

Juri Belikov

List of Publications by Year in descending order

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124
papers

1,481
citations

471509

17
h-index

414414

32
g-index

125
all docs

125
docs citations

125
times ranked

1163
citing authors

#	ARTICLE	IF	CITATIONS
1	Battery Storage Technologies for Electrical Applications: Impact in Stand-Alone Photovoltaic Systems. <i>Energies</i> , 2017, 10, 1760.	3.1	100
2	Challenges of Microgrids in Remote Communities: A STEEP Model Application. <i>Energies</i> , 2018, 11, 432.	3.1	100
3	Incorporation of fractional-order dynamics into an existing PI/PID DC motor control loop. <i>ISA Transactions</i> , 2016, 60, 262-273.	5.7	86
4	Improved Fractional Open Circuit Voltage MPPT Methods for PV Systems. <i>Electronics (Switzerland)</i> , 2019, 8, 321.	3.1	84
5	Uses of the digital twins concept for energy services, intelligent recommendation systems, and demand side management: A review. <i>Energy Reports</i> , 2021, 7, 997-1015.	5.1	81
6	Dynamic Modeling of Networks, Microgrids, and Renewable Sources in the dq0 Reference Frame: A Survey. <i>IEEE Access</i> , 2017, 5, 21323-21335.	4.2	75
7	Effects of the COVID-19 Pandemic on Energy Systems and Electric Power Grids – A Review of the Challenges Ahead. <i>Energies</i> , 2021, 14, 1056.	3.1	65
8	Fractional-order controller design and digital implementation using FOMCON toolbox for MATLAB. , 2013, , .		48
9	Design and implementation of fractional-order PID controllers for a fluid tank system. , 2013, , .		46
10	Readiness of Small Energy Markets and Electric Power Grids to Global Health Crises: Lessons From the COVID-19 Pandemic. <i>IEEE Access</i> , 2020, 8, 127234-127243.	4.2	37
11	MO-NILM: A multi-objective evolutionary algorithm for NILM classification. <i>Energy and Buildings</i> , 2019, 199, 134-144.	6.7	32
12	A Tutorial on Dynamics and Control of Power Systems with Distributed and Renewable Energy Sources Based on the DQ0 Transformation. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 1661.	2.5	30
13	A review of optimal control methods for energy storage systems - energy trading, energy balancing and electric vehicles. <i>Journal of Energy Storage</i> , 2020, 32, 101787.	8.1	30
14	Modeling power networks using dynamic phasors in the dq0 reference frame. <i>Electric Power Systems Research</i> , 2017, 144, 233-242.	3.6	26
15	Applications of Game Theory to Design and Operation of Modern Power Systems: A Comprehensive Review. <i>Energies</i> , 2020, 13, 3982.	3.1	25
16	Closed-loop identification of fractional-order models using FOMCON toolbox for MATLAB. , 2014, , .		24
17	Open source dataset generator for power quality disturbances with deep-learning reference classifiers. <i>Electric Power Systems Research</i> , 2021, 195, 107152.	3.6	24
18	Virtual Inertia Control Methods in Islanded Microgrids. <i>Energies</i> , 2021, 14, 1562.	3.1	23

