

Adjoint polynomial formulas for nonlinear state-space realization

Belikov, Juri; Kotta, Ülle; Tönso, Maris IEEE transactions on automatic control 2014 / p. 256-261

<https://doi.org/10.1109/TAC.2013.2270868> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Algebraic approach for analysis and control of a water tank system

Belikov, Juri; Kotta, Ülle; Tepljakov, Aleksei Information technology and control 2016 / p. 175-183 : ill

<https://doi.org/10.5755/j01.itc.45.2.13212> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ambient data-based online identification and location of frequency oscillations

Cai, Guowei; Xuan, Lei; Sun, Zhenglong; Chao, Jiang; **Belikov, Juri**; Levron, Yoash International Journal of Electrical Power and Energy Systems 2024 / art. 109843 <https://doi.org/10.1016/j.ijepes.2024.109843> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analyzing the dynamics and stability of DQ0 systems based on a Port-Hamiltonian approach

Levron, Yoash; **Kaparin, Vadim; Belikov, Juri** 2019 27th Mediterranean Conference on Control and Automation (MED) 2019 / p. 410-415 : ill <https://doi.org/10.1109/MED.2019.8798495>

Application of genetic algorithms to neural networks based control of a liquid level tank system

Vassiljeva, Kristina; Belikov, Juri; Petlenkov, Eduard 2014 International Joint Conference on Neural Networks (IJCNN) : July 6-11, 2014, Beijing, China 2014 / p. 2525-2530 : ill <https://doi.org/10.1109/IJCNN.2014.6889912> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Application of MPC to industrial water boiler control system in district heat plant

Vansovitš, Vitali; Petlenkov, Eduard; Vassiljeva, Kristina; Tepljakov, Aleksei; Belikov, Juri 2014 13th International Conference on Control, Automation, Robotics & Vision (ICARCV 2014) : Marina Bay Sands, Singapore, 10-12th December 2014 2014 / p. 1609-1614 : ill

Application of neural networks based ANARX structure to backing up control of a truck-trailer [Electronic resource]

Belikov, Juri; Petlenkov, Eduard; Nömm, Sven 6th IFAC Symposium on Intelligent Autonomous Vehicles : IFAC IAV 2007 : September 3-5, 2007, Toulouse, France : symposium proceedings CD ROM 2007 / [5] p. [CD-ROM] <https://www.sciencedirect.com/science/article/pii/S147466701634647X>

Application of neural networks based SANARX model for identification and control liquid level tank system

Belikov, Juri; Nömm, Sven; Petlenkov, Eduard; Vassiljeva, Kristina 2013 12th International Conference on Machine Learning and Applications : ICMLA 2013 : 4-7 December 2013, Miami, Florida, USA : proceedings. Vol. 1 2013 / p. 246-251 : ill

Application of neural-network based variable fractional order PID controllers for load frequency control in isolated microgrids

Belikov, Juri; Nosrati, Komeil; Škiparev, Vjatseslav; **Tepljakov, Aleksei; Petlenkov, Eduard**; Levron, Yoash Power system frequency control : modeling and advances. 1st Ed 2023 / p. 203-216 : ill <https://www.elsevier.com/books/power-system-frequency-control/mishra/978-0-443-18426-0>

Application of Newton's method to analog and digital realization of fractional-order controllers

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri International journal of microelectronics and computer science 2012 / p. 45-52 : ill https://www.researchgate.net/publication/259741864_Application_of_Newton%27s_Method_to_Analog_and_Digital_Realization_of_Fractional-order_Controllers

Applications of digital twins for demand side recommendation scheme with consumer comfort constraints

Onile, Abiodun Emmanuel; Belikov, Juri; Petlenkov, Eduard; Levron, Yoash IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2023) : proceedings 2023 / 5 p <https://doi.org/10.1109/ISGTEUROPE56780.2023.10407399>

Applications of game theory to design and operation of modern power systems: a comprehensive review

