Juri Belikov

List of Publications by Year in descending order

124 papers	1,481 citations	535685 17 h-index	466096 32 g-index
125 all docs	125 docs citations	125 times ranked	1319 citing authors

#	Article	IF	Citations
1	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.	3.2	0
2	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.	3.3	6
3	Measuring Explainability and Trustworthiness of Power Quality Disturbances Classifiers Using XAIâ€"Explainable Artificial Intelligence. IEEE Transactions on Industrial Informatics, 2022, 18, 5127-5137.	7.2	20
4	Evaluating the Energy Readiness of National Building Stocks Through Benchmarking. IEEE Access, 2022, 10, 45430-45443.	2.6	8
5	Bridging the Gap in Technology Transfer for Advanced Process Control with Industrial Applications. Sensors, 2022, 22, 4149.	2.1	4
6	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.	3.7	15
7	Effects of the COVID-19 Pandemic on Energy Systems and Electric Power Gridsâ€"A Review of the Challenges Ahead. Energies, 2021, 14, 1056.	1.6	65
8	Virtual Inertia Control Methods in Islanded Microgrids. Energies, 2021, 14, 1562.	1.6	23
9	Open source dataset generator for power quality disturbances with deep-learning reference classifiers. Electric Power Systems Research, 2021, 195, 107152.	2.1	24
10	Construction of Nonlinear Feedback Strategies for Energy Storage Systems: a Stochastic Dynamic Programming Approach. , 2021, , .		1
11	Assessing Energy Generation and Consumption Patterns in Times of Crisis: COVID-19 as a Case Study. , 2021, , .		0
12	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.	2.1	14
13	Minimal Output Impedance Required for Stability of Grid-Supporting Inverters. IEEE Transactions on Power Delivery, 2021, 36, 2241-2244.	2.9	1
14	Frequency stability of the Israeli power grid with high penetration of renewable sources and energy storage systems. Energy Reports, 2021, 7, 6148-6161.	2.5	13
15	Uses of the digital twins concept for energy services, intelligent recommendation systems, and demand side management: A review. Energy Reports, 2021, 7, 997-1015.	2.5	81
16	Storage for Grid Deferral: The Case of Israel. , 2021, , .		1
17	Effects of Economic Shocks on Power Systems: COVID-19 as a Case Study. , 2021, , .		1
18	A review of optimal control methods for energy storage systems - energy trading, energy balancing and electric vehicles. Journal of Energy Storage, 2020, 32, 101787.	3.9	30

#	Article	IF	Citations
19	Applications of Game Theory to Design and Operation of Modern Power Systems: A Comprehensive Review. Energies, 2020, 13, 3982.	1.6	25
20	Readiness of Small Energy Markets and Electric Power Grids to Global Health Crises: Lessons From the COVID-19 Pandemic. IEEE Access, 2020, 8, 127234-127243.	2.6	37
21	Observer-based detection and identification of sensor attacks in networked CPSs. Automatica, 2020, 121, 109166.	3.0	19
22	Verification of Utility-Scale Solar Photovoltaic Plant Models for Dynamic Studies of Transmission Networks. Energies, 2020, 13, 3191.	1.6	10
23	Challenges and Perspectives in Control of Ionic Polymer-Metal Composite (IPMC) Actuators: A Survey. IEEE Access, 2020, 8, 121059-121073.	2.6	15
24	Control of Energy Storage Devices Under Uncertainty Using Nonlinear Feedback Systems. , 2020, , .		4
25	Using DQ0 Signals based on the Central Angle Reference Frame to Model the Dynamics of Large-scale Power Systems. , 2020, , .		3
26	State feedback linearization of nonlinear control systems on homogeneous time scales. Nonlinear Analysis: Hybrid Systems, 2019, 31, 69-85.	2.1	2
27	An Extended Flatness-Based Controller for Permanent Magnet Synchronous Machines Incorporating an Event-Based Mechanism. , 2019, , .		2
28	Performance Limits of Low Inertia Power Systems Based on Minimum Energy Control. , 2019, , .		0
29	Analyzing the Dynamics and Stability of DQ0 Systems Based on a Port-Hamiltonian Approach. , 2019, , .		1
30	Fractional-order modeling and control of ionic polymer-metal composite actuator. Smart Materials and Structures, 2019, 28, 084008.	1.8	15
31	MO-NILM: A multi-objective evolutionary algorithm for NILM classification. Energy and Buildings, 2019, 199, 134-144.	3.1	32
32	A clustered neighbourhood consensus algorithm for a generic agent interaction protocol. International Journal of Advanced Intelligence Paradigms, 2019, 12, 305.	0.2	0
33	Improved Fractional Open Circuit Voltage MPPT Methods for PV Systems. Electronics (Switzerland), 2019, 8, 321.	1.8	84
34	Feature Engineering for Short-Term Forecast of Energy Consumption. , 2019, , .		1
35	NN-SANARX Model Based Control of a Water Tank System Using Embedded Microcontroller Arduino. , 2019, , .		0
36	Optimal Control of Energy Storage Devices Based on Pontryagin's Minimum Principle and the Shortest Path Method. , 2019, , .		5

