Denis N Sidorov

List of Publications by Year
in descending order

139 papers	1,552 citations	361045 20 h-index	414034 32 g-index
145 all docs	145 docs citations	145 times ranked	1207 citing authors

#	Article	IF	Citations
1	Air Pollution Forecasting Using a Deep Learning Model Based on 1D Convnets and Bidirectional GRU. IEEE Access, 2019, 7, 76690-76698.	2.6	182
2	Design and optimal energy management of community microgrids with flexible renewable energy sources. Renewable Energy, 2022, 183, 903-921.	4.3	73
3	A Dynamic Analysis of Energy Storage With Renewable and Diesel Generation Using Volterra Equations. IEEE Transactions on Industrial Informatics, 2020, 16, 3451-3459.	7.2	61
4	Blockchain Technology for Information Security of the Energy Internet: Fundamentals, Features, Strategy and Application. Energies, 2020, 13, 881.	1.6	45
5	A combined forecasting approach with model self-adjustment for renewable generations and energy loads in smart community. Energy, 2017, 129, 216-227.	4.5	40
6	The Numerical Validation of the Adomian Decomposition Method for Solving Volterra Integral Equation with Discontinuous Kernels Using the CESTAC Method. Mathematics, 2021, 9, 260.	1.1	37
7	A modular multilevel converter type solid state transformer with internal model control method. International Journal of Electrical Power and Energy Systems, 2017, 85, 153-163.	3.3	36
8	Day-ahead optimization schedule for gas-electric integrated energy system based on second-order cone programming. CSEE Journal of Power and Energy Systems, 2020, , .	1.7	35
9	Error Estimation of the Homotopy Perturbation Method to Solve Second Kind Volterra Integral Equations with Piecewise Smooth Kernels: Application of the CADNA Library. Symmetry, 2020, 12, 1730.	1.1	32
10	A Controllably Inductive Filtering Method With Transformer-Integrated Linear Reactor for Power Quality Improvement of Shipboard Power System. IEEE Transactions on Power Delivery, 2017, 32, 1817-1827.	2.9	31
11	Toward Zero-Emission Hybrid AC/DC Power Systems with Renewable Energy Sources and Storages: A Case Study from Lake Baikal Region. Energies, 2020, 13, 1226.	1.6	31
12	Caputo-Fabrizio Fractional Derivative to Solve the Fractional Model of Energy Supply-Demand System. Mathematical Modelling of Engineering Problems, 2020, 7, 359-367.	0.3	31
13	Machine Learning Techniques for Power System Security Assessment**This work was supported by the Russian Scientific Foundation under Grant No. 14-19-00054 and the 2015 Endeavour Scholarship and Fellowship program.. IFAC-PapersOnLine, 2016, 49, 445-450.	0.5	30
14	Numeric solution of Volterra integral equations of the first kind with discontinuous kernels. Journal of Computational and Applied Mathematics, 2017, 313, 119-128.	1.1	30
15	Ensemble methods of classification for power systems security assessment. Applied Computing and Informatics, 2019, 15, 45-53.	3.7	30
16	Development of an intelligent system for preventing large-scale emergencies in power systems. , 2013, , .		29
17	On the neural network approach for forecasting of nonstationary time series on the basis of the Hilbert-Huang transform. Automation and Remote Control, 2011, 72, 1405-1414.	0.4	25
18	Existence and blow-up of Kantorovich principal continuous solutions of nonlinear integral equations. Differential Equations, 2014, 50, 1217-1224.	0.1	25