Navon, Aviad; Yosef, Gefen Ben; Machlev, Ram; Shapira, Shmuel; Chowdhury, Nilanjan Roy; **Belikov, Juri**; Orda, Ariel; Levron, Yoash Energies 2020 / art. 3982, 34 p <https://doi.org/10.3390/en13153982> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Assessing energy generation and consumption patterns in times of crisis : COVID-19 as a case study

Ofir, Ron; Zargari, Noa; Levron, Yoash; **Belikov, Juri** 2021 IEEE Madrid PowerTech 2021 / 6 l <https://doi.org/10.1109/PowerTech46648.2021.9494753>

Automated neural network model selection algorithm for feedback linearization based control

Vassiljeva, Kristina; Petlenkov, Eduard; Belikov, Juri BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 235-238 : ill

Battery storage technologies for electrical applications : impact in stand-alone photovoltaic systems

Akinyele, Daniel; **Belikov, Juri**; Levron, Yoash Energies 2017 / art. 1760, 39 p. : ill <https://doi.org/10.3390/en10111760> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Bridging the gap in technology transfer for advanced process control with industrial applications

Vansovits, Vitali; **Petlenkov, Eduard**; **Tepljakov, Aleksei**; **Vassiljeva, Kristina**; **Belikov, Juri** Sensors 2022 / art. 4149 <https://doi.org/10.3390/s22114149> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Challenges and perspectives in control of ionic polymer-metal composite (IPMC) actuators : a survey

Aabloo, Alvo; **Belikov, Juri**; **Kaparin, Vadim**; **Kotta, Ülle** IEEE Access 2021 / art. 9133056, p. 121059-121073 <https://doi.org/10.1109/ACCESS.2020.3007020> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Challenges of microgrids in remote communities: a STEEP model application

Akinyele, Daniel; **Belikov, Juri**; Levron, Yoash Energies 2018 / art. 432, 35 p. : ill <https://doi.org/10.3390/en11020432> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metric at WOS](#) [Article at WOS](#)

Closed-loop identification of fractional-order models using FOMCON toolbox for MATLAB

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 213-216 : ill

Comparative analysis of machine learning techniques for non-intrusive load monitoring

Shabbir, Noman; **Vassiljeva, Kristina**; **Hokmabad, Hossein Nouroollahi**; **Husev, Oleksandr**; **Petlenkov, Eduard**; **Belikov, Juri** Electronics 2024 / art. 1420 <https://doi.org/10.3390/electronics13081420> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A comparative study on graph-based ranking algorithms for consumer-oriented demand side management

Onile, Abiodun Emmanuel; **Belikov, Juri**; **Petlenkov, Eduard**; Levron, Yoash 2021 IEEE Madrid PowerTech 2021 / 6 p <https://doi.org/10.1109/PowerTech46648.2021.9494752>

Comparison of LPV and nonlinear system theory : a realization problem

Belikov, Juri; **Kotta, Ülle**; **Tönso, Maris** Systems & control letters 2014 / p. 72-78 <https://doi.org/10.1016/j.sysconle.2013.10.009> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison of time-varying phasor and dq0 dynamic models for large transmission networks

Belikov, Juri; Levron, Yoash International journal of electrical power & energy systems 2017 / p. 65-74 <https://doi.org/10.1016/j.ijepes.2017.05.017> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Computation of open-loop frequency-domain characteristics of fractional FORDT plants with FOPID controllers

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** Doctoral School in Information and Communication Technology : proceedings of doctoral session of BEC 2014 : October 6-8 2014, Laulasmaa 2014 / p. 23-26

Computational intelligence methods based design of closed-loop system

Belikov, Juri; **Petlenkov, Eduard**; **Vassiljeva, Kristina**; **Nõmm, Sven** Neural information processing : 20th International Conference, ICONIP 2013, Daegu, Korea, November 3-7, 2013 : proceedings. Part I 2013 / p. 215-224 : ill https://doi.org/10.1007/978-3-642-42054-2_28 [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Constrained intelligent frequency control in an AC Microgrid : an Online reinforcement learning based PID tuning approach