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19	Measuring Explainability and Trustworthiness of Power Quality Disturbances Classifiers Using XAI – Explainable Artificial Intelligence. IEEE Transactions on Industrial Informatics, 2022, 18, 5127-5137.	11.3	20
20	Efficient analog implementations of fractional-order controllers. , 2013, , .		19
21	Observer-based detection and identification of sensor attacks in networked CPSs. Automatica, 2020, 121, 109166.	5.0	19
22	Comparison of time-varying phasor and dq0 dynamic models for large transmission networks. International Journal of Electrical Power and Energy Systems, 2017, 93, 65-74.	5.5	18
23	FOMCON toolbox for modeling, design and implementation of fractional-order control systems. , 2019, , 211-236.		16
24	Fractional-order modeling and control of ionic polymer-metal composite actuator. Smart Materials and Structures, 2019, 28, 084008.	3.5	15
25	Optimal Control of Lossy Energy Storage Systems With Nonlinear Efficiency Based on Dynamic Programming and Pontryagin's Minimum Principle. IEEE Transactions on Energy Conversion, 2021, 36, 524-533.	5.2	15
26	Challenges and Perspectives in Control of Ionic Polymer-Metal Composite (IPMC) Actuators: A Survey. IEEE Access, 2020, 8, 121059-121073.	4.2	15
27	Recognition of the Surgeon's Motions During Endoscopic Operation by Statistics Based Algorithm and Neural Networks Based ANARX Models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 14773-14778.	0.4	14
28	Adjoint Polynomial Formulas for Nonlinear State-Space Realization. IEEE Transactions on Automatic Control, 2014, 59, 256-261.	5.7	14
29	A Sparse Minimal-Order Dynamic Model of Power Networks Based on dq0 Signals. IEEE Transactions on Power Systems, 2018, 33, 1059-1067.	6.5	14
30	New type of bridge fault current limiter with reduced power losses for transient stability improvement of DFIG wind farm. Electric Power Systems Research, 2021, 197, 107293.	3.6	14
31	Comparison of LPV and nonlinear system theory: A realization problem. Systems and Control Letters, 2014, 64, 72-78.	2.3	13
32	Realization of nonlinear MIMO system on homogeneous time scales. European Journal of Control, 2015, 23, 48-54.	2.6	13
33	Frequency stability of the Israeli power grid with high penetration of renewable sources and energy storage systems. Energy Reports, 2021, 7, 6148-6161.	5.1	13
34	Design of retuning fractional PID controllers for a closed-loop magnetic levitation control system. , 2014, , .		11
35	FOPID controller tuning for fractional FOPDT plants subject to design specifications in the frequency domain. , 2015, , .		11
36	Robust FOPI and FOPID controller design for FFOPDT plants in embedded control applications using frequency-domain analysis. , 2015, , .		11

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37	A novel taylor series based approach for control computation in NN-ANARX structure based control of nonlinear systems. , 2008, , .		10
38	State-space control of nonlinear systems identified by ANARX and Neural Network based SANARX models. , 2010, , .		10
39	Implementation and real-time simulation of a fractional-order controller using a MATLAB based prototyping platform. , 2012, , .		10
40	Integration of long transmission lines in large-scale dq0 dynamic models. Electrical Engineering, 2018, 100, 1219-1228.	2.0	10
41	Verification of Utility-Scale Solar Photovoltaic Plant Models for Dynamic Studies of Transmission Networks. Energies, 2020, 13, 3191.	3.1	10
42	Gain and order scheduled fractional-order PID control of fluid level in a multi-tank system. , 2014, , .		9
43	Model based control of a water tank system. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 10838-10843.	0.4	9
44	Uses and Misuses of Quasi-Static Time-Varying Phasor Models in Power Systems. IEEE Transactions on Power Delivery, 2018, 33, 3263-3266.	4.3	9
45	APPLICATION OF NEURAL NETWORKS BASED ANARX STRUCTURE TO BACKING UP CONTROL OF A TRUCK-TRAILER. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2007, 40, 114-118.	0.4	8
46	Evaluating the Energy Readiness of National Building Stocks Through Benchmarking. IEEE Access, 2022, 10, 45430-45443.	4.2	8
47	Application of MPC to industrial water boiler control system in district heat plant. , 2014, , .		7
48	Reduction of Power System Dynamic Models Using Sparse Representations. IEEE Transactions on Power Systems, 2017, 32, 3893-3900.	6.5	7
49	Open-source software for modeling and analysis of power networks in the dq0 reference frame. , 2017, , .		7
50	Dynamic output feedback linearization based adaptive control of nonlinear MIMO systems. , 2008, , .		6
51	NN-ANARX model based control of nonlinear discrete-time systems with input delay. , 2009, , .		6
52	Distributed storage placement policy for minimizing frequency deviations: A combinatorial optimization approach based on enhanced cross-entropy method. International Journal of Electrical Power and Energy Systems, 2022, 134, 107332.	5.5	6
53	Calculation of the control signal in MIMO NN-based ANARX models: Analytical approach. , 2008, , .		5
54	Minimal realization of nonlinear MIMO equations in state-space form: Polynomial approach. , 2011, , .		5