#	ARTICLE	IF	CITATIONS
19	Convex majorants method in the theory of nonlinear Volterra equations. Banach Journal of Mathematical Analysis, 2012, 6, 1-10.	0.4	24
20	Generalized quadrature for solving singular integral equations of Abel type in application to infrared tomography. Applied Numerical Mathematics, 2016, 106, 69-78.	1.2	23
21	On parametric families of solutions of Volterra integral equations of the first kind with piecewise smooth kernel. Differential Equations, 2013, 49, 210-216.	0.1	20
22	Solvability of systems of volterra integral equations of the first kind with piecewise continuous kernels. Russian Mathematics, 2013, 57, 54-63.	0.1	19
23	Towards the Flexible Distribution Networks Design Using the Reliability Performance Metric. Energies, 2021, 14, 6193.	1.6	19
24	Forecasting nonstationary time series based on Hilbert-Huang transform and machine learning. Automation and Remote Control, 2014, 75, 922-934.	0.4	17
25	Control of Accuracy on Taylor-Collocation Method for Load Leveling Problem. Bulletin of Irkutsk State University, Series Mathematics, 2019, 30, 59-72.	0.1	17
26	Suppression of moire patterns via spectral analysis. , 2002, , .		16
27	Optimal Operation Control of PV-Biomass Gasifier-Diesel-Hybrid Systems Using Reinforcement Learning Techniques. Energies, 2020, 13, 2632.	1.6	16
28	Machine learning algorithms application to road defects classification. Intelligent Decision Technologies, 2018, 12, 59-66.	0.6	15
29	Centralized emergency control for multi-terminal VSC-based shipboard power systems. International Journal of Electrical Power and Energy Systems, 2019, 104, 205-214.	3.3	14
30	A Valid Dynamical Control on the Reverse Osmosis System Using the CESTAC Method. Mathematics, 2021, 9, 48.	1.1	14
31	Active disturbance rejection control based on EID compensation for LFC with communication delays. IFAC Journal of Systems and Control, 2018, 6, 25-32.	1.1	13
32	Energy balancing using charge/discharge storages control and load forecasts in a renewable-energy-based grids. , 2019, , .		13
33	Nonlinear Systems of Volterra Equations with Piecewise Smooth Kernels: Numerical Solution and Application for Power Systems Operation. Mathematics, 2020, 8, 1257.	1.1	13
34	Optimal Training of Artificial Neural Networks to Forecast Power System State Variables. International Journal of Energy Optimization and Engineering, 2014, 3, 65-82.	0.4	12
35	Dynamical strategy on homotopy perturbation method for solving second kind integral equations using the CESTAC method. Journal of Computational and Applied Mathematics, 2022, 411, 114226.	1.1	12
36	Solving the hammerstein integral equation in the irregular case by successive approximations. Siberian Mathematical Journal, 2010, 51, 325-329.	0.2	11

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37	On the solvability of a class of Volterra operator equations of the first kind with piecewise continuous kernels. Mathematical Notes, 2014, 96, 811-826.	0.1	11
38	A hybrid artificial neural network for voltage security evaluation in a power system. , 2015, , .		11
39	Two-Stage Active and Reactive Power Coordinated Optimal Dispatch for Active Distribution Network Considering Load Flexibility. Energies, 2020, 13, 5922.	1.6	11
40	The hybrid model based on Hilbert-Huang Transform and neural networks for forecasting of short-term operation conditions of power system. , 2011, , .		10
41	On one integral Volterra model of developing dynamical systems. Automation and Remote Control, 2014, 75, 413-421.	0.4	10
42	Discrete Spectrum Reconstruction Using Integral Approximation Algorithm. Applied Spectroscopy, 2017, 71, 1640-1651.	1.2	10
43	Operational Risk Assessment of Electric-Gas Integrated Energy Systems Considering N-1 Accidents. Energies, 2020, 13, 1208.	1.6	10
44	Development of software for modelling decentralized intelligent systems for security monitoring and control in power systems. , 2015, , .		9
45	First results of the tracking system calibration of the TAIGA-IACT telescope. Journal of Physics: Conference Series, 2019, 1181, 012045.	0.3	9
46	Digital Restoration Systems: Coping with Reality. Smpte Motion Imaging Journal, 2003, 112, 225-231.	0.2	8
47	Simplified variable frequency induction-motor drive model for power system stability studies and control. IFAC-PapersOnLine, 2016, 49, 451-454.	0.5	8
48	A Suite of Intelligent Tools for Early Detection and Prevention of Blackouts in Power Interconnections. Automation and Remote Control, 2018, 79, 1741-1755.	0.4	8
49	Machine Learning for Energy Systems. Energies, 2020, 13, 4708.	1.6	8
50	Bidirectional Gated Recurrent Unit-Based Lower Upper Bound Estimation Method for Wind Power Interval Prediction. IEEE Transactions on Artificial Intelligence, 2022, 3, 461-469.	3.4	8
51	Non-stationary autoregressive model for on-line detection of inter-area oscillations in power systems. , 2010, , .		6
52	Volterra Models in Load Leveling Problem. E3S Web of Conferences, 2018, 69, 01015.	0.2	6
53	Economic Dispatch in Smart Grid Based on Fully Distributed Consensus Algorithm with Time Delay. , 2018, , .		6
54	Hybrid Model for Short-Term Forecasting in ElectricPower System. International Journal of Machine Learning and Computing, 2011, , 138-147.	0.8	6