Nosrati, Komeil; **Tepljakov, Aleksei**; **Petlenkov, Eduard**; **Škiparev, Vjatcheslav**; **Belikov, Juri**; Levron, Yoash 2023 IEEE Power & Energy Society General Meeting (PESGM) 2023 / 5 p. : ill <https://doi.org/10.1109/PESGM52003.2023.10252482>

Construction of nonlinear feedback strategies for energy storage systems : a stochastic dynamic programming approach

Chowdhury, Nilanjan Roy; Baimel, Dmitry; **Belikov, Juri**; Levron, Yoash 2021 IEEE Madrid PowerTech 2021 / 6 p <https://doi.org/10.1109/PowerTech46648.2021.9494819>

Control of energy storage devices under uncertainty using nonlinear feedback systems

Levron, Yoash; **Belikov, Juri** 2020 IEEE Power & Energy Society General Meeting : (PESGM 2020) Montreal, Quebec, Canada, 2-6 August 2020 : proceedings 2020 / p. 95-99 <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9281879>

Coordinated PI-based frequency deviation control of isolated hybrid microgrid : an online multi-agent tuning approach via reinforcement learning

Nosrati, Komeil; **Tepljakov, Aleksei**; **Petlenkov, Eduard**; Levron, Yoash; **Škiparev, Vjatcheslav**; **Belikov, Juri** 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe) : proceedings 2022 / p. 1-5 : ill <https://doi.org/10.1109/ISGT-Europe54678.2022.9960311>

The cost-competitiveness of concentrated solar power with thermal energy storage in power systems with high solar penetration levels

Miron, Dror; Navon, Aviad; Levron, Yoash; **Belikov, Juri**; Rotschild, Carmel Journal of Energy Storage 2023 / art. 108464
<https://doi.org/10.1016/j.est.2023.108464> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Data-driven model for real-time evaluating capacity of commercial buildings to participate in the demand response

Belikov, Juri; Matskevich, Aliaksei; **Köse, Ahmet**; **Petlenkov, Eduard** E3S Web of Conferences : BuildSim Nordic 2024 2024 / art. 04001, 12 p <https://doi.org/10.1051/e3sconf/202456204001> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Data-driven occupancy profile identification and application to the ventilation schedule in a school building

Vassiljeva, Kristina; **Matson, Margarita**; **Ferrantelli, Andrea**; **Petlenkov, Eduard**; **Thalfeldt, Martin**; **Belikov, Juri** Energies 2024 / art. 3080 <https://doi.org/10.3390/en17133080> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Day-ahead PV output power forecasting utilizing boosting recursive lightGBM-LSTM framework

Hokmabad, Hossein Nouroollahi; **Husev, Oleksandr**; **Vinnikov, Dmitri**; **Belikov, Juri**; **Petlenkov, Eduard** IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2023) : proceedings 2023 / 5 p
<https://doi.org/10.1109/ISGTEUROPE56780.2023.10408090>

Death spiral of the legacy grid : a game-theoretic approach for studying grid defection

Navon, Aviad; **Belikov, Juri**; **Ofir, Ron**; **Parag, Yael**; **Orda, Ariel**; **Levron, Yoash** iScience 2023 / art. 106415, 17 p. : ill
<https://doi.org/10.1016/j.isci.2023.106415> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Degree of Dieudonne determinant defines the order of nonlinear system

Kotta, Ülle; **Belikov, Juri**; Halas, Miroslav; **Leibak, Alar** International journal of control 2019 / p. 518-527
<https://doi.org/10.1080/00207179.2017.1361042> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Demand side management for commercial buildings : multiple heating systems based optimization in real-time

