Yuriy V Pershin

List of Publications by Year
in descending order

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78 papers	7,454 citations	236925 25 h-index	91884 69 g-index
78 all docs	78 docs citations	78 times ranked	6560 citing authors

#	Article	IF	Citations
1	The potential and challenges of nanopore sequencing. Nature Biotechnology, 2008, 26, 1146-1153.	17.5	2,201
2	Experimental demonstration of associative memory with memristive neural networks. Neural Networks, 2010, 23, 881-886.	5.9	924
3	Circuit Elements With Memory: Memristors, Memcapacitors, and Meminductors. Proceedings of the IEEE, 2009, 97, 1717-1724.	21.3	871
4	Memory effects in complex materials and nanoscale systems. Advances in Physics, 2011, 60, 145-227.	14.4	677
5	Practical Approach to Programmable Analog Circuits With Memristors. IEEE Transactions on Circuits and Systems I: Regular Papers, 2010, 57, 1857-1864.	5.4	503
6	Memristive model of amoeba learning. Physical Review E, 2009, 80, 021926.	2.1	374
7	The parallel approach. Nature Physics, 2013, 9, 200-202.	16.7	213
8	Neuromorphic, Digital, and Quantum Computation With Memory Circuit Elements. Proceedings of the IEEE, 2012, 100, 2071-2080.	21.3	201
9	Electric Field Cycling Behavior of Ferroelectric Hafnium Oxide. ACS Applied Materials & Interfaces, 2014, 6, 19744-19751.	8.0	154
10	Solving mazes with memristors: A massively parallel approach. Physical Review E, 2011, 84, 046703.	2.1	127
11	On the physical properties of memristive, memcapacitive and meminductive systems. Nanotechnology, 2013, 24, 255201.	2.6	90
12	The theory of spin noise spectroscopy: a review. Reports on Progress in Physics, 2016, 79, 106501.	20.1	80
13	Ionic Memcapacitive Effects in Nanopores. Nano Letters, 2010, 10, 2674-2678.	9.1	76
14	Memory materials: a unifying description. Materials Today, 2011, 14, 584-591.	14.2	74
15	Putting Memory Into Circuit Elements: Memristors, Memcapacitors, and Meminductors [Point of View]. Proceedings of the IEEE, 2009, 97, 1371-1372.	21.3	64
16	Self-organization and solution of shortest-path optimization problems with memristive networks. Physical Review E, 2013, 88, 013305.	2.1	51
17	Memory Models of Adaptive Behavior. IEEE Transactions on Neural Networks and Learning Systems, 2013, 24, 1437-1448.	11.3	35
18	Driftâ€“diffusion approach to spin-polarized transport. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 23, 226-231.	2.7	31

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19	Long-lived spin coherence states in semiconductor heterostructures. Physical Review B, 2005, 71, .	3.2	31
20	On the validity of memristor modeling in the neural network literature. Neural Networks, 2020, 121, 52-56.	5.9	31
21	Memcapacitive neural networks. Electronics Letters, 2014, 50, 141-143.	1.0	28
22	Qubit-Based Memcapacitors and Meminductors. Physical Review Applied, 2016, 6, .	3.8	27
23	A simple test for ideal memristors. Journal Physics D: Applied Physics, 2019, 52, 01LT01.	2.8	27
24	Polarization of Nuclear Spins from the Conductance of Quantum Wire. Physical Review Letters, 2004, 93, 126601.	7.8	26
25	Frequency doubling and memory effects in the spin Hall effect. Physical Review B, 2009, 79, .	3.2	25
26	Nonequilibrium Spin Noise Spectroscopy. Physical Review Letters, 2013, 111, 067201.	7.8	25
27	Slow spin relaxation in two-dimensional electron systems with antidots. Physical Review B, 2004, 69, .	3.2	24
28	Complex dynamics and scale invariance of one-dimensional memristive networks. Physical Review E, 2013, 87, 022116.	2.1	24
29	Lagrange formalism of memory circuit elements: Classical and quantum formulations. Physical Review B, 2012, 85, .	3.2	23
30	Two-beam spin noise spectroscopy. Applied Physics Letters, 2013, 102, 202405.	3.3	22
31	Changing the state of a memristive system with white noise. Physical Review E, 2013, 87, 042103.	2.1	22
32	Experimental demonstration of associative memory with memristive neural networks. Nature Precedings, 2009, , .	0.1	20
33	An Experimental Proof that Resistanceâ€Switching Memory Cells are not Memristors. Advanced Electronic Materials, 2020, 6, 2000010.	5.1	20
34	Current-voltage characteristics of semiconductor/ferromagnet junctions in the spin-blockade regime. Physical Review B, 2008, 77, .	3.2	19
35	Snap-through transition of buckled graphene membranes for memcapacitor applications. Scientific Reports, 2018, 8, 3566.	3.3	19
36	Second and higher harmonics generation with memristive systems. Applied Physics Letters, 2012, 100, .	3.3	18