#	Article	IF	Citations
37	FOMCON toolbox for modeling, design and implementation of fractional-order control systems. , 2019, , 211-236.		16
38	Degree of DieudonnÃ© determinant defines the order of nonlinear system. International Journal of Control, 2019, 92, 518-527.	1.2	2
39	Integration of long transmission lines in large-scale dq0 dynamic models. Electrical Engineering, 2018, 100, 1219-1228.	1.2	10
40	A Sparse Minimal-Order Dynamic Model of Power Networks Based on dq0 Signals. IEEE Transactions on Power Systems, 2018, 33, 1059-1067.	4.6	14
41	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.	0.9	2
42	A Tutorial on Dynamics and Control of Power Systems with Distributed and Renewable Energy Sources Based on the DQ0 Transformation. Applied Sciences (Switzerland), 2018, 8, 1661.	1.3	30
43	Grey Box Identification of Fractional-order System Models from Frequency Domain Data. , 2018, , .		1
44	Minimal energy storage required for stability of low inertia distributed sources. , 2018, , .		4
45	Uses and Misuses of Quasi-Static Time-Varying Phasor Models in Power Systems. IEEE Transactions on Power Delivery, 2018, 33, 3263-3266.	2.9	9
46	Challenges of Microgrids in Remote Communities: A STEEP Model Application. Energies, 2018, 11, 432.	1.6	100
47	Evolutionary Optimization Based Fractional Order controller for Web Transport Systems in Process Industries. International Journal of Advanced Intelligence Paradigms, 2018, 10, 1.	0.2	0
48	Modeling power networks using dynamic phasors in the dq0 reference frame. Electric Power Systems Research, 2017, 144, 233-242.	2.1	26
49	Reduction of Power System Dynamic Models Using Sparse Representations. IEEE Transactions on Power Systems, 2017, 32, 3893-3900.	4.6	7
50	Comparison of time-varying phasor and dq 0 dynamic models for large transmission networks. International Journal of Electrical Power and Energy Systems, 2017, 93, 65-74.	3.3	18
51	Digital Realization of Retuning Fractional-Order Controllers for an Existing Closed-Loop Control System. Journal of Circuits, Systems and Computers, 2017, 26, 1750165.	1.0	4
52	Open-source software for modeling and analysis of power networks in the dq0 reference frame. , 2017, , .		7
53	Dynamic Modeling of Networks, Microgrids, and Renewable Sources in the dq0 Reference Frame: A Survey. IEEE Access, 2017, 5, 21323-21335.	2.6	75
54	Regions of exponential stability in coefficient space for linear systems on nonuniform discrete domains. Journal of Difference Equations and Applications, 2017, 23, 878-892.	0.7	1