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55	Machine Learning for Energy Systems Optimization. Energies, 2022, 15, 4116.	1.6	6
56	Existence and construction of generalized solutions of nonlinear volterra integral equations of the first kind. Differential Equations, 2006, 42, 1312-1316.	0.1	5
57	Solution of Volterra operator-integral equations in the nonregular case by the successive approximation method. Differential Equations, 2010, 46, 882-891.	0.1	5
58	Development of automatic intelligent system for on-line voltage security control of power systems. , 2017, , .		5
59	On-Line Power Systems Security Assessment Using Data Stream Random Forest Algorithm Modification. Studies in Computational Intelligence, 2018, , 183-200.	0.7	5
60	Voltage/VAR Control and Optimization: AI approach. IFAC-PapersOnLine, 2018, 51, 103-108.	0.5	5
61	On Nonlinear Forced Impulsive Differential Equations under Canonical and Non-Canonical Conditions. Symmetry, 2021, 13, 2066.	1.1	5
62	Automatic defects classification with p-median clustering technique. , 2008, , .		4
63	On-line detection of inter-area oscillations using forgetting approach for power systems monitoring. , 2010, , .		4
64	Application of two stages adaptive neural network approach for short-term forecast of electric power systems. , 2011, , .		4
65	On impulsive control of nonlinear dynamical systems based on the Volterra series. , 2011, , .		4
66	Generalized solutions in the problem of dynamical systems modeling by Volterra polynomials. Automation and Remote Control, 2011, 72, 1258-1263.	0.4	4
67	Small solutions of nonlinear differential equations near branching points. Russian Mathematics, 2011, 55, 43-50.	0.1	4
68	Modeling and operating characteristic analysis of MMC-SST based shipboard power system. , 2016, , .		4
69	Development of computional intelligence-based algorithms of preventing voltage collapse in power systems with a complex multi-loop structure. , 2016, , .		4
70	Resilient future energy systems: smart grids, vehicle-to-grid, and microgrids. , 2021, , 571-597.		4
71	Recurrent Neural Networks Application to Forecasting with Two Cases: Load and Pollution. Advances in Intelligent Systems and Computing, 2020, , 369-378.	0.5	4
72	Solvability and Numerical Solutions of Systems of Nonlinear Volterra Integral Equations of the First Kind with Piecewise Continuous Kernels. Bulletin of the South Ural State University, Series: Mathematical Modelling, Programming and Computer Software, 2016, 9, 130-136.	0.1	4

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73	Volterra Equation Based Models for Energy Storage Usage Based on Load Forecast in EPS with Renewable Generation. Bulletin of Irkutsk State University, Series Mathematics, 2018, 26, 76-90.	0.1	4
74	Generalized solutions to integral equations in the problem of identification of nonlinear dynamic models. Automation and Remote Control, 2009, 70, 598-604.	0.4	3
75	Electricity prices neural networks forecast using the Hilbert-Huang transform. , 2010, , .		3
76	A combined work optimization technology under resource constraints with an application to road repair. Automation and Remote Control, 2016, 77, 1883-1893.	0.4	3
77	Machine learning in electric power systems adequacy assessment using Monte-Carlo method. , 2017, , .		3
78	Random Forest, Support Vector Regression and Gradient Boosting Methods for Ionosphere Total Electron Content Nowcasting Problem at Mid-Latitudes. , 2018, , .		3
79	Parameter Estimation of Electromechanical Oscillation Based on a Constrained EKF with C&I-PSO. Energies, 2018, 11, 2059.	1.6	3
80	Nonlinear systemsâ€™ equilibrium points: branching, blow-up and stability. Journal of Physics: Conference Series, 2019, 1268, 012065.	0.3	3
81	Basins of Attraction and Stability of Nonlinear Systemsâ€™ Equilibrium Points. Differential Equations and Dynamical Systems, 2019, , 1.	0.5	3
82	Solvability and Bifurcation of Solutions of Nonlinear Equations with Fredholm Operator. Symmetry, 2020, 12, 912.	1.1	3
83	Integral Equations: Theories, Approximations, and Applications. Symmetry, 2021, 13, 1402.	1.1	3
84	Solution of Irregular Systems of Partial Differential Equations Using Skeleton Decomposition of Linear Operators. Bulletin of the South Ural State University, Series: Mathematical Modelling, Programming and Computer Software, 2017, 10, 63-73.	0.1	3
85	Application of Meta-Heuristic Optimization Algorithms in Electric Power Systems. , 2013, , 564-615.		3
86	Oscillatory Behavior of Third-Order Quasi-Linear Neutral Differential Equations. Axioms, 2021, 10, 346.	0.9	3
87	<title>Applying wavelets and evolutionary algorithms to automatic image enhancement</title>. , 2006, , .		2
88	The Charge and Discharge Integrated Management Mode of EVs with Financial Incentive Mechanism. , 2018, , .		2
89	A Robust Active Disturbance Rejection Controller Design for LFC in Two-area Power System. , 2018, , .		2
90	Optimal Power Flow Calculation Using BFGS-Based Optimisation Scheme. , 2018, , .		2

