Petr Lansky

List of Publications by Year
in descending order

173 papers	3,276 citations	126858 33 h-index	214721 47 g-index
179 all docs	179 docs citations	179 times ranked	1679 citing authors

#	Article	IF	Citations
1	Qualitative properties of different numerical methods for the inhomogeneous geometric Brownian motion. Journal of Computational and Applied Mathematics, 2022, 406, 113951.	1.1	8
2	Shot noise, weak convergence and diffusion approximations. Physica D: Nonlinear Phenomena, 2021, 418, 132845.	1.3	6
3	Transient dynamics of Pearson diffusions facilitates estimation of rate parameters. Communications in Nonlinear Science and Numerical Simulation, 2020, 82, 105034.	1.7	5
4	Fano Factor: A Potentially Useful Information. Frontiers in Computational Neuroscience, 2020, 14, 569049.	1.2	16
5	Inhibition enhances the coherence in the Jacobi neuronal model. Chaos, Solitons and Fractals, 2019, 128, 108-113.	2.5	8
6	On two diffusion neuronal models with multiplicative noise: The mean first-passage time properties. Chaos, 2018, 28, 043103.	1.0	20
7	The Jacobi diffusion process as a neuronal model. Chaos, 2018, 28, 103119.	1.0	12
8	Statistics of inverse interspike intervals: The instantaneous firing rate revisited. Chaos, 2018, 28, 106305.	1.0	15
9	Accuracy of rate coding: When shorter time window and higher spontaneous activity help. Physical Review E, 2017, 95, 022310.	0.8	6
10	A single spike deteriorates synaptic conductance estimation. BioSystems, 2017, 161, 41-45.	0.9	2
11	Entropy factor for randomness quantification in neuronal data. Neural Networks, 2017, 95, 57-65.	3.3	13
12	Coding accuracy on the psychophysical scale. Scientific Reports, 2016, 6, 23810.	1.6	1
13	Presynaptic Spontaneous Activity Enhances the Accuracy of Latency Coding. Neural Computation, 2016, 28, 2162-2180.	1.3	5
14	The Gamma renewal process as an output of the diffusion leaky integrate-and-fire neuronal model. Biological Cybernetics, 2016, 110, 193-200.	0.6	16
15	Generalized Nonlinear Yule Models. Journal of Statistical Physics, 2016, 165, 661-679.	0.5	9
16	Perspective analysis outcomes of selected tribodiagnostic data used as input for condition based maintenance. Reliability Engineering and System Safety, 2016, 145, 231-242.	5.1	43
17	Preface. Mathematical Biosciences and Engineering, 2016, 13, i-i.	1.0	0
18	Estimation of the synaptic input firing rates and characterization of the stimulation effects in an auditory neuron. Frontiers in Computational Neuroscience, 2015, 9, 59.	1.2	4

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19	Steinâ€™s neuronal model with pooled renewal input. Biological Cybernetics, 2015, 109, 389-399.	0.6	5
20	Parameter inference from hitting times for perturbed Brownian motion. Lifetime Data Analysis, 2015, 21, 331-352.	0.4	7
21	Coding Accuracy Is Not Fully Determined by the Neuronal Model. Neural Computation, 2015, 27, 1051-1057.	1.3	6
22	Altered intensity coding in the salicylate-overdose animal model of tinnitus. BioSystems, 2015, 136, 113-119.	0.9	4
23	A review of the methods for neuronal response latency estimation. BioSystems, 2015, 136, 23-34.	0.9	34
24	Sampling times influence the estimate of parameters in the Weibull dissolution model. European Journal of Pharmaceutical Sciences, 2015, 78, 171-176.	1.9	2
25	Performance breakdown in optimal stimulus decoding. Journal of Neural Engineering, 2015, 12, 036012.	1.8	8
26	Shot-noise Fano factor. Physical Review E, 2015, 92, 052135.	0.8	3
27	The role of detachment of in-links in scale-free networks. Journal of Physics A: Mathematical and Theoretical, 2014, 47, 345002.	0.7	11
28	Estimating latency from inhibitory input. Biological Cybernetics, 2014, 108, 475-493.	0.6	5
29	Fano factor estimation. Mathematical Biosciences and Engineering, 2014, 11, 105-123.	1.0	18
30	Latency of inhibitory response. BMC Neuroscience, 2013, 14, .	0.8	0
31	Parametric inference of neuronal response latency in presence of a background signal. BioSystems, 2013, 112, 249-257.	0.9	7
32	Measures of statistical dispersion based on Shannon and Fisher information concepts. Information Sciences, 2013, 235, 214-223.	4.0	29
33	Responses of single neurons and neuronal ensembles in frog first- and second-order olfactory neurons. Brain Research, 2013, 1536, 144-158.	1.1	5
34	Information capacity and its approximations under metabolic cost in a simple homogeneous population of neurons. BioSystems, 2013, 112, 265-275.	0.9	13
35	Population coding is essential for rapid information processing in the moth antennal lobe. Brain Research, 2013, 1536, 88-96.	1.1	2
36	Metabolic cost of neuronal information in an empirical stimulus-response model. Biological Cybernetics, 2013, 107, 355-365.	0.6	25