Köse, Ahmet; **Sukhanov, Ivan**; **Belikov, Juri**; **Tepljakov, Aleksei**; **Petlenkov, Eduard** Proceedings of the 30th ICE IEEE/ITMC Conference on Engineering, Technology, and Innovation: Digital Transformation on Engineering, Technology and Innovation, ICE 2024 2024 IEEE International Conference on Engineering, Technology, and Innovation (ICE/ITMC) 2024 / 8 p
<https://doi.org/10.1109/ICE/ITMC61926.2024.10794302>

Design and implementation of fractional-order PID controllers for a fluid tank system

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri**; Halas, Miroslav 2013 American Control Conference (ACC) : Washington, DC, USA, June 17-19, 2013 2013 / p. 1777-1782 : ill <https://doi.org/10.1109/acc.2013.6580093> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Design of retuning fractional PID controllers for a closed-loop magnetic levitation control system

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri**; Gonzalez, Emmanuel A. 2014 13th International Conference on Control, Automation, Robotics & Vision (ICARCV 2014) : Marina Bay Sands, Singapore, 10-12th December 2014 2014 / p. 1345-1350 : ill

Development of analytical tuning methods for fractional-order controllers

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK kuuenda aastakonverentsi artiklite kogumik : 3.-5. oktoobril 2012, Laulasmaa 2012 / p. 93-96 : ill

Digitaalsed kaksikud teevad säästlikust energiatarbimisest võistluse [Võrguväljaanne]

Harrik, Airika novaator.err.ee 2021 / fot [Digitaalsed kaksikud teevad säästlikust energiatarbimisest võistluse](#)

Digital fractional-order control of a position servo

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri**; **Astapov, Sergei** Proceedings of the 20th International Conference Mixed Design of Integrated Circuits and Systems : MIXDES 2013, Gdynia, Poland, June 20-22, 2013 2013 / p. 462-467 : ill

Digital implementation of retuning fractional controllers for an existing closed-loop magnetic levitation control system

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** 2016 39th International Conference on Telecommunications and Signal Processing : TSP : June 27-29, 2016, Vienna, Austria 2016 / p. 630-633 : ill <https://doi.org/10.1109/TSP.2016.7760958>

Digital realization of retuning fractional-order controllers for an existing closed-loop control system

Tepljakov, Aleksei; **Petlenkov, Eduard**; Gonzalez, Emmanuel A.; **Belikov, Juri** Journal of circuits, systems, and computers 2017 / art. 1750165, p. 1-26 <https://doi.org/10.1142/S0218126617501651> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Distributed storage placement policy for minimizing frequency deviations: A combinatorial optimization approach based on enhanced cross-entropy method

Machlev, Ram; **Chowdhury, Nilanjan Roy**; **Belikov, Juri**; **Levron, Yoash** International Journal of Electrical Power and Energy Systems 2022 / p. 1-14 : ill <https://doi.org/10.1016/j.ijepes.2021.107332> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at](#)

Dynamic modeling and stability analysis of power networks using DQ0 transformations with a unified reference frame

Belikov, Juri; Levron, Yoash Proceedings of the Estonian Academy of Sciences 2018 / p. 368-377 : ill

http://www.kirj.ee/public/proceedings_pdf/2018/issue_4/proc-2018-4-368-377.pdf <https://doi.org/10.3176/proc.2018.67.4.05> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Dynamic modeling of networks, microgrids, and renewable sources in the dq0 reference frame : a survey

Baimel, Dmitry; **Belikov, Juri**; Guerrero, Joseph M.; Levron, Yoash IEEE Access 2017 / p. 21323-21335 : ill

<https://doi.org/10.1109/ACCESS.2017.2758523> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Dynamic output feedback linearization based adaptive control of nonlinear MIMO systems

Petlenkov, Eduard; **Belikov, Juri**; Nõmm, Sven; Wyrwas, Małgorzata The American Control Conference (ACC2008) : Seattle, Washington, USA, June 11-13, 2008 2008 / p. 3446-3451 <https://ieeexplore.ieee.org/document/4587026>

