

Alexander B Neiman

List of Publications by Year in descending order

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122
papers

5,878
citations

94433

37
h-index

76900

74
g-index

130
all docs

130
docs citations

130
times ranked

2567
citing authors

#	ARTICLE	IF	CITATIONS
1	Effects of noise in excitable systems. <i>Physics Reports</i> , 2004, 392, 321-424.	25.6	1,265
2	Stochastic resonance: noise-enhanced order. <i>Physics-Uspexhi</i> , 1999, 42, 7-36.	2.2	334
3	Coherence resonance in a Hodgkin-Huxley neuron. <i>Physical Review E</i> , 1998, 57, 3292-3297.	2.1	219
4	Noise-Enhanced Phase Synchronization in Excitable Media. <i>Physical Review Letters</i> , 1999, 83, 4896-4899.	7.8	214
5	Coherence resonance at noisy precursors of bifurcations in nonlinear dynamical systems. <i>Physical Review E</i> , 1997, 56, 270-273.	2.1	200
6	Synchronization of the Noisy Electrosensitive Cells in the Paddlefish. <i>Physical Review Letters</i> , 1999, 82, 660-663.	7.8	163
7	Homoclinic bifurcation in a Hodgkin-Huxley model of thermally sensitive neurons. <i>Chaos</i> , 2000, 10, 231-239.	2.5	162
8	Mean Switching Frequency Locking in Stochastic Bistable Systems Driven by a Periodic Force. <i>Physical Review Letters</i> , 1995, 75, 4157-4160.	7.8	146
9	Synchronization of Noise-Induced Bursts in Noncoupled Sensory Neurons. <i>Physical Review Letters</i> , 2002, 88, 138103.	7.8	145
10	Stochastic resonance: Noise-enhanced phase coherence. <i>Physical Review E</i> , 1998, 58, 7118-7125.	2.1	140
11	Stochastic resonance in chaotic systems. <i>Journal of Statistical Physics</i> , 1993, 70, 183-196.	1.2	117
12	Stochastic Resonance Enhances the Electrosensory Information Available to Paddlefish for Prey Capture. <i>Physical Review Letters</i> , 2000, 84, 4773-4776.	7.8	108
13	Stochastic Resonance in Ensembles of Nondynamical Elements: The Role of Internal Noise. <i>Physical Review Letters</i> , 1997, 79, 4701-4704.	7.8	98
14	Dynamical Entropies Applied to Stochastic Resonance. <i>Physical Review Letters</i> , 1996, 76, 4299-4302.	7.8	96
15	Noise induced complexity: From subthreshold oscillations to spiking in coupled excitable systems. <i>Chaos</i> , 2005, 15, 026117.	2.5	91
16	Stochastic resonance in psychophysics and in animal behavior. <i>Biological Cybernetics</i> , 2002, 87, 91-101.	1.3	90
17	Stochastic resonance in bistable systems driven by harmonic noise. <i>Physical Review Letters</i> , 1994, 72, 2988-2991.	7.8	80
18	Linear response theory applied to stochastic resonance in models of ensembles of oscillators. <i>Physical Review E</i> , 1997, 56, R9-R12.	2.1	80

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19	Synchronization of noisy systems by stochastic signals. <i>Physical Review E</i> , 1999, 60, 284-292.	2.1	78
20	Stochastic resonance in two coupled bistable systems. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 197, 379-386.	2.1	77
21	Synchronizationlike phenomena in coupled stochastic bistable systems. <i>Physical Review E</i> , 1994, 49, 3484-3487.	2.1	74
22	Long-range correlations between letters and sentences in texts. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1995, 215, 233-241.	2.6	74
23	Behavioral Stochastic Resonance: How the Noise from a Daphnia Swarm Enhances Individual Prey Capture by Juvenile Paddlefish. <i>Journal of Theoretical Biology</i> , 2002, 214, 71-83.	1.7	71
24	Long-range temporal anti-correlations in paddlefish electroreceptors. <i>Europhysics Letters</i> , 2001, 56, 454-460.	2.0	67
25	Noise-controlled oscillations and their bifurcations in coupled phase oscillators. <i>Physical Review E</i> , 2003, 68, 066206.	2.1	67
26	Noise-induced phase synchronization enhanced by dichotomic noise. <i>Physical Review E</i> , 2001, 64, 051107.	2.1	59
27	Memory effects on stochastic resonance. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 223, 341-347.	2.1	55
28	Analytic description of noise-induced phase synchronization. <i>Europhysics Letters</i> , 2000, 50, 8-14.	2.0	53
29	Stochastic Biperiodic Oscillations in the Electroreceptors of Paddlefish. <i>Physical Review Letters</i> , 2001, 86, 3443-3446.	7.8	52
30	Synchronization of hyperexcitable systems with phase-repulsive coupling. <i>Physical Review E</i> , 2001, 64, 041912.	2.1	51
31	Reconstruction of dynamical and geometrical properties of chaotic attractors from threshold-crossing interspike intervals. <i>Physical Review E</i> , 1998, 58, R4-R7.	2.1	50
32	Two Distinct Types of Noisy Oscillators in Electroreceptors of Paddlefish. <i>Journal of Neurophysiology</i> , 2004, 92, 492-509.	1.8	50
33	Stochastic sensitivity analysis of noise-induced suppression of firing and giant variability of spiking in a Hodgkin-Huxley neuron model. <i>Physical Review E</i> , 2015, 91, 052920.	2.1	49
34	Phase synchronization and stochastic resonance effects in the crayfish caudal photoreceptor. <i>Physical Review E</i> , 2002, 65, 050901.	2.1	47
35	Surrogates for finding unstable periodic orbits in noisy data sets. <i>Physical Review E</i> , 1999, 59, 5235-5241.	2.1	45
36	Variability of bursting patterns in a neuron model in the presence of noise. <i>Journal of Computational Neuroscience</i> , 2009, 27, 527-542.	1.0	42