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37	On the estimate of the rate constant in the homogeneous dissolution model. Drug Development and Industrial Pharmacy, 2013, 39, 1555-1561.	0.9	1
38	Identification of noisy response latency. Physical Review E, 2012, 86, 021128.	0.8	10
39	Only through perturbation can relaxation times be estimated. Physical Review E, 2012, 86, 050102.	0.8	6
40	Estimating individual firing frequencies in a multiple spike train record. Journal of Neuroscience Methods, 2012, 211, 191-202.	1.3	0
41	Variability Measures of Positive Random Variables. PLoS ONE, 2011, 6, e21998.	1.1	12
42	Homogeneous diffusion layer model of dissolution incorporating the initial transient phase. International Journal of Pharmaceutics, 2011, 416, 35-42.	2.6	2
43	Measures of statistical dispersion based on Entropy and Fisher information. BMC Neuroscience, 2011, 12, .	0.8	0
44	Firing Variability Is Higher than Deduced from the Empirical Coefficient of Variation. Neural Computation, 2011, 23, 1944-1966.	1.3	17
45	Distribution of interspike intervals estimated from multiple spike trains observed in a short time window. Physical Review E, 2011, 83, 011910.	0.8	4
46	Estimation of Time-Dependent Input from Neuronal Membrane Potential. Neural Computation, 2011, 23, 3070-3093.	1.3	28
47	Effect of stimulation on the input parameters of stochastic leaky integrate-and-fire neuronal model. Journal of Physiology (Paris), 2010, 104, 160-166.	2.1	8
48	Random effects in drug dissolution. European Journal of Pharmaceutical Sciences, 2010, 41, 430-439.	1.9	10
49	Estimating input parameters from intracellular recordings in the Feller neuronal model. Physical Review E, 2010, 81, 031916.	0.8	14
50	Information transfer for small-amplitude signals. Physical Review E, 2010, 81, 050901.	0.8	8
51	First-Spike Latency in the Presence of Spontaneous Activity. Neural Computation, 2010, 22, 1675-1697.	1.3	12
52	Optimal odor intensity in olfactory neuronal models. BMC Neuroscience, 2009, 10, .	0.8	0
53	Simple stochastic neuronal models and their parameters. BMC Neuroscience, 2009, 10, .	0.8	0
54	On the estimation of refractory period. Journal of Neuroscience Methods, 2008, 171, 288-295.	1.3	20