Dynamic pole placement based control of nonlinear discrete time systems with input delay

Belikov, Juri; **Petlenkov, Eduard** Control Applications (CCA) & Intelligent Control (ISIC) : 2009 IEEE : 8-10 July 2009, St.Petersburg 2009 / p. 394-399

Eesti tehisaru teadlased: tulevikus «mõistab» maja elaniku mõtteid ja soove

postimees.ee 2024 <https://teadus.postimees.ee/8099095/eesti-tehisaru-teadlased-tulevikus-moistab-maja-elaniku-motteid-ja-soove>

Effects of economic shocks on power systems: {COVID-19} as a case study

Navon, Aviad; Orda, Ariel; Levron, Yoash; **Belikov, Juri** 2021 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 8-21 October, 2021 : proceedings 2021 / 5 p. : ill <https://doi.org/10.1109/ISGTEurope52324.2021.9640021>

Effects of the COVID-19 pandemic on energy systems and electric power grids — a review of the challenges ahead

Navon, Aviad; Machlev, Ram; Carmon, David; **Onile, Abiodun Emmanuel**; **Belikov, Juri**; Levron, Yoash Energies 2021 / art. 1056, 14 p. : ill <https://doi.org/10.3390/en14041056> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Efficient analog implementations of fractional-order controllers

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** Proceedings of the 2013 14th International Carpathian Control Conference (ICCC) : Rytro, Hotel Perla Południa, Poland, May 26-29, 2013 2013 / p. 377-382 : ill

Embedded system implementation of digital fractional filter approximations for control applications

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** Proceedings of the 21st International Conference Mixed Design of Integrated Circuits and Systems : MIXDES 2014 : Lublin, Poland, June 19-21, 2014 2014 / p. 441-445 : ill

Emerging role of industry 5.0 digital twins in demand response electricity market and applications

Onile, Abiodun Emmanuel; **Belikov, Juri**; **Petlenkov, Eduard**; Levron, Yoash IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2023) : proceedings 2023 / 6 p <https://doi.org/10.1109/ISGTEUROPE56780.2023.10407322>

Energiainformaatika: energia ja infotehnoloogia ühinemine

Petlenkov, Eduard; **Belikov, Juri** Elektriala 2023 / lk. 12-13 : ill., portr https://www.ester.ee/record=b1240496*est

Energy consumption characteristics based on monitored data : a school case study

Vassiljeva, Kristina; **Matson, Margarita**; **Petlenkov, Eduard**; **Belikov, Juri**; **Thalfeldt, Martin**; **Kurnitski, Jarek** CLIMA 2022 : REHVA 14th HVAC World Congress 22nd-25th May in Rotterdam, The Netherlands 2022 / 5 p. : ill <https://doi.org/10.34641/clima.2022.274>

Energy efficient behavior modeling for demand side recommender system in solar microgrid applications using multi-agent reinforcement learning model

Onile, Abiodun Emmanuel; **Belikov, Juri**; Levron, Yoash; **Petlenkov, Eduard** Sustainable cities and society 2023 / art. 104392, 20 p. : ill <https://doi.org/10.1016/j.scs.2023.104392> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energy storage and forecasting error impact analysis in photovoltaic equipped residential nano-grids

Hokmabad, Hossein Nourollahi; **Husev, Oleksandr**; **Belikov, Juri**; **Vinnikov, Dmitri**; **Petlenkov, Eduard** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p. <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227406>

Energy storage for mitigating grid congestion caused by electric vehicles : a techno-economic analysis using a computationally efficient graph-based methodology

Navon, Aviad; Nitskansky, Ran; Lipman, Eshel; **Belikov, Juri**; Gal, Nurit; Orda, Ariel; Levron, Yoash Journal of energy storage 2023 / art. 106324 <https://doi.org/10.1016/j.est.2022.106324> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