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37	Stochastic resonance enhanced by dichotomic noise in a bistable system. <i>Physical Review E</i> , 2000, 62, R3031-R3034.	2.1	41
38	Noise-induced impulse pattern modifications at different dynamical period-one situations in a computer model of temperature encoding. <i>BioSystems</i> , 2001, 62, 99-112.	2.0	38
39	CONTROLLING STOCHASTIC OSCILLATIONS CLOSE TO A HOPF BIFURCATION BY TIME-DELAYED FEEDBACK. <i>Stochastics and Dynamics</i> , 2005, 05, 281-295.	1.2	38
40	Spontaneous voltage oscillations and response dynamics of a Hodgkin-Huxley type model of sensory hair cells. <i>Journal of Mathematical Neuroscience</i> , 2011, 1, 11.	2.4	33
41	Surrogate analysis of coherent multichannel data. <i>Physical Review E</i> , 2002, 65, 026108.	2.1	32
42	Noise-Induced Transition to Bursting in Responses of Paddlefish Electroreceptor Afferents. <i>Journal of Neurophysiology</i> , 2007, 98, 2795-2806.	1.8	32
43	Stochastic sensitivity analysis of the noise-induced excitability in a model of a hair bundle. <i>Physical Review E</i> , 2013, 87, 052711.	2.1	32
44	Models of stochastic biperiodic oscillations and extended serial correlations in electroreceptors of paddlefish. <i>Physical Review E</i> , 2005, 71, 061915.	2.1	31
45	Response clustering in transient stochastic synchronization and desynchronization of coupled neuronal bursters. <i>Physical Review E</i> , 2007, 76, 021908.	2.1	30
46	Bottom-up approach to torus bifurcation in neuron models. <i>Chaos</i> , 2018, 28, 106317.	2.5	30
47	Measuring direction in the coupling of biological oscillators: A case study for electroreceptors of paddlefish. <i>Chaos</i> , 2006, 16, 026111.	2.5	28
48	Behavioral stochastic resonance: How a noisy army betrays its outpost. <i>Physical Review E</i> , 2001, 63, 031910.	2.1	27
49	Spontaneous oscillations, signal amplification, and synchronization in a model of active hair bundle mechanics. <i>Physical Review E</i> , 2010, 81, 041913.	2.1	27
50	Entropy and local uncertainty of data from sensory neurons. <i>Physical Review E</i> , 2001, 64, 061911.	2.1	26
51	Characterizing the dynamics of stochastic bistable systems by measures of complexity. <i>Physical Review E</i> , 1997, 55, 5050-5059.	2.1	23
52	Zero-Dispersion Nonlinear Resonance. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1997, 07, 923-936.	1.7	23
53	Interactions between slow and fast conductances in the Huber/Braun model of cold-receptor discharges. <i>Neurocomputing</i> , 2000, 32-33, 51-59.	5.9	22
54	STOCHASTIC SYNCHRONIZATION OF ELECTRORECEPTORS IN PADDLEFISH. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 2000, 10, 2499-2517.	1.7	22