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55	A review of the methods for signal estimation in stochastic diffusion leaky integrate-and-fire neuronal models. Biological Cybernetics, 2008, 99, 253-262.	0.6	71
56	Classification of stimuli based on stimulusâ€“response curves and their variability. Brain Research, 2008, 1225, 57-66.	1.1	10
57	Statistical approach in search for optimal signal in simple olfactory neuronal models. Mathematical Biosciences, 2008, 214, 100-108.	0.9	9
58	Overdispersion in the Place Cell Dischargeâ€"Stochastic Modelling and Inference. AIP Conference Proceedings, 2008, , .	0.3	0
59	Efficient Olfactory Coding in the Pheromone Receptor Neuron of a Moth. PLoS Computational Biology, 2008, 4, e1000053.	1.5	40
60	Parameters of the Diffusion Leaky Integrate-and-Fire Neuronal Model for a Slowly Fluctuating Signal. Neural Computation, 2008, 20, 2696-2714.	1.3	20
61	The Adaptation of the Moth Pheromone Receptor Neuron to its Natural Stimulus. AIP Conference Proceedings, 2008, , .	0.3	0
62	Comparison of Statistical Methods for Estimation of the Input Parameters in the Ornstein-Uhlenbeck Neuronal Model from First-Passage Times Data. AIP Conference Proceedings, 2008, , .	0.3	5
63	Parameters of Spike Trains Observed in a Short Time Window. Neural Computation, 2008, 20, 1325-1343.	1.3	15
64	Competitive and Noncompetitive Odorant Interactions in the Early Neural Coding of Odorant Mixtures. Journal of Neuroscience, 2008, 28, 2659-2666.	1.7	153
65	Errors in estimation of the input signal for integrate-and-fire neuronal models. Physical Review E, 2008, 78, 011918.	0.8	9
66	INFORMATION CONTENT IN THRESHOLD DATA WITH NON-GAUSSIAN NOISE. Fluctuation and Noise Letters, 2007, 07, L79-L89.	1.0	6
67	Parameters of stochastic diffusion processes estimated from observations of first-hitting times: Application to the leaky integrate-and-fire neuronal model. Physical Review E, 2007, 76, 041906.	0.8	25
68	Optimum signal in a diffusion leaky integrate-and-fire neuronal model. Mathematical Biosciences, 2007, 207, 261-274.	0.9	11
69	Randomness and variability of the neuronal activity described by the Ornsteinâ€“Uhlenbeck model. Network: Computation in Neural Systems, 2007, 18, 63-75.	2.2	11
70	Variability and randomness in stationary neuronal activity. BioSystems, 2007, 89, 44-49.	0.9	5
71	REVIEW ARTICLE: Neuronal coding and spiking randomness. European Journal of Neuroscience, 2007, 26, 2693-2701.	1.2	66
72	Encoding of pheromone intensity by dynamic activation of pheromone receptors. Neurocomputing, 2007, 70, 1759-1763.	3.5	2

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73	Optimal signal in sensory neurons under an extended rate coding concept. BioSystems, 2007, 89, 10-15.	0.9	17
74	Steady-State Properties of Coding ofÂOdor Intensity inÂOlfactory Sensory Neurons. , 2007, , 360-367.		0
75	The parameters of the stochastic leaky integrate-and-fire neuronal model. Journal of Computational Neuroscience, 2006, 21, 211-223.	0.6	57
76	Similarity of interspike interval distributions and information gain in a stationary neuronal firing. Biological Cybernetics, 2006, 94, 157-167.	0.6	19
77	Classification of stationary neuronal activity according to its information rate. Network: Computation in Neural Systems, 2006, 17, 193-210.	2.2	15
78	Estimation of the input parameters in the Feller neuronal model. Physical Review E, 2006, 73, 061910.	0.8	38
79	Patterns of spontaneous activity in single rat olfactory receptor neurons are different in normally breathing and tracheotomized animals. Journal of Neurobiology, 2005, 65, 97-114.	3.7	39
80	Optimum signal in a simple neuronal model with signal-dependent noise. Biological Cybernetics, 2005, 92, 199-205.	0.6	25
81	Proposed mechanisms for coincidence detection in the auditory brainstem. Biological Cybernetics, 2005, 92, 445-451.	0.6	13
82	Optimal Signal Estimation in Neuronal Models. Neural Computation, 2005, 17, 2240-2257.	1.3	22
83	Estimation of the input parameters in the Ornstein-Uhlenbeck neuronal model. Physical Review E, 2005, 71, 011907.	0.8	67
84	Mean Instantaneous Firing Frequency Is Always Higher Than the Firing Rate. Neural Computation, 2004, 16, 477-489.	1.3	47
85	A stochastic differential equation model for drug dissolution and its parameters. Journal of Controlled Release, 2004, 100, 267-274.	4.8	16
86	Stochastic pulse stimulation in chemoreceptors and its properties. Mathematical Biosciences, 2004, 188, 133-145.	0.9	5
87	Classification of Dissolution Profiles in Terms of Fractional Dissolution Rate and a Novel Measure of Heterogeneity. Journal of Pharmaceutical Sciences, 2003, 92, 1632-1647.	1.6	35
88	Quantifying location-specific information in the discharge of rat hippocampal place cells. Journal of Neuroscience Methods, 2003, 127, 123-135.	1.3	61
89	Vesicular mechanisms and estimates of firing probability in a network of spiking neurons. Physica D: Nonlinear Phenomena, 2003, 181, 132-145.	1.3	3
90	Relation between stimulus and response in frog olfactory receptor neurons in vivo. European Journal of Neuroscience, 2003, 18, 1135-1154.	1.2	64