#	Article	IF	Citations
55	Battery Storage Technologies for Electrical Applications: Impact in Stand-Alone Photovoltaic Systems. Energies, 2017, 10, 1760.	1.6	100
56	Global linearization approach to nonlinear control systems: a brief tutorial overview. Proceedings of the Estonian Academy of Sciences, 2017, 66, 243.	0.9	5
57	Stability and stabilizability of linear time-delay systems on homogeneous time scales. Proceedings of the Estonian Academy of Sciences, 2017, 66, 124.	0.9	5
58	Functionsâ€™ algebra in nonlinear control: computational aspects and software. Proceedings of the Estonian Academy of Sciences, 2017, 66, 89.	0.9	4
59	On the transformation of a nonlinear discrete-time inputâ€“output system into the strong row-reduced form. Proceedings of the Estonian Academy of Sciences, 2016, 65, 220.	0.9	5
60	A polynomial approach to a nonlinear model matching probleem. Proceedings of the Estonian Academy of Sciences, 2016, 65, 330.	0.9	1
61	Digital implementation of retuning fractional controllers for an existing closed-loop magnetic levitation control system. , 2016, , .		0
62	Observable canonical forms of multi-machine power systems using dq0 signals. , 2016, , .		3
63	Robust pole assignment via Routh rays of polynomials. , 2016, , .		1
64	Incorporation of fractional-order dynamics into an existing PI/PID DC motor control loop. ISA Transactions, 2016, 60, 262-273.	3.1	86
65	Algebraic Approach for Analysis and Control of a Water Tank System. Information Technology and Control, 2016, 45, .	1.1	0
66	On controllability of switched linear systems on time scales. , 2015, , .		2
67	NN-SANARX model based control of a multi tank liquid-level system. International Journal of Computational Intelligence Systems, 2015, 8, 265.	1.6	2
68	Stable cones of polynomials via Routh rays. , 2015, , .		1
69	FOPID controller tuning for fractional FOPDT plants subject to design specifications in the frequency domain. , 2015, , .		11
70	Realization of nonlinear MIMO system on homogeneous time scales. European Journal of Control, 2015, 23, 48-54.	1.6	13
71	Robust FOPI and FOPID controller design for FFOPDT plants in embedded control applications using frequency-domain analysis. , 2015, , .		11
72	Dynamic feedback linearization of nonlinear control systems on homogenous time scale. , 2014, , .		0

#	Article	IF	Citations
73	Generation of stable polytopes of Hurwitz polynomials via Routh parameters. , 2014, , .		2
74	Closed-loop identification of fractional-order models using FOMCON toolbox for MATLAB. , 2014, , .		24
75	Application of genetic algorithms to neural networks based control of a liquid level tank system. , 2014, , .		2
76	Design of retuning fractional PID controllers for a closed-loop magnetic levitation control system. , 2014, , .		11
77	Application of MPC to industrial water boiler control system in district heat plant. , 2014, , .		7
78	Gain and order scheduled fractional-order PID control of fluid level in a multi-tank system. , 2014, , .		9
79	Comparison of LPV and nonlinear system theory: A realization problem. Systems and Control Letters, 2014, 64, 72-78.	1.3	13
80	Adjoint Polynomial Formulas for Nonlinear State-Space Realization. IEEE Transactions on Automatic Control, 2014, 59, 256-261.	3.6	14
81	Embedded system implementation of digital fractional filter approximations for control applications. , 2014, , .		4
82	Model based control of a water tank system. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2014, 47, 10838-10843.	0.4	9
83	O²: A novel combined online and offline computing system for the ALICE Experiment after 2018. Journal of Physics: Conference Series, 2014, 513, 012037.	0.3	4
84	Efficient analog implementations of fractional-order controllers. , 2013, , .		19
85	On exact feedback linearization of HVAC systems. , 2013, , .		5
86	A symbolic software package for nonlinear control systems. , 2013, , .		0
87	Fractional-order controller design and digital implementation using FOMCON toolbox for MATLAB. , 2013, , .		48
88	Design and implementation of fractional-order PID controllers for a fluid tank system. , 2013, , .		46
89	Application of Neural Networks Based SANARX Model for Identification and Control Liquid Level Tank System. , 2013, , .		5
90	NLControl: Symbolic package for study of nonlinear control systems. , 2013, , .		2