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55	On exact feedback linearization of HVAC systems. , 2013, , .		5
56	Application of Neural Networks Based SANARX Model for Identification and Control Liquid Level Tank System. , 2013, , .		5
57	On the transformation of a nonlinear discrete-time input-output system into the strong row-reduced form. Proceedings of the Estonian Academy of Sciences, 2016, 65, 220.	1.5	5
58	Global linearization approach to nonlinear control systems: a brief tutorial overview. Proceedings of the Estonian Academy of Sciences, 2017, 66, 243.	1.5	5
59	Stability and stabilizability of linear time-delay systems on homogeneous time scales. Proceedings of the Estonian Academy of Sciences, 2017, 66, 124.	1.5	5
60	Optimal Control of Energy Storage Devices Based on Pontryagin's Minimum Principle and the Shortest Path Method. , 2019, , .		5
61	Structure identification of NN-ANARX model by genetic algorithm with combined cross-correlation-test based evaluation function. , 2011, , .		4
62	Neural networks based minimal or reduced model representation for control of nonlinear MIMO systems. , 2011, , .		4
63	Symbolic Polynomial Tools for Nonlinear Control Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 293-298.	0.4	4
64	GA based optimization of NN-SANARX model for adaptive control of nonlinear systems. , 2012, , .		4
65	Embedded system implementation of digital fractional filter approximations for control applications. , 2014, , .		4
66	O ² : A novel combined online and offline computing system for the ALICE Experiment after 2018. Journal of Physics: Conference Series, 2014, 513, 012037.	0.4	4
67	Digital Realization of Retuning Fractional-Order Controllers for an Existing Closed-Loop Control System. Journal of Circuits, Systems and Computers, 2017, 26, 1750165.	1.5	4
68	Functions™ algebra in nonlinear control: computational aspects and software. Proceedings of the Estonian Academy of Sciences, 2017, 66, 89.	1.5	4
69	Minimal energy storage required for stability of low inertia distributed sources. , 2018, , .		4
70	Control of Energy Storage Devices Under Uncertainty Using Nonlinear Feedback Systems. , 2020, , .		4
71	Bridging the Gap in Technology Transfer for Advanced Process Control with Industrial Applications. Sensors, 2022, 22, 4149.	3.8	4
72	NN-ANARX Structure for Control of Nonlinear SISO and MIMO Systems: Neural Networks Based Approach. , 2006, , .		3

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73	Neural network based dynamic pole placement control of nonlinear systems. , 2009, , .		3
74	Neural network based minimal state-space representation of nonlinear MIMO systems for feedback control. , 2010, , .		3
75	Minimal realisation of bilinear and quadratic input-output difference equations in state-space form. International Journal of Control, 2011, 84, 2024-2034.	1.9	3
76	Observable canonical forms of multi-machine power systems using dq0 signals. , 2016, , .		3
77	Genetic Algorithm Based Structure Identification for Feedback Control of Nonlinear MIMO Systems. Lecture Notes in Computer Science, 2011, , 215-226.	1.3	3
78	Using DQ0 Signals based on the Central Angle Reference Frame to Model the Dynamics of Large-scale Power Systems. , 2020, , .		3
79	Dynamic pole placement based control of nonlinear discrete time systems with input delay. , 2009, , .		2
80	State-space realization of nonlinear input-output equations: Unification and extension via pseudo-linear algebra. , 2011, , .		2
81	Model matching problem for discrete-time nonlinear systems: Transfer function approach. , 2011, , .		2
82	An explicit formula for computation of the state coordinates for nonlinear i/o equation.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 7221-7226.	0.4	2
83	Explicit formulas for the state coordinates in nonlinear MIMO realization problem on homogeneous time scales. , 2012, , .		2
84	NLControl: Symbolic package for study of nonlinear control systems. , 2013, , .		2
85	Generation of stable polytopes of Hurwitz polynomials via Routh parameters. , 2014, , .		2
86	Application of genetic algorithms to neural networks based control of a liquid level tank system. , 2014, , .		2
87	On controllability of switched linear systems on time scales. , 2015, , .		2
88	NN-SANARX model based control of a multi tank liquid-level system. International Journal of Computational Intelligence Systems, 2015, 8, 265.	2.7	2
89	Dynamic modeling and stability analysis of power networks using dq0 transformations with a unified reference frame. Proceedings of the Estonian Academy of Sciences, 2018, 65, 368.	1.5	2
90	State feedback linearization of nonlinear control systems on homogeneous time scales. Nonlinear Analysis: Hybrid Systems, 2019, 31, 69-85.	3.5	2

