Andrei A Velichko

List of Publications by Year
in descending order

58	787	471371	580701
papers	citations	17 h-index	25 g-index

59	59	59	790
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The effect of electric field on metal-insulator phase transition in vanadium dioxide. Technical Physics Letters, 2002, 28, 406-408.	0.2	55
2	Switching effect and the metalâ€“insulator transition in electric field. Journal of Physics and Chemistry of Solids, 2010, 71, 874-879.	1.9	51
3	Anodic oxidation of vanadium and properties of vanadium oxide films. Journal of Physics Condensed Matter, 2004, 16, 4013-4024.	0.7	40
4	Vanadium oxide thin films and fibers obtained by acetylacetonate solâ€“gel method. Thin Solid Films, 2015, 574, 15-19.	0.8	40
5	Anodic $hbox{Nb}_{2}hbox{O}_{5}$ Nonvolatile RRAM. IEEE Transactions on Electron Devices, 2012, 59, 1144-1148.	1.6	37
6	A Model of an Oscillatory Neural Network with Multilevel Neurons for Pattern Recognition and Computing. Electronics (Switzerland), 2019, 8, 75.	1.8	37
7	Neural Network for Low-Memory IoT Devices and MNIST Image Recognition Using Kernels Based on Logistic Map. Electronics (Switzerland), 2020, 9, 1432.	1.8	34
8	Metal-semiconductor transition in nonstoichiometric vanadium dioxide films. Inorganic Materials, 2007, 43, 505-511.	0.2	30
9	Thermal coupling and effect of subharmonic synchronization in a system of two VO2 based oscillators. Solid-State Electronics, 2018, 141, 40-49.	0.8	25
10	A Method for Estimating the Entropy of Time Series Using Artificial Neural Networks. Entropy, 2021, 23, 1432.	1.1	24
11	Nb2O5 nanofiber memristor. Applied Physics Letters, 2013, 103, .	1.5	23
12	Switching dynamics of single and coupled VO₂-based oscillators as elements of neural networks. International Journal of Modern Physics B, 2017, 31, 1650261.	1.0	21
13	Diagnosis and Prognosis of COVID-19 Disease Using Routine Blood Values and LogNNet Neural Network. Sensors, 2022, 22, 4820.	2.1	21
14	Field-effect modulation of resistance in VO₂thin film at lower temperature. Japanese Journal of Applied Physics, 2014, 53, 111102.	0.8	20
15	Electrical Switching in Thin Film Structures Based on Transition Metal Oxides. Advances in Condensed Matter Physics, 2015, 2015, 1-26.	0.4	20
16	Effect of memory electrical switching in metal/vanadium oxide/silicon structures with VO2 films obtained by the solâ€“gel method. Materials Science in Semiconductor Processing, 2015, 29, 315-320.	1.9	20
17	Metal-insulator transition in thin films of vanadium dioxide: The problem of dimensional effects. Thin Solid Films, 2010, 518, 1760-1762.	0.8	19
18	Electrical switching and oscillations in vanadium dioxide. Physica B: Condensed Matter, 2018, 536, 239-248.	1.3	19

#	Article	IF	Citations
19	Influence of doping on the properties of vanadium oxide gel films. Journal of Physics Condensed Matter, 2008, 20, 422204.	0.7	18
20	Switching Channel Development Dynamics in Planar Structures on the Basis of Vanadium Dioxide. Physics of the Solid State, 2018, 60, 447-456.	0.2	18
21	Modeling of thermal coupling in VO 2 -based oscillatory neural networks. Solid-State Electronics, 2018, 139, 8-14.	0.8	16
22	Switch Elements with S-Shaped Current-Voltage Characteristic in Models of Neural Oscillators. Electronics (Switzerland), 2019, 8, 922.	1.8	14
23	Deterministic noise in vanadium dioxide based structures. Technical Physics Letters, 2003, 29, 435-437.	0.2	12
24	A Spiking Neural Network Based on the Model of VO2â€”Neuron. Electronics (Switzerland), 2019, 8, 1065.	1.8	12
25	Concept of LIF Neuron Circuit for Rate Coding in Spike Neural Networks. IEEE Transactions on Circuits and Systems II: Express Briefs, 2020, 67, 3477-3481.	2.2	12
26	Mobility-Modulation Field Effect Transistor Based on Electrospun Aluminum Doped Zinc Oxide Nanowires. ECS Journal of Solid State Science and Technology, 2016, 5, Q92-Q97.	0.9	11
27	Synchronization in the system of coupled oscillators based on VO₂ switches. Journal of Physics: Conference Series, 2017, 929, 012045.	0.3	11
28	UV patterning of vanadium pentoxide films for device applications. Journal Physics D: Applied Physics, 2007, 40, 5283-5286.	1.3	10
29	A Method for Medical Data Analysis Using the LogNNet for Clinical Decision Support Systems and Edge Computing in Healthcare. Sensors, 2021, 21, 6209.	2.1	10
30	A New Method of the Pattern Storage and Recognition in Oscillatory Neural Networks Based on Resistive Switches. Electronics (Switzerland), 2018, 7, 266.	1.8	9
31	A Method for Evaluating Chimeric Synchronization of Coupled Oscillators and Its Application for Creating a Neural Network Information Converter. Electronics (Switzerland), 2019, 8, 756.	1.8	9
32	Electron beam modification of vanadium dioxide oscillators. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 14, 1600236.	0.8	8
33	Effect of electric field on the metal-insulator transition with the formation of superstructure. Physics of the Solid State, 2004, 46, 922-926.	0.2	7
34	Properties of tungsten-doped vanadium oxide films. Technical Physics Letters, 2007, 33, 552-555.	0.2	6
35	NNetEn2D: Two-Dimensional Neural Network Entropy in Remote Sensing Imagery and Geophysical Mapping. Remote Sensing, 2022, 14, 2166.	1.8	6
36	UV laser modification and selective ionâ€beam etching of amorphous vanadium pentoxide thin films. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1484-1487.	0.8	5