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91	Hybrid renewable energy systems, load and generation forecasting, new grids structure, and smart technologies. , 2021, , 475-484.		2
92	Numerical method for systems of nonlinear Volterra integral equations of the first kind with discontinuous kernels. Zhurnal Srednevolzhskogo Matematicheskogo Obshchestva, 2018, 20, 55-63.	0.0	2
93	Classic Solutions of Boundary Value Problems for Partial Differential Equations with Operator of Finite Index in the Main Part of Equation. Bulletin of Irkutsk State University, Series Mathematics, 2019, 27, 55-70.	0.1	2
94	Generalized Solution to the Volterra Equations with Piecewise Continuous Kernels and Sources. World Scientific Series on Nonlinear Science, Series A, 2014, , 55-63.	0.0	2
95	IPMSM Speed and Current Controller Design for Electric Vehicles Based on Explicit MPC. Journal of Advanced Computational Intelligence and Intelligent Informatics, 2019, 23, 1019-1026.	0.5	2
96	Dynamical control on the Adomian decomposition method for solving shallow water wave equation. Vestnik Irkutskogo Gosudarstvennogo Tehniceskogo Universiteta, 2021, 25, 623-632.	0.1	2
97	<title>Robust retrieval from compressed medical image archives</title>. , 2005, 5748, 419.		1
98	Operating conditions forecasting for monitoring and control of electric power systems. , 2010, , .		1
99	Hybrid genetic algorithms for forecasting power systems state variables. , 2013, , .		1
100	A hybrid wind speed forecasting strategy based on Hilbert-Huang transform and machine learning algorithms. , 2014, , .		1
101	Decentralized multi-agent algorithm for voltage control. , 2016, , .		1
102	Power Losses Minimization In Radial Distribution Networks By Capacitor Allocation Using Hybrid Evolutionary Computation Technique. , 2018, , .		1
103	Towards Reliable Ionospheric Total Electron Content Nowcasting. , 2018, , .		1
104	Valid Implementation of the Fractional Order Model of Energy Supply-Demand System. Communications in Computer and Information Science, 2021, , 493-503.	0.4	1
105	Integral Models Applications in Electric Power Engineering. World Scientific Series on Nonlinear Science, Series A, 2014, , 199-225.	0.0	1
106	Areas of Attraction of Equilibrium Points of Nonlinear Systems: Stability, Branching and Blow-up of Solutions. Bulletin of Irkutsk State University, Series Mathematics, 2018, 23, 46-63.	0.1	1
107	Numerical Solution of Volterra Integral Equations of the First Kind with Piecewise Continuous Kernel. Bulletin of the South Ural State University, Series: Mathematical Modelling, Programming and Computer Software, 2014, 7, 107-115.	0.1	1
108	Nonlinear Hammerstein Integral Equations. World Scientific Series on Nonlinear Science, Series A, 2014, , 69-82.	0.0	1

