

Dmitry A Postnov

List of Publications by Year in descending order

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72
papers

1,454
citations

471509

17
h-index

330143

37
g-index

76
all docs

76
docs citations

76
times ranked

920
citing authors

#	ARTICLE	IF	CITATIONS
1	SYNCHRONIZATION OF CHAOS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1992, 02, 633-644.	1.7	162
2	Interacting Coherence Resonance Oscillators. Physical Review Letters, 1999, 83, 1771-1774.	7.8	129
3	Dynamical patterns of calcium signaling in a functional model of neuron-astrocyte networks. Journal of Biological Physics, 2009, 35, 425-445.	1.5	120
4	Experimental observation of coherence resonance in cascaded excitable systems. Physical Review E, 1999, 59, R3791-R3794.	2.1	105
5	Functional modeling of neural-glia interaction. BioSystems, 2007, 89, 84-91.	2.0	94
6	Role of multistability in the transition to chaotic phase synchronization. Chaos, 1999, 9, 227-232.	2.5	60
7	Synchronization of diffusively coupled oscillators near the homoclinic bifurcation. Physical Review E, 1999, 60, 2799-2807.	2.1	48
8	Sleep as a Novel Biomarker and a Promising Therapeutic Target for Cerebral Small Vessel Disease: A Review Focusing on Alzheimer's Disease and the Blood-Brain Barrier. International Journal of Molecular Sciences, 2020, 21, 6293.	4.1	38
9	Blood-Brain Barrier, Lymphatic Clearance, and Recovery: Ariadne's Thread in Labyrinths of Hypotheses. International Journal of Molecular Sciences, 2018, 19, 3818.	4.1	34
10	Sodium-Calcium Exchanger Can Account for Regenerative Ca ²⁺ Entry in Thin Astrocyte Processes. Frontiers in Cellular Neuroscience, 2018, 12, 250.	3.7	33
11	COOPERATIVE PHASE DYNAMICS IN COUPLED NEPHRONS. International Journal of Modern Physics B, 2001, 15, 3079-3098.	2.0	27
12	Modeling of Kidney Hemodynamics: Probability-Based Topology of an Arterial Network. PLoS Computational Biology, 2016, 12, e1004922.	3.2	27
13	Dynamical structures in binary media of potassium-driven neurons. Physical Review E, 2009, 80, 031921.	2.1	24
14	Modeling of Astrocyte Networks: Toward Realistic Topology and Dynamics. Frontiers in Cellular Neuroscience, 2021, 15, 645068.	3.7	21
15	NOISE CONTROLLED SYNCHRONIZATION IN POTASSIUM COUPLED NEURAL MODELS. International Journal of Neural Systems, 2007, 17, 105-113.	5.2	20
16	Chaotic bursting as chaotic itinerancy in coupled neural oscillators. Chaos, 2003, 13, 1105-1109.	2.5	18
17	Giant Glial Cell: New Insight Through Mechanism-Based Modeling. Journal of Biological Physics, 2008, 34, 441-457.	1.5	18
18	Self-terminating wave patterns and self-organized pacemakers in a phenomenological model of spreading depression. Brain Research, 2012, 1434, 200-211.	2.2	18

#	ARTICLE	IF	CITATIONS
19	Coherence resonance versus synchronization in a periodically forced self-sustained system. <i>Physical Review E</i> , 2002, 65, 041105.	2.1	16
20	Noise-induced multimode behavior in excitable systems. <i>Physical Review E</i> , 2002, 66, 016203.	2.1	16
21	Synchronization of tubular pressure oscillations in interacting nephrons. <i>Chaos, Solitons and Fractals</i> , 2003, 15, 343-369.	5.1	16
22	Astrocyte calcium signaling: Interplay between structural and dynamical patterns. <i>Chaos</i> , 2018, 28, 106320.	2.5	15
23	Dynamics of Nephron-Vascular Network. <i>Bulletin of Mathematical Biology</i> , 2012, 74, 2820-2841.	1.9	14
24	STOCHASTIC SYNCHRONIZATION OF COUPLED COHERENCE RESONANCE OSCILLATORS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2000, 10, 2541-2550.	1.7	13
25	Oscillator clustering in a resource distribution chain. <i>Chaos</i> , 2005, 15, 013704.	2.5	13
26	Biophotonic Strategies of Measurement and Stimulation of the Cranial and the Extracranial Lymphatic Drainage Function. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2021, 27, 1-13.	2.9	13
27	NEURAL SYNCHRONIZATION VIA POTASSIUM SIGNALING. <i>International Journal of Neural Systems</i> , 2006, 16, 99-109.	5.2	12
28	DYNAMICS OF THE NONAUTONOMOUS CHUA'S CIRCUIT. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1995, 05, 1525-1540.	1.7	11
29	Synchronization in renal microcirculation unveiled with high-resolution blood flow imaging. <i>ELife</i> , 2022, 11, .	6.0	11
30	Phase multistability of self-modulated oscillations. <i>Physical Review E</i> , 2002, 66, 036224.	2.1	10
31	Homoclinic Bifurcation as a Mechanism of Chaotic Phase Synchronization. <i>Physical Review Letters</i> , 1999, 83, 1942-1945.	7.8	9
32	CHAOTIC HIERARCHY IN HIGH DIMENSIONS. <i>International Journal of Modern Physics B</i> , 2000, 14, 2511-2527.	2.0	9
33	Transition to synchronized chaos via suppression of the natural dynamics. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2001, 283, 195-200.	2.1	9
34	Complex phase dynamics in coupled bursters. <i>Physical Review E</i> , 2003, 67, 016215.	2.1	9
35	Two-mode chaos and its synchronization properties. <i>Physical Review E</i> , 2005, 72, 056208.	2.1	7
36	Multimode dynamics in a network with resource mediated coupling. <i>Chaos</i> , 2008, 18, 015114.	2.5	7