An enhanced NN-based load frequency control design of MGs : a fractional order modeling method

Škiparev, Vjatcheslav; Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227392>

Evaluating model performance through a user-centric explainable framework for probabilistic load forecasting models

Robin, Rebecca; Heistrene, Leena; **Belikov, Juri**; Baimel, Dmitry; Levron, Yoash 2024 Third International Conference on Power, Control and Computing Technologies (ICPC2T) 2024 / p. 427 - 432 <https://doi.org/10.1109/ICPC2T60072.2024.10474692> [Article at Scopus](#)

Evaluating the energy readiness of national building stocks through benchmarking

Ferrantelli, Andrea; Belikov, Juri; Petlenkov, Eduard; Thalfeldt, Martin; Kurnitski, Jarek IEEE Access 2022 / p. 45430-45443 : ill <https://doi.org/10.1109/ACCESS.2022.3170716> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evolutionary optimisation-based fractional order controller for web transport systems in process industries

Haripriya, N.; Kavitha, P.; Srinivasan, Seshadhri; **Belikov, Juri** International Journal of Advanced Intelligence Paradigms 2019 / p. 317-330 <http://doi.org/10.1504/IJAIP.2018.10006748>

Explainability and transparency of classifiers for air-handling unit faults using explainable artificial intelligence (XAI)

Meas, Molika; Machlev, Ram; Köse, Ahmet; Tepljakov, Aleksei; Loo, Lauri; Levron, Yoash; Petlenkov, Eduard; Belikov, Juri Sensors 2022 / art. 6338 : ill <https://doi.org/10.3390/s22176338> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Explainability-based trust algorithm for electricity price forecasting models

Heistrene, Leena; Machlev, Ram; Perl, Michael; **Belikov, Juri**; Baimel, Dmitry; Levy, Kfir; Mannor, Shie; Levron, Yoash Energy and AI 2023 / art 100259, 18 p <https://doi.org/10.1016/j.egyai.2023.100259> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Explainable AI based fault detection and diagnosis system for air handling units

Belikov, Juri; Meas, Molika; Machlev, Ram; Köse, Ahmet; Tepljakov, Aleksei; Loo, Lauri; Petlenkov, Eduard; Levron, Yoash Proceedings of the 19th International Conference on Informatics in Control, Automation and Robotics - ICINCO, 2022 , Lisbon, Portugal 2022 / p. 271-279 <https://doi.org/10.5220/0011350000003271>

Explainable Artificial Intelligence (XAI) techniques for energy and power systems : review, challenges and opportunities

Machlev, Ram; Heistrene, L.; Perl, M.; Levy, K. Y.; **Belikov, Juri**; Mannor, S.; Levron, Yoash Energy and AI 2022 / art. 100169, 13 p. : ill <https://doi.org/10.1016/j.egyai.2022.100169> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Explaining the decisions of deep learning models for load disaggregation (NILM) based on XAI

Machlev, Ram; Malka, Asaf; Perl, Michael; Levron, Yoash; **Belikov, Juri** 2022 IEEE Power & Energy Society General Meeting (PESGM) 2022 / art. 183865 , p. 1-5 : ill <https://doi.org/10.1109/PESGM48719.2022.9917049>

Explaining the decisions of power quality disturbance classifiers using latent space features

Machlev, Ram; Perl, Michael; Caciularu, Avi; **Belikov, Juri**; Levy, Kfir Yehuda; Levron, Yoash International journal of electrical power & energy systems 2023 / art. 108949 <https://doi.org/10.1016/j.jepes.2023.108949> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

An Extended flatness-based controller for permanent magnet synchronous machines incorporating an event-based mechanism

Belikov, Juri; Kaldmäe, Arvo; Levron, Yoash 2019 27th Mediterranean Conference on Control and Automation (MED) 2019 / p. 416-421 : ill <https://doi.org/10.1109/MED.2019.8798551>