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109	A Study on the Effect of Energy Storage Systems and Distributed Generators on Reliability. , 2021, , .		1
110	A Stochastic Model for Determining Static Stability Margins in Electric Power Systems. Computation, 2022, 10, 67.	1.0	1
111	Generalized solutions of integral–functional equations: construction and applications in power industry. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1040805-1040806.	0.2	0
112	Successive approximations to the solutions to nonlinear equations with a vector parameter in a nonregular case. Journal of Applied and Industrial Mathematics, 2012, 6, 387-392.	0.1	0
113	Volterra Models of Evolving Dynamical Systems. World Scientific Series on Nonlinear Science, Series A, 2014, , 9-12.	0.0	0
114	Suppression of Moiré Patterns for Video Archive Restoration. World Scientific Series on Nonlinear Science, Series A, 2014, , 179-197.	0.0	0
115	Convex Majorants Method in the Theory of Nonlinear Volterra Equations. World Scientific Series on Nonlinear Science, Series A, 2014, , 107-126.	0.0	0
116	Short-term wind power forecasting based on T-S fuzzy model. , 2016, , .		0
117	Identification of Mode Shapes Based on Ambient Signals and the IA-VMD Method. Applied Sciences (Switzerland), 2021, 11, 530.	1.3	0
118	Volterra Model of Energy Storage with Nonlinear Efficiency in Integrated Power Systems. Advances in Intelligent Systems and Computing, 2021, , 808-815.	0.5	0
119	Integral Models Applications. World Scientific Series on Nonlinear Science, Series A, 2014, , 159-161.	0.0	0
120	Volterra Matrix Equation of the First Kind with Piecewise Continuous Kernels. World Scientific Series on Nonlinear Science, Series A, 2014, , 23-36.	0.0	0
121	Volterra Operator Equations of the First Kind with Piecewise Continuous Kernels. World Scientific Series on Nonlinear Science, Series A, 2014, , 37-53.	0.0	0
122	Nonlinear Volterra Operator Equations with Non-invertible Operator. World Scientific Series on Nonlinear Science, Series A, 2014, , 83-94.	0.0	0
123	Nonlinear Models, Singularities and Control. World Scientific Series on Nonlinear Science, Series A, 2014, , 65-67.	0.0	0
124	Nonlinear Differential Equations Near Branching Points. World Scientific Series on Nonlinear Science, Series A, 2014, , 95-106.	0.0	0
125	Volterra Equations of the First Kind with Piecewise Continuous Kernels. World Scientific Series on Nonlinear Science, Series A, 2014, , 13-22.	0.0	0
126	On Impulse Control of Nonlinear Dynamical Systems Based on the Volterra Series. World Scientific Series on Nonlinear Science, Series A, 2014, , 133-157.	0.0	0

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127	Generalized Solutions to Nonlinear Volterra Equations of the First Kind. World Scientific Series on Nonlinear Science, Series A, 2014, , 127-132.	0.0	0
128	The Volterra Models Applications. World Scientific Series on Nonlinear Science, Series A, 2014, , 163-178.	0.0	0
129	On Perturbation Method for the First Kind Equations: Regularization and Application. Bulletin of the South Ural State University, Series: Mathematical Modelling, Programming and Computer Software, 2015, 8, 69-80.	0.1	0
130	Modification of Random Forest Based Approach for Streaming Data with Concept Drift. Bulletin of the South Ural State University, Series: Mathematical Modelling, Programming and Computer Software, 2016, 9, 86-95.	0.1	0
131	Russian-Chinese Workshop "Mathematical Modeling of Renewable and Isolated Hybrid Power Systems". Bulletin of Irkutsk State University, Series Mathematics, 2017, , 122-126.	0.1	0
132	The Identification of External Force Dynamics in The Modeling of Vibration. Bulletin of Irkutsk State University, Series Mathematics, 2017, 19, 105-112.	0.1	0
133	Skeleton Decomposition of Linear Operators in the Theory of Nonregular Systems of Partial Differential Equations. Bulletin of Irkutsk State University, Series Mathematics, 2017, 20, 75-95.	0.1	0
134	Selecting the key control parameters for the ionospheric total electron content nowcasting. Sovremennye Problemy Distantsionnogo Zondirovaniya Zemli Iz Kosmosa, 2018, 15, 263-272.	0.1	0
135	On the Occasion of the 80th Birthday of Professor N. A. Sidorov. Bulletin of Irkutsk State University, Series Mathematics, 2020, 32, 134-143.	0.1	0
136	Review of Monograph â€ÏToward General Theory of Differential â€" Operator and Kinetic Modelsâ€. Bulletin of Irkutsk State University, Series Mathematics, 2020, 32, 118-123.	0.1	0
137	Generalisation of the Frobenius Formula in the Theory of Block Operators on Normed Spaces. Mathematics, 2021, 9, 3066.	1.1	0
138	Branching Solutions of the Cauchy Problem for Nonlinear Loaded Differential Equations with Bifurcation Parameters. Mathematics, 2022, 10, 2134.	1.1	0
139	Application of the stochastic arithmetic to validate the results of nonlinear fractional model of HIV infection for CD8+T-cells. , 2022, , 259-285.		0