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55	Excitable elements controlled by noise and network structure. <i>European Physical Journal: Special Topics</i> , 2013, 222, 2517-2529.	2.6	22
56	Robust design of polyrhythmic neural circuits. <i>Physical Review E</i> , 2014, 90, 022715.	2.1	22
57	Information processing in noisy burster models of sensory neurons. <i>Journal of Theoretical Biology</i> , 2005, 237, 30-40.	1.7	21
58	Noise Induced Order: Stochastic Resonance. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1998, 08, 869-879.	1.7	19
59	Coherent stochastic oscillations enhance signal detection in spiking neurons. <i>Physical Review E</i> , 2009, 80, 021919.	2.1	18
60	Detecting the onset of bifurcations and their precursors from noisy data. <i>Physical Review E</i> , 2000, 61, 4848-4853.	2.1	17
61	Characteristic Effects of Stochastic Oscillatory Forcing on Neural Firing: Analytical Theory and Comparison to Paddlefish Electroreceptor Data. <i>PLoS Computational Biology</i> , 2013, 9, e1003170.	3.2	17
62	Sensory coding in oscillatory electroreceptors of paddlefish. <i>Chaos</i> , 2011, 21, 047505.	2.5	16
63	Noise-induced transitions in a double-well oscillator with nonlinear dissipation. <i>Physical Review E</i> , 2016, 93, 052210.	2.1	15
64	Emergent stochastic oscillations and signal detection in tree networks of excitable elements. <i>Scientific Reports</i> , 2017, 7, 3956.	3.3	15
65	Noisy precursors of bifurcations in a neurodynamical model for disease states of mood disorders. <i>Neurocomputing</i> , 2000, 32-33, 823-831.	5.9	14
66	Thermal activation by power-limited coloured noise. <i>New Journal of Physics</i> , 2005, 7, 17-17.	2.9	14
67	The cumulant approach for investigating the noise influence on mode-locking bifurcations. <i>Journal of Physics A</i> , 1995, 28, 2471-2480.	1.6	12
68	NOISE EFFECTS ON THE ELECTROSENSE-MEDIATED FEEDING BEHAVIOR OF SMALL PADDLEFISH. <i>Fluctuation and Noise Letters</i> , 2001, 01, L71-L86.	1.5	12
69	Information analysis of posterior canal afferents in the turtle, <i>Trachemys scripta elegans</i> . <i>Brain Research</i> , 2012, 1434, 226-242.	2.2	12
70	Emergence and coherence of oscillations in star networks of stochastic excitable elements. <i>Physical Review E</i> , 2016, 93, 042406.	2.1	12
71	Coherence resonance. <i>Scholarpedia Journal</i> , 2007, 2, 1442.	0.3	12
72	Period-doubling bifurcations in the presence of colored noise. <i>Physical Review E</i> , 1994, 49, 3801-3806.	2.1	11

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73	Power law distributions of spectral density and higher order entropies. Chaos, Solitons and Fractals, 1994, 4, 69-81.	5.1	11
74	Effect of bidirectional mechano-electrical coupling on spontaneous oscillations and sensitivity in a model of hair cells. Physical Review E, 2014, 90, 052704.	2.1	11
75	Comment on "Nonlinear resonance and chaos in the relativistic phase space for driven nonlinear systems". Physical Review E, 1996, 53, 4240-4241.	2.1	10
76	Control of sampling rate in map-based models of spiking neurons. Communications in Nonlinear Science and Numerical Simulation, 2018, 61, 127-137.	3.3	9
77	STOCHASTIC DYNAMICS OF ACTIVE AGENTS IN EXTERNAL FIELDS. Fluctuation and Noise Letters, 2005, 05, L185-L192.	1.5	8
78	Spontaneous firing statistics and information transfer in electroreceptors of paddlefish. Physical Review E, 2008, 78, 051922.	2.1	8
79	Phase Diffusion in Unequally Noisy Coupled Oscillators. Physical Review Letters, 2015, 115, 034101.	7.8	8
80	Stochastic resonance of front motion in inhomogeneous media. Physics Letters, Section A: General, Atomic and Solid State Physics, 1998, 246, 259-266.	2.1	6
81	Effect of receptor potential on mechanical oscillations in a model of sensory hair cell. European Physical Journal: Special Topics, 2017, 226, 1953-1962.	2.6	6
82	Spatio-temporal stochastic resonance of a domain wall motion in an inhomogeneous magnet. Journal of Magnetism and Magnetic Materials, 1998, 188, 301-309.	2.3	5
83	Periodic renewal processes: application to periodically driven FitzHugh-Nagumo system. European Physical Journal B, 2009, 69, 119-126.	1.5	5
84	Spontaneous dynamics and response properties of a Hodgkin-Huxley-type neuron model driven by harmonic synaptic noise. European Physical Journal: Special Topics, 2010, 187, 179-187.	2.6	5
85	Quantifying Utricular Stimulation During Natural Behavior. Journal of Experimental Zoology, 2012, 317, 467-480.	1.2	5
86	Modelling of photo-thermal control of biological cellular oscillators. European Physical Journal: Special Topics, 2013, 222, 2697-2704.	2.6	5
87	Noise-induced dispersion and breakup of clusters in cell cycle dynamics. Journal of Theoretical Biology, 2014, 355, 160-169.	1.7	5
88	Dynamical Entropies Applied to Stochastic Resonance. Physical Review Letters, 1996, 77, 4851-4851.	7.8	4
89	Stochastic synchronization. , 1997, , 154-166.		4
90	Stochastic Dynamics. , 2007, , 307-443.		4