Extended fractional singular Kalman filter

Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard Applied mathematics and computation 2023 / art. 127950, 15 p. : ill <https://doi.org/10.1016/j.amc.2023.127950> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Extended observer form for nonlinear system with disturbances : Algorithm and application

Kaparin, Vadim; Simha, Ashutosh; Chowdhury, Nilanjan Roy; **Kotta, Ülle**; Levron, Yoash; **Belikov, Juri** 2024 18th International Conference on Control, Automation, Robotics and Vision (ICARCV) 2024 <https://doi.org/10.1109/ICARCV63323.2024.10821609>

Extended reality in power distribution grid : applications and future trends

Nosrati, Komeil; Alsaleh, Saleh; Tepljakov, Aleksei; Petlenkov, Eduard; Onile, Abiodun Emmanuel; Škiparev, Vjatcheslav; Belikov, Juri 27th International Conference on Electricity Distribution (CIRED 2023) : Rome, 12-15 June 2023 2023 / p. 3615 - 3619 <https://doi.org/10.1049/icp.2023.0788> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Feasibility study of a DC house connected to a conventional AC distribution network

Hokmabad, Hossein Nouroollahi; Shabir, Noman; Astapov, Victor; Petlenkov, Eduard; Husev, Oleksandr; Belikov, Juri 2024

Feature engineering for short-term forecast of energy consumption

Spitšakova, Margarita; Belikov, Juri; Nõu, Kalvi; Petlenkov, Eduard Proceedings of 2019 IEEE PES : Innovative Smart Grid Technologies Europe : (ISGT-Europe), Bucharest Romania, 29 September - 2 October, 2019 2019 / 5 p. : ill
<https://doi.org/10.1109/ISGTEurope.2019.8905698>

Feature engineering of Weather Data for Short-Term Energy Consumption Forecast

Sinimaa, Maria; Spitšakova, Margarita; Belikov, Juri; Petlenkov, Eduard 2021 IEEE Madrid PowerTech 2021 / 6 p.
<https://doi.org/10.1109/PowerTech46648.2021.9494920>

A flexible MATLAB tool for optimal fractional-order PID controller design subject to specifications

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Proceedings of the 31st Chinese Control Conference : July, 2012, Hefei, China 2012 / p. 4698-4703 : ill https://www.researchgate.net/publication/259741861_A_Flexible_MATLAB_Tool_for_Optimal_Fractional-order_PID_Controller_Design_Subject_to_Specifications

FOMCON : a MATLAB toolbox for fractional-order system identification and control

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri International journal of microelectronics and computer science 2011 / p. 51-62 https://www.researchgate.net/publication/259741855_FOMCON_a_MATLAB_toolbox_for_fractional-order_system_identification_and_control

FOMCON : fractional-order modeling and control toolbox for MATLAB

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Proceedings of the 18th International Conference Mixed Design of Integrated Circuits and Systems : MIXDES 2011 : Gliwice, Poland 16 - 18 June, 2011 2011 / p. 684-689
https://www.researchgate.net/publication/259741855_FOMCON_a_MATLAB_toolbox_for_fractional-order_system_identification_and_control

FOMCON toolbox for modeling, design and implementation of fractional-order control systems

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Handbook of fractional calculus with applications 2019 / p. 211-236
<https://doi.org/10.1515/9783110571745>

FOPID controller tuning for fractional FOPDT plants subject to design specifications in the frequency domain

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri 2015 European Control Conference (ECC) : July 15-17, 2015, Linz, Austria 2015 / p. 3502-3507 : ill <http://dx.doi.org/10.1109/ECC.2015.7331076>

Fractional-order calculus application to industrial control problems

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK viienda aastakonverentsi artiklite kogumik : 25.-26. novembril 2011, Nelijärve 2011 / p. 47-50 : ill

Fractional-order controller design and digital implementation using FOMCON toolbox for MATLAB