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91	Role of heterogeneity in deterministic models of drug dissolution and their statistical characteristics. BioSystems, 2003, 71, 123-131.	0.9	4
92	Estimation of the Individual Firing Frequencies of Two Neurons Recorded with a Single Electrode. Chemical Senses, 2003, 28, 671-679.	1.1	33
93	Extracellular Transduction Events Under Pulsed Stimulation in Moth Olfactory Sensilla. Chemical Senses, 2003, 28, 509-522.	1.1	12
94	Single-Unit Analysis of the Spinal Dorsal Horn in Patients With Neuropathic Pain. Journal of Clinical Neurophysiology, 2003, 20, 143-150.	0.9	51
95	Properties of the extra-positional signal in hippocampal place cell discharge derived from the overdispersion in location-specific firing. Neuroscience, 2002, 111, 553-566.	1.1	82
96	On the location-specific positional and extra-positional information in the discharge of rat hippocampal cells. BioSystems, 2002, 67, 167-175.	0.9	5
97	Coding of periodic pulse stimulation in chemoreceptors. BioSystems, 2002, 67, 121-128.	0.9	24
98	Interspike interval statistics in the Ornsteinâ€"Uhlenbeck neuronal model with signal-dependent noise. BioSystems, 2002, 67, 213-219.	0.9	6
99	Ligand-receptor interaction under periodic stimulation: a modeling study of concentration chemoreceptors. European Biophysics Journal, 2001, 30, 110-120.	1.2	11
100	The Ornsteinâ€"Uhlenbeck neuronal model with signal-dependent noise. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 285, 132-140.	0.9	60
101	Receptor Heterogeneity and its Effect on Sensitivity and Coding Range in Olfactory Sensory Neurons. Bulletin of Mathematical Biology, 2001, 63, 885-908.	0.9	10
102	Modeling heterogeneity of properties and random effects in drug dissolution. , 2001, 18, 1061-1067.		16
103	Characterizing and modeling concentration-response curves of olfactory receptor cells. Neurocomputing, 2001, 38-40, 319-325.	3.5	4
104	The overdispersion in activity of place cells. Neurocomputing, 2001, 38-40, 1393-1399.	3.5	11
105	Receptor Dissociation Constants and the Information Entropy of Membranes Coding Ligand Concentration. Chemical Senses, 2001, 26, 95-104.	1.1	13
106	Preface. BioSystems, 2000, 58, 1.	0.9	3
107	A simple stochastic model of spatially complex neurons. BioSystems, 2000, 58, 49-58.	0.9	3
108	Spiking frequency versus odorant concentration in olfactory receptor neurons. BioSystems, 2000, 58, 133-141.	0.9	64