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37	Electrical conductivity of vanadium dioxide switching channel. Physica Status Solidi (B): Basic Research, 2010, 247, 2213-2217.	0.7	5
38	Activation diffusion of oxygen under conditions of the metal-semiconductor phase transition in vanadium dioxide. Russian Journal of Physical Chemistry A, 2017, 91, 1064-1069.	0.1	5
39	Numerical modeling of the electrical properties of Si-SiO2-VO2 structures. Technical Physics Letters, 2005, 31, 520-523.	0.2	4
40	Electrical and optical properties of hydrated amorphous vanadium oxide. Journal Physics D: Applied Physics, 2008, 41, 225306.	1.3	4
41	Surface and bulk modification of melamineformaldehyde (MF-R) microparticles suspended in a complex plasma. Journal of Surface Investigation, 2012, 6, 137-144.	0.1	4
42	Electroforming and bipolar resistive switching in Si-SiO2-V2O5-Au binary oxide structure. Technical Physics Letters, 2015, 41, 672-675.	0.2	4
43	Relaxation oscillations in circuits containing sandwich switches based on vanadium dioxide. Phase Transitions, 2017, 90, 351-361.	0.6	4
44	The bistability phenomenon in single and coupled oscillators based on VO2 switches. Technical Physics Letters, 2017, 43, 38-41.	0.2	4
45	An Investigation of the Effect of the Thermal Coupling Time Delay on the Synchronization of VO2-Oscillators. Technical Physics Letters, 2019, 45, 61-64.	0.2	4
46	Higher-order and long-range synchronization effects for classification and computing in oscillator-based spiking neural networks. Neural Computing and Applications, 2021, 33, 3113-3131.	3.2	4
47	Electron-beam modification and electrical property recovery dynamics of vanadium dioxide films in semiconducting and metallic phases. Japanese Journal of Applied Physics, 2015, 54, 051102.	0.8	3
48	Controlled switching dynamics in Si-SiO2-VO2 structures. Technical Physics Letters, 2003, 29, 507-509.	0.2	2
49	Modification of atomic structure of thin amorphous V₂O₅films under UV laser irradiation. Journal of Physics: Conference Series, 2008, 100, 052096.	0.3	2
50	Memory electrical switching in hydrated amorphous vanadium dioxide. Technical Physics, 2010, 55, 247-250.	0.2	2
51	Memory resistive switching in CeO2-based film microstructures patterned by a focused ion beam. Thin Solid Films, 2014, 556, 520-524.	0.8	2
52	AMORPHOUS VANADIUM DIOXIDE: THE RESIST FOR ELECTRON-BEAM LITHOGRAPHY. Surface Review and Letters, 2018, 25, 1850118.	0.5	2
53	Thin Films of Amorphous and Hydrated Vanadium Oxides: Growth, Properties and Applications. Solid State Phenomena, 2003, 90-91, 97-102.	0.3	1
54	Ion-plasma modification of the properties of anodic films of transition metal oxides. Technical Physics Letters, 2009, 35, 103-106.	0.2	1

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55	Laser-induced modification of atomic structure of amorphous vanadium pentoxide. Technical Physics Letters, 2011, 37, 62-64.	0.2	0
56	Photovoltaic properties of Si-NiO structure. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 1597-1599.	0.8	0
57	Stochastic Synchronization and the Signal-to-Noise Ratio in an Oscillator with a Film VO2 Switch. Journal of Communications Technology and Electronics, 2019, 64, 705-711.	0.2	0
58	Examination of the Dynamic Threshold Characteristics of a VO2 Switch in an Oscillatory Circuit. Technical Physics Letters, 2020, 46, 137-140.	0.2	0