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91	An Extended Flatness-Based Controller for Permanent Magnet Synchronous Machines Incorporating an Event-Based Mechanism. , 2019, , .		2
92	Degree of Dieudonné determinant defines the order of nonlinear system. International Journal of Control, 2019, 92, 518-527.	1.9	2
93	Realizability of bilinear input/output difference equations: corrections and extensions. , 2010, , .		1
94	Practical polynomial formulas in MIMO nonlinear realization problem. , 2012, , .		1
95	Stable cones of polynomials via Routh rays. , 2015, , .		1
96	A polynomial approach to a nonlinear model matching problem. Proceedings of the Estonian Academy of Sciences, 2016, 65, 330.	1.5	1
97	Robust pole assignment via Routh rays of polynomials. , 2016, , .		1
98	Regions of exponential stability in coefficient space for linear systems on nonuniform discrete domains. Journal of Difference Equations and Applications, 2017, 23, 878-892.	1.1	1
99	Grey Box Identification of Fractional-order System Models from Frequency Domain Data. , 2018, , .		1
100	Analyzing the Dynamics and Stability of DQ0 Systems Based on a Port-Hamiltonian Approach. , 2019, , .		1
101	Feature Engineering for Short-Term Forecast of Energy Consumption. , 2019, , .		1
102	Construction of Nonlinear Feedback Strategies for Energy Storage Systems: a Stochastic Dynamic Programming Approach. , 2021, , .		1
103	Minimal Output Impedance Required for Stability of Grid-Supporting Inverters. IEEE Transactions on Power Delivery, 2021, 36, 2241-2244.	4.3	1
104	Online Identification of the System Order with ANARX Structure. Lecture Notes in Computer Science, 2011, , 5-15.	1.3	1
105	Computational Intelligence Methods Based Design of Closed-Loop System. Lecture Notes in Computer Science, 2013, , 215-224.	1.3	1
106	Storage for Grid Deferral: The Case of Israel. , 2021, , .		1
107	Effects of Economic Shocks on Power Systems: COVID-19 as a Case Study. , 2021, , .		1
108	Model reference control of nonlinear MIMO systems by dynamic output feedback linearization of ANARX models. , 2009, , .		0

#	ARTICLE	IF	CITATIONS
109	Model reference control of nonlinear TITO systems by dynamic output feedback linearization of neural network based ANARX models. , 2009, , .		0
110	Automated neural network model selection algorithm for feedback linearization based control. , 2010, , .		0
111	Neuro-fuzzy dynamic pole placement control of nonlinear discrete-time systems. , 2011, , .		0
112	On applicability of LPV tools for bilinear systems. , 2011, , .		0
113	Region of Admissible Values for Discrete-time Nonlinear Control System Linearized by Output Feedback.. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2011, 44, 209-214.	0.4	0
114	A symbolic software package for nonlinear control systems. , 2013, , .		0
115	Dynamic feedback linearization of nonlinear control systems on homogenous time scale. , 2014, , .		0
116	Digital implementation of retuning fractional controllers for an existing closed-loop magnetic levitation control system. , 2016, , .		0
117	Performance Limits of Low Inertia Power Systems Based on Minimum Energy Control. , 2019, , .		0
118	A clustered neighbourhood consensus algorithm for a generic agent interaction protocol. International Journal of Advanced Intelligence Paradigms, 2019, 12, 305.	0.3	0
119	NN-SANARX Model Based Control of a Water Tank System Using Embedded Microcontroller Arduino. , 2019, , .		0
120	Assessing Energy Generation and Consumption Patterns in Times of Crisis: COVID-19 as a Case Study. , 2021, , .		0
121	Algebraic Approach for Analysis and Control of a Water Tank System. Information Technology and Control, 2016, 45, .	2.1	0
122	On stable cones of polynomials via reduced Routh parameters. Kybernetika, 0, , 461-477.	0.0	0
123	Evolutionary Optimization Based Fractional Order controller for Web Transport Systems in Process Industries. International Journal of Advanced Intelligence Paradigms, 2018, 10, 1.	0.3	0
124	An Optimal Control Method for Storage Systems With Ramp Constraints, Based on an On-Going Trimming Process. IEEE Transactions on Control Systems Technology, 2023, 31, 493-496.	5.2	0