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37	Interaction of noise supported Isingâ€“Bloch fronts with Dirichlet boundaries. <i>Ecological Complexity</i> , 2013, 14, 21-36.	2.9	6
38	Gaussian sliding window for robust processing laser speckle contrast images. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2019, 35, e3186.	2.1	6
39	Turing-like structures in a functional model of cortical spreading depression. <i>Physical Review E</i> , 2017, 96, 062409.	2.1	5
40	Synchronization Phenomena in an Array of Population Dynamic Systems. <i>International Journal of Modeling, Simulation, and Scientific Computing</i> , 1998, 01, 181-202.	1.4	4
41	Stochastic synchronization and the growth in regularity of the noise-induced oscillations. <i>Technical Physics Letters</i> , 2001, 27, 463-466.	0.7	4
42	Conducted Vasoreactivity: the Dynamical Point of View. <i>Bulletin of Mathematical Biology</i> , 2015, 77, 230-249.	1.9	4
43	Noise-sustained patterns in a model of volume-coupled neural tissue. <i>Chaos</i> , 2018, 28, 106326.	2.5	4
44	Connectivity promotes repeatable activation patterns in the model of astrocytic networks. <i>European Physical Journal Plus</i> , 2021, 136, 1.	2.6	4
45	Functional Modeling of Neural-Glial Interaction. , 2011, , 133-151.		3
46	Monitoring of rhythms in laser speckle data. <i>Journal of Innovative Optical Health Sciences</i> , 2014, 07, 1450015.	1.0	3
47	Diffusion assessment through image processing: beyond the point-source paradigm. <i>European Physical Journal Plus</i> , 2021, 136, 1.	2.6	3
48	Rhythmic Activity of Noisy Neural Circuits. <i>Fluctuation and Noise Letters</i> , 2003, 03, L275-L287.	1.5	2
49	Functional Modeling of the Shift in Cellular Calcium Dynamics at the Onset of Synchronization in Smooth Muscle Cells. <i>Bulletin of Mathematical Biology</i> , 2011, 73, 2507-2525.	1.9	2
50	Lyapunov analysis of the spatially discrete-continuous system dynamics. <i>Chaos, Solitons and Fractals</i> , 2017, 104, 228-237.	5.1	2
51	The evolution of spatiotemporal chaos in a discrete-continuous active medium. <i>Technical Physics Letters</i> , 2017, 43, 587-589.	0.7	2
52	An image processing method for characterizing diffusivity in brainâ€™s parenchyma: a case study of significantly non-uniform structures. , 2019, , .		2
53	Desynchrony and synchronisation underpinning sleepâ€“wake cycles. <i>European Physical Journal Plus</i> , 2021, 136, 1.	2.6	2
54	Noise-Induced Coherence in an Excitable System with Frequency-Dependent Feedback. <i>Technical Physics Letters</i> , 2005, 31, 302.	0.7	1

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55	Noise induced dynamics and subthreshold oscillations. , 2005, , .		1
56	From excitability to oscillations: A case study in vasomotion. European Physical Journal: Special Topics, 2013, 222, 2667-2676.	2.6	1
57	Computational model of cerebral blood flow redistribution during cortical spreading depression. Proceedings of SPIE, 2016, , .	0.8	1
58	When Na modulates Ca: nonlinear interplay between Na/Ca-exchanger and IP3-mediated Ca oscillations in astrocytes. , 2019, , .		1
59	Induced Hysteresis-Free Transitions in a Bistable System (Experimental Verification). International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1997, 07, 431-436.	1.7	0
60	Noise-induced long-term potentiation via neural-glial interaction. , 2006, , .		0
61	Noise-induced effects in excitable system with subthreshold and suprathreshold oscillatory modes. , 2006, , .		0
62	Synchronization: A Case in Biological Studies. , 2011, , 285-310.		0
63	Traveling waves and dynamical formation of autonomous pacemakers in a bistable medium with periodic boundary conditions. , 2015, , .		0
64	Akima splines for minimization of breathing interference in aortic rheography data. Proceedings of SPIE, 2015, , .	0.8	0
65	Mathematical model of depolarization mechanism of conducted vasoreactivity. Proceedings of SPIE, 2015, , .	0.8	0
66	Tissue perfusability assessment from capillary velocimetry data via the multicompartment Windkessel model. , 2015, , .		0
67	Spatio-temporal cerebral blood flow perfusion patterns in cortical spreading depression. , 2017, , .		0
68	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 1. BMC Neuroscience, 2017, 18, .	1.9	0
69	Method for determining significant components for assessing pulse wave shape variability. Izvestiya of Saratov University, New Series: Physics, 2021, 21, 36-47.	0.1	0
70	Toward Minimalistic Model of Cellular Volume Dynamics in Neurovascular Unit. Mathematics, 2021, 9, 2407.	2.2	0
71	Dynamical mechanisms of conducted vasoreactivity: minimalistic modeling study. , 2018, , .		0
72	Distal Pulse Measurement Provides Statistical, but not Dynamical, Features of the Central Pulse. Izvestiya of Saratov University, New Series: Physics, 2020, 20, 164-170.	0.1	0