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri; Finajev, Jevgeni 2013 IEEE Conference on Computer Aided Control System Design (CACSD) : Part of 2013 IEEE Multi-Conference on Systems and Control : Hyderabad, India, August 28-30, 2013 2013 / p. 340-345 : ill

Fractional-order controller design for a magnetic levitation system

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Proceedings of the 8th Annual Conference of the Estonian National Doctoral School in Information and Communication Technologies : December 5-6, 2014, Rakvere 2014 / p. 137-140 : ill

Fractional-order digital filter approximation method for embedded control applications

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri International journal of microelectronics and computer science 2014 / p. 54-60 : ill

Fractional-order modeling and control of dynamic systems = Murrulistel tuletistel põhinev dünaamiliste süsteemide identifitseerimine ja juhtimine

Tepljakov, Aleksei 2015 https://www.ester.ee/record=b4494460*est

Fractional-order modeling and control of ionic polymer-metal composite actuator

Tepljakov, Aleksei; Vunder, Veiko; Petlenkov, Eduard; Nakshatharan, S Sunjai; Punning, Andres; Kaparin, Vadim; Belikov, Juri; Aabloo, Alvo Smart materials and structures 2019 / 12 p. : ill <https://doi.org/10.1088/1361-665X/ab2c75> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Frequency stability of the Israeli power grid with high penetration of renewable sources and energy storage systems

Ben Yosef, Gefen; Navon, Aviad; Poliak, Olga; Etzion, Naomi; Gal, Nurit; Belikov, Juri; Levron, Yoash Energy reports 2021 / p. 6148-6161 : ill <https://doi.org/10.1016/j.egyr.2021.09.057> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Functions' algebra in nonlinear control : computational aspects and software

Belikov, Juri; Kaldmäe, Arvo; Kaparin, Vadim; Kotta, Ülle; Shumsky, Alexey Ye.; Tõnso, Maris; Zhirabok, Alexey Proceedings of

the Estonian Academy of Sciences 2017 / p. 89-107 <https://doi.org/10.3176/proc.2017.1.06> http://www.ester.ee/record=b2355998*est
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

GA based optimization of NN-SANARX model for adaptive control of nonlinear systems

Vassiljeva, Kristina; Petlenkov, Eduard; Belikov, Juri WCCI 2012 : IEEE World Congress on Computational Intelligence : June, 10-15, 2012, Brisbane, Australia 2012 / p. 1674-1681 : ill <https://ieeexplore.ieee.org/document/6252598>

Gain and order scheduled fractional-order PID control of fluid level in a multi-tank system

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri 2014 International Conference on Fractional Differentiation and its Applications (ICFDA) : Catania, Italy, 23-25 June 2014 2014 / [6] p. : ill

A generalized control paradigm for storage systems : optimal energy management and stability certificates

Chowdhury, Nilanjan Roy; Baimel, Dmitry; **Belikov, Juri**; Levron, Yoash IEEE Transactions on Control Systems Technology 2023 / p. 2920-2927 <https://doi.org/10.1109/TCST.2023.3269808> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Generation of stable polytopes of Hurwitz polynomials via Routh parameters

Nurges, Ülo; Artemtšuk, Igor; Belikov, Juri 53rd IEEE Conference on Decision and Control : December 15-17, 2014, Los Angeles, California, USA 2014 / p. 2390-2395 : ill <https://doi.org/10.1109/CDC.2014.7039753> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Genetic algorithm based structure identification for feedback control of nonlinear MIMO systems

Vassiljeva, Kristina; Belikov, Juri; Petlenkov, Eduard Lecture notes in computer science 2011 / p. 215-226 : ill https://link.springer.com/chapter/10.1007/978-3-642-23857-4_23

Global linearization approach to nonlinear control systems : a brief tutorial overview

Belikov, Juri; Kaldmäe, Arvo; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2017 / p. 243-263 <https://doi.org/10.3176/proc.2017.3.01> http://www.ester.