#	Article	IF	Citations
91	Computational Intelligence Methods Based Design of Closed-Loop System. Lecture Notes in Computer Science, 2013, , 215-224.	1.0	1
92	Explicit formulas for the state coordinates in nonlinear MIMO realization problem on homogeneous time scales. , 2012, , .		2
93	Practical polynomial formulas in MIMO nonlinear realization problem. , 2012, , .		1
94	Symbolic Polynomial Tools for Nonlinear Control Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 293-298.	0.4	4
95	GA based optimization of NN-SANARX model for adaptive control of nonlinear systems. , 2012, , .		4
96	Implementation and real-time simulation of a fractional-order controller using a MATLAB based prototyping platform. , 2012, , .		10
97	Structure identification of NN-ANARX model by genetic algorithm with combined cross-correlation-test based evaluation function. , 2011, , .		4
98	State-space realization of nonlinear input-output equations: Unification and extension via pseudo-linear algebra. , 2011, , .		2
99	Model matching problem for discrete-time nonlinear systems: Transfer function approach. , 2011, , .		2
100	Minimal realization of nonlinear MIMO equations in state-space form: Polynomial approach. , 2011, , .		5
101	Neuro-fuzzy dynamic pole placement control of nonlinear discrete-time systems. , 2011, , .		0
102	Neural networks based minimal or reduced model representation for control of nonlinear MIMO systems. , 2011, , .		4
103	On applicability of LPV tools for bilinear systems. , 2011, , .		0
104	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
105	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
106	Minimal realisation of bilinear and quadratic inputâ€“output difference equations in state-space form. International Journal of Control, 2011, 84, 2024-2034.	1.2	3
107	Genetic Algorithm Based Structure Identification for Feedback Control of Nonlinear MIMO Systems. Lecture Notes in Computer Science, 2011, , 215-226.	1.0	3
108	Online Identification of the System Order with ANARX Structure. Lecture Notes in Computer Science, 2011, , 5-15.	1.0	1

#	Article	IF	Citations
109	State-space control of nonlinear systems identified by ANARX and Neural Network based SANARX models. , 2010, , .		10
110	Automated neural network model selection algorithm for feedback linearization based control. , 2010, , .		0
111	Realizability of bilinear input/output difference equations: corrections and extensions. , 2010, , .		1
112	Neural network based minimal state-space representation of nonlinear MIMO systems for feedback control. , 2010, , .		3
113	Dynamic pole placement based control of nonlinear discrete time systems with input delay. , 2009, , .		2
114	NN-ANARX model based control of nonlinear discrete-time systems with input delay. , 2009, , .		6
115	Model reference control of nonlinear MIMO systems by dynamic output feedback linearization of ANARX models. , 2009, , .		0
116	Neural network based dynamic pole placement control of nonlinear systems. , 2009, , .		3
117	Model reference control of nonlinear TITO systems by dynamic output feedback linearization of neural network based ANARX models. , 2009, , .		0
118	Dynamic output feedback linearization based adaptive control of nonlinear MIMO systems. , 2008, , .		6
119	Calculation of the control signal in MIMO NN-based ANARX models: Analytical approach. , 2008, , .		5
120	A novel taylor series based approach for control computation in NN-ANARX structure based control of nonlinear systems. , 2008, , .		10
121	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
122	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
123	NN-ANARX Structure for Control of Nonlinear SISO and MIMO Systems: Neural Networks Based Approach. , 2006, , .		3
124	On stable cones of polynomials via reduced Routh parameters. Kybernetika, 0, , 461-477.	0.0	0