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91	Identifying Temporal Codes in Spontaneously Active Sensory Neurons. PLoS ONE, 2011, 6, e27380.	2.5	4
92	Phase synchronization of switchings in stochastic and chaotic bistable systems. Dynamical Systems, 1999, 14, 211-231.	0.7	3
93	Stochastic resonance and noise-induced phase coherence. , 2001, , 309-323.		3
94	Chapter 2 Phase synchronization: From periodic to chaotic and noisy. Handbook of Biological Physics, 2001, 4, 23-82.	0.8	3
95	Thresholds and noise. , 2003, , .		3
96	Walking on ratchets: a model of two Brownian motors with bistable coupling. , 2003, 5114, 20.		3
97	Variability of collective dynamics in random tree networks of strongly coupled stochastic excitable elements. Physical Review E, 2018, 98, .	2.1	3
98	Measuring chaos in the Lorenz and Rössler models: Fidelity tests for reservoir computing. Chaos, 2021, 31, 093121.	2.5	3
99	STOCHASTIC DYNAMICS OF ELECTRORECEPTORS IN PADDLEFISH. Fluctuation and Noise Letters, 2004, 04, L139-L149.	1.5	2
100	Introduction to Focus Issue: Nonlinear and Stochastic Physics in Biology. Chaos, 2011, 21, 047501.	2.5	2
101	Dynamical Chaos. , 2007, , 109-306.		2
102	Synchronization in ensembles of stochastic resonators. , 1997, , .		1
103	Homoclinic Bifurcation in a Thermally Sensitive Neuron. AIP Conference Proceedings, 2002, , .	0.4	1
104	Oscillations and Noise in Paddlefish Electroreceptors. AIP Conference Proceedings, 2003, , .	0.4	1
105	NOISE IN BIOPHYSICAL SYSTEMS. Fluctuation and Noise Letters, 2004, 04, v-vi.	1.5	1
106	Voltage oscillations and response dynamics in a model of sensory hair cells. BMC Neuroscience, 2012, 13, P186.	1.9	1
107	Vocal wow in an adapted reflex resonance model. Journal of the Acoustical Society of America, 2020, 147, 1822-1833.	1.1	1
108	Demixing of two species via reciprocally concentration-dependent diffusivity. Physical Review E, 2021, 103, 022113.	2.1	1

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109	Memories of a teacher, colleague and friend Vadim S. Anishchenko (1943–2020). Izvestiya of Saratov University, New Series: Physics, 2021, 21, 88-101.	0.1	1
110	Weak Transient Chaos. Advances in Dynamics, Patterns, Cognition, 2017, , 3-12.	0.3	1
111	Stochastic resonance and noise-induced synchronization. AIP Conference Proceedings, 2000, , .	0.4	0
112	Oscillations, noise, and extended negative correlations in electroreceptors. , 2003, , .		0
113	Stochastic synchronization: applications to oscillatory electroreceptors. , 2003, , .		0
114	Noise-Induced Transition and Synchronization in Paddlefish Electroreceptors. AIP Conference Proceedings, 2003, , .	0.4	0
115	Noise-Induced Walking Patterns on Ratchets. AIP Conference Proceedings, 2003, , .	0.4	0
116	The Effect of Noise on Spike-Adding Bifurcations in a Neuronal Burster (abstract). , 2009, , .		0
117	Announcement: Focus Issue on “Nonlinear and Stochastic Physics in Biology” Chaos, 2011, 21, 010202.	2.5	0
118	Sontaneous and Response Stochastic Dynamics of Saccular Hair Cells. Biophysical Journal, 2016, 110, 334a.	0.5	0
119	Introduction to Focus Issue: Nonlinear science of living systems: From cellular mechanisms to functions. Chaos, 2018, 28, 106201.	2.5	0
120	Information processing in tree networks of excitable elements. Physical Review E, 2021, 103, 012308.	2.1	0
121	DETECTION OF UNSTABLE PERIODIC ORBITS IN NOISY DATA, AND CHOOSING THE RIGHT SURROGATES. , 2001, , .		0
122	STOCHASTIC PHASE SYNCHRONIZATION OF ELECTROSENSITIVE CELLS OF THE PADDLEFISH AND IN CULTURED GLIAL CELL NETWORKS. , 2001, , .		0