rate and baroreflex control of blood pressure by breathing of linearly varying frequency as determined in healthy subjects. Human Physiology, 2013, 39, 416-425.	0.1	24
83	Selection of optimal dose of beta-blocker treatment in myocardial infarction patients based on changes in synchronization between 0.1â€ŠHz oscillations in heart rate and peripheral microcirculation. Journal of Cardiovascular Medicine, 2012, 13, 491-498.	0.6	23
84	Evaluation of 5â€Ÿear Risk of Cardiovascular Events in Patients after Acute Myocardial Infarction Using Synchronization of 0.1â€Hz Rhythms in Cardiovascular System. Annals of Noninvasive Electrocardiology, 2012, 17, 204-213.	0.5	26
85	Interaction of 0.1-Hz oscillations in heart rate variability and distal blood flow variability. Human Physiology, 2012, 38, 303-309.	0.1	17
86	Hidden data transmission based on time-delayed feedback system with switched delay time. Technical Physics Letters, 2012, 38, 51-54.	0.2	10
87	Digital system of hidden data transmission with delayed feedback. Technical Physics Letters, 2011, 37, 657-660.	0.2	3
88	Individual approach to antihypertensive drug choice in hypertensive patients based on individual features of autonomic cardiovascular dysfunction. Arterial Hypertension (Russian Federation), 2011, 17, 354-360.	0.1	3
89	COMPARISON OF FOSINOPRIL AND ATENOLOL EFFECT ON HEART 0.1 HZ-RHYTHMS SYNCHRONIZATION AND BLOOD MICROCIRCULATION IN PATIENTS WITH ARTERIAL HYPERTENSION. Rational Pharmacotherapy in Cardiology, 2010, 6, 803-811.	0.3	1
90	The causal relationship between subcortical local field potential oscillations and Parkinsonian resting tremor. Journal of Neural Engineering, 2010, 7, 016009.	1.8	89

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91	EFFECTS OF CARVEDILOL AND METOPROLOL ON VEGETATIVE REGULATION OF HEART AND MICROCIRCULATION IN PATIENTS WITH HYPERTENSION AND HIGH BODY MASS. Rational Pharmacotherapy in Cardiology, 2009, 5, 55-61.	0.3	1
92	Synchronization of low-frequency oscillations in the human cardiovascular system. Chaos, 2009, 19, 033112.	1.0	81
93	Reconstruction of time-delayed feedback systems from time series. Physica D: Nonlinear Phenomena, 2005, 203, 209-223.	1.3	79
94	Recovery of Parameters of Delayed-Feedback Systems from Chaotic Time Series. Journal of Experimental and Theoretical Physics, 2005, 100, 457.	0.2	10
95	Equations of a time-delay system under external action reconstructed from time series. Technical Physics Letters, 2004, 30, 78-81.	0.2	1
96	Reconstruction of time-delay systems from chaotic time series. Physical Review E, 2001, 64, 056216.	0.8	68
97	Reconstruction of scalar time-delay system models. Technical Physics Letters, 2001, 27, 414-418.	0.2	2