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109	Stochastic model of the overdispersion in the place cell discharge. BioSystems, 2000, 58, 27-32.	0.9	15
110	Perireceptor and Receptor Events in Olfaction. Comparison of Concentration and Flux Detectors: a Modeling Study. Chemical Senses, 2000, 25, 293-311.	1.1	65
111	Effect of spatial extension on noise-enhanced phase locking in a leaky integrate-and-fire model of a neuron. Physical Review E, 2000, 62, 8427-8437.	0.8	8
112	Multidimensional counting processes and evoked neuronal activity. IMA Journal of Mathematical Control and Information, 2000, 17, 53-73.	1.1	0
113	Two-compartment stochastic model of a neuron. Physica D: Nonlinear Phenomena, 1999, 132, 267-286.	1.3	27
114	Does the dose-solubility ratio affect the mean dissolution time of drugs?. Pharmaceutical Research, 1999, 16, 1470-1476.	1.7	31
115	The spatial properties of a model neuron increase its coding range. Biological Cybernetics, 1999, 81, 161-167.	0.6	12
116	Computational model of the effects of stochastic conditioning on the induction of long-term potentiation and depression. Biological Cybernetics, 1999, 81, 291-298.	0.6	5
117	Long-Term Potentiation and Depression Induced by a Stochastic Conditioning of a Model Synapse. Biophysical Journal, 1999, 77, 1234-1243.	0.2	19
118	Two-compartment stochastic model of a neuron with periodic input. Lecture Notes in Computer Science, 1999, , 240-247.	1.0	1
119	Stochastic model of the place cell discharge. Lecture Notes in Computer Science, 1999, , 248-257.	1.0	0
120	Odorant concentration and receptor potential in olfactory sensory neurons. BioSystems, 1998, 48, 131-138.	0.9	13
121	Input parameters in a one-dimensional neuronal model with reversal potentials. BioSystems, 1998, 48, 123-129.	0.9	7
122	The MÃ¼ller-Lyer Illusion in Interpolated Figures. Perceptual and Motor Skills, 1998, 87, 499-504.	0.6	3
123	On Recent Results in Modeling of Sensory Neurons. , 1998, , 89-99.		0
124	Sources of periodical force in noisy integrate-and-fire models of neuronal dynamics. Physical Review E, 1997, 55, 2040-2043.	0.8	54
125	Noise in integrate-and-fire models of neuronal dynamics. Lecture Notes in Computer Science, 1997, , 49-54.	1.0	0
126	An indirect method for absorption rate estimation: Flurothyl-induced seizures. Bulletin of Mathematical Biology, 1997, 59, 569-579.	0.9	7

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127	Cycle-time and residence-time density approximations in a stochastic model for circulatory transport. Bulletin of Mathematical Biology, 1997, 59, 1-22.	0.9	4
128	Cycle-time and residence-time density approximations in a stochastic model for circulatory transport. Bulletin of Mathematical Biology, 1997, 59, 1-22.	0.9	3
129	On the simulation of biological diffusion processes. Computers in Biology and Medicine, 1997, 27, 1-7.	3.9	13
130	Coding of odour intensity in a sensory neuron. BioSystems, 1997, 40, 203-210.	0.9	13
131	A stochastic model for circulatory transport in pharmocokinetics. Mathematical Biosciences, 1996, 132, 141-167.	0.9	11
132	Coding of stimulus intensity in an olfactory receptor neuron: Role of neuron spatial extent and passive dendritic backpropagation of action potentials. Bulletin of Mathematical Biology, 1996, 58, 493-512.	0.9	17
133	Time-Dependent Solutions for a Cable Model of an Olfactory Receptor Neuron. Journal of Theoretical Biology, 1996, 181, 25-31.	0.8	8
134	Coding of odor intensity in a steady-state deterministic model of an olfactory receptor neuron. Journal of Computational Neuroscience, 1996, 3, 51-72.	0.6	46
135	Modelling Odor Intensity and Odor Quality Coding in Olfactory Systems. , 1996, , 217-231.		0
136	Ornstein-Uhlenbeck model neuron revisited. Biological Cybernetics, 1995, 72, 397-406.	0.6	46
137	On the comparison of Feller and Ornstein-Uhlenbeck models for neural activity. Biological Cybernetics, 1995, 73, 457-465.	0.6	65
138	Ornstein-Uhlenbeck model neuron revisited. Biological Cybernetics, 1995, 72, 397-406.	0.6	4
139	On the comparison of Feller and Ornstein?Uhlenbeck models for neural activity. Biological Cybernetics, 1995, 73, 457-465.	0.6	4
140	Basic mechanisms of coding stimulus intensity in the olfactory sensory neuron. Neural Processing Letters, 1994, 1, 9-12.	2.0	9
141	Synaptic Transmission in a Diffusion Model for Neural Activity. Journal of Theoretical Biology, 1994, 166, 393-406.	0.8	48
142	On the Interspike Intervals Calculated from Diffusion Approximations of Stein's Neuronal Model with Reversal Potentials. Journal of Theoretical Biology, 1994, 171, 225-232.	0.8	30
143	First-passage-time problem for simulated stochastic diffusion processes. Computers in Biology and Medicine, 1994, 24, 91-101.	3.9	21
144	A reliability application of a mixture of inverse gaussian distributions. Applied Stochastic Models and Data Analysis, 1994, 10, 61-69.	0.5	11