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37	Spontaneous emergence of a persistent spin helix from homogeneous spin polarization. Physical Review B, 2011, 83, .	3.2	15
38	Bifurcation analysis of a TaO memristor model. Journal Physics D: Applied Physics, 2019, 52, 505304.	2.8	14
39	Probabilistic memristive networks: Application of a master equation to networks of binary ReRAM cells. Chaos, Solitons and Fractals, 2021, 142, 110385.	5.1	14
40	Custodial Chiral Symmetry in a Su-Schrieffer-Heeger Electrical Circuit with Memory. Physical Review Letters, 2022, 128, 097701.	7.8	13
41	Finding Stable Graphene Conformations from Pull and Release Experiments with Molecular Dynamics. Scientific Reports, 2017, 7, 42356.	3.3	12
42	Spin blockade at semiconductor/ferromagnet junctions. Physical Review B, 2007, 75, .	3.2	11
43	Spin noise spectroscopy of quantum dot molecules. Physical Review B, 2013, 88, .	3.2	11
44	Memcomputing Implementation of Ant Colony Optimization. Neural Processing Letters, 2016, 44, 265-277.	3.2	11
45	Memristive model of hysteretic field emission from carbon nanotube arrays. Journal of Nanophotonics, 2016, 10, 012524.	1.0	11
46	A voltage probe of the spin Hall effect. Journal of Physics Condensed Matter, 2008, 20, 025204.	1.8	10
47	Memristive model of amoeba's learning. Nature Precedings, 0, , .	0.1	10
48	Electromechanical Emulator of Memristive Systems and Devices. IEEE Transactions on Electron Devices, 2015, 62, 3678-3684.	3.0	10
49	A Memristive Pascaline. IEEE Transactions on Circuits and Systems II: Express Briefs, 2016, 63, 558-562.	3.0	10
50	Importance of the Window Function Choice for the Predictive Modelling of Memristors. IEEE Transactions on Circuits and Systems II: Express Briefs, 2021, 68, 2167-2171.	3.0	10
51	Optically induced suppression of spin relaxation in two-dimensional electron systems with Rashba interaction. Physical Review B, 2007, 75, .	3.2	9
52	Radial spin helix in two-dimensional electron systems with Rashba spin-orbit coupling. Physical Review B, 2010, 82, .	3.2	9
53	Dynamics of spin relaxation near the edge of two-dimensional electron gas. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 27, 77-81.	2.7	8
54	Comment on â€˜If it's pinched it's a memristorâ€™. Semiconductor Science and Technology, 2019, 34, 098001.	2.0	8

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55	A Demonstration of Implication Logic Based on Volatile (Diffusive) Memristors. IEEE Transactions on Circuits and Systems II: Express Briefs, 2019, 66, 1033-1037.	3.0	8
56	Memcomputing: A computing paradigm to store and process information on the same physical platform. , 2014, , .		7
57	Memristive Sisyphus circuit for clock signal generation. Scientific Reports, 2016, 6, 26155.	3.3	7
58	Ultrafast lithium diffusion in bilayer buckled graphene: A comparative study of Li and Na. Scripta Materialia, 2020, 178, 139-143.	5.2	7
59	Biologically-Inspired Electronics with Memory Circuit Elements. , 2012, , 15-36.		5
60	Metastable memristive lines for signal transmission and information processing applications. Physical Review E, 2017, 95, 042213.	2.1	5
61	Transient dynamics of pulse-driven memristors in the presence of a stable fixed point. Physica E: Low-Dimensional Systems and Nanostructures, 2019, 114, 113561.	2.7	5
62	Kinetics of spin relaxation in quantum wires and channels: Boundary spin echo and formation of a persistent spin helix. Physical Review B, 2011, 84, .	3.2	4
63	Hybrid spin noise spectroscopy and the spin Hall effect. Physical Review B, 2013, 88, .	3.2	4
64	Giant Up-Conversion Efficiency of InGaAs Quantum Dots in a Planar Microcavity. Scientific Reports, 2015, 4, 3953.	3.3	4
65	The Rich Dynamics of Memristive Devices With Non-Separable Nonlinear Response. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 1802-1806.	3.0	4
66	An experimental demonstration of the memristor test. Physica E: Low-Dimensional Systems and Nanostructures, 2022, 142, 115290.	2.7	4
67	Fast computation with memory circuit elements. , 2012, , .		3
68	Decay of persistent spin helix due to the spin relaxation at boundaries. Physical Review B, 2013, 87, .	3.2	3
69	Switching synchronization in one-dimensional memristive networks. Physical Review E, 2015, 92, 052917.	2.1	3
70	The Fourier signatures of memristive hysteresis. Journal Physics D: Applied Physics, 2021, 54, 245302.	2.8	3
71	Influence of a constriction on the motion of graphene kinks. Physical Review B, 2021, 103, .	3.2	3
72	Dynamics of spin relaxation in finite-size two-dimensional systems: An exact solution. Physical Review B, 2011, 84, .	3.2	1

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73	Theory of Heterogeneous Circuits With Stochastic Memristive Devices. IEEE Transactions on Circuits and Systems II: Express Briefs, 2022, 69, 214-218.	3.0	1
74	Dynamic computing random access memory: A brain-inspired computing paradigm with memelements. , 2014, , .		0
75	Similarity between the response of memristive and memcapacitive circuits subjected to ramped voltage. Journal of Nanophotonics, 2017, 11, 032507.	1.0	0
76	Switching Synchronization and Metastable States in 1D Memristive Networks. , 2019, , 955-971.		0
77	Analytic and SPICE modeling of stochastic ReRAM circuits. , 2022, , .		0
78	Kinks in buckled graphene uncompressed and compressed in the longitudinal direction. Theoretical and Computational Chemistry, 2022, , 41-60.	0.4	0