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145	A stochastic model for neuronal bursting. BioSystems, 1994, 33, 1-16.	0.9	3
146	A computer program to study the area perception of squares and rectangles. Computer Methods and Programs in Biomedicine, 1994, 42, 263-270.	2.6	1
147	Spontaneous activity of first- and second-order neurons in the frog olfactory system. Brain Research, 1994, 662, 31-44.	1.1	44
148	PERCEPTION OF AREA OF INTERPOLATED FIGURES. Cybernetics and Systems, 1994, 25, 567-579.	1.6	3
149	Coding of odor intensity. BioSystems, 1993, 31, 15-38.	0.9	33
150	Stochastic model neuron without resetting of dendritic potential: application to the olfactory system. Biological Cybernetics, 1993, 69, 283-294.	0.6	40
151	A model of the perception of area. Spatial Vision, 1992, 6, 101-116.	1.4	6
152	A NEURONAL MODEL WITH VARIABLE SYNAPTIC INPUT EFFECT. Cybernetics and Systems, 1992, 23, 29-40.	1.6	5
153	Effects of afterhyperpolarization on neuronal firing. BioSystems, 1992, 27, 25-38.	0.9	6
154	Simulation of a diffusion process with randomly distributed jumps in neuronal context. International Journal of Bio-medical Computing, 1992, 31, 233-245.	0.5	8
155	Generalized Stein's model for anatomically complex neurons. BioSystems, 1991, 25, 179-191.	0.9	60
156	Variable initial depolarization in Stein's neuronal model with synaptic reversal potentials. Biological Cybernetics, 1991, 64, 285-291.	0.6	35
157	Models for the perception of orientation in random dot patterns. Biological Cybernetics, 1990, 63, 71-80.	0.6	5
158	Area Perception in Simple Geometrical Figures. Perceptual and Motor Skills, 1990, 71, 459-466.	0.6	10
159	The effect of a random initial value in neural first-passage-time models. Mathematical Biosciences, 1989, 93, 191-215.	0.9	53
160	Errors in Estimating the Orientation of Dot Patterns. Perception, 1989, 18, 237-242.	0.5	14
161	Diffusion approximation and first-passage-time problem for a model neuron. Biological Cybernetics, 1988, 58, 387-404.	0.6	54
162	Following complex rhythmical acoustical patterns by tapping. International Journal of Psychophysiology, 1987, 5, 187-192.	0.5	15

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163	Statistical inference on spontaneous neuronal discharge patterns. Biological Cybernetics, 1987, 55, 299-311.	0.6	31
164	On visual orientation of dot patterns. Biological Cybernetics, 1987, 56, 389-396.	0.6	10
165	Diffusion approximation of the neuronal model with synaptic reversal potentials. Biological Cybernetics, 1987, 56, 19-26.	0.6	96
166	On approximations of Stein's neuronal model. Journal of Theoretical Biology, 1984, 107, 631-647.	0.8	95
167	Inference for the diffusion models of neuronal activity. Mathematical Biosciences, 1983, 67, 247-260.	0.9	47
168	An integral measure of the coherence function between pairs of EEG recordings. Electroencephalography and Clinical Neurophysiology, 1982, 54, 587-590.	0.3	6
169	A generalization of the Yule-Simon model, with special reference to word association tests and neural cell assembly formation. Journal of Mathematical Psychology, 1980, 21, 53-65.	1.0	5
170	Alpha detection. Biofeedback and Self-regulation, 1979, 4, 127-131.	0.3	6
171	EEG alpha and non-alpha intervals alternation. Biological Cybernetics, 1978, 30, 109-113.	0.6	9
172	Wiener filtration versus averaging of evoked responses. Biological Cybernetics, 1977, 27, 147-154.	0.6	15
173	Average evoked brain potential comparison on the basis of spectral and coherency functions. Biological Cybernetics, 1976, 24, 103-110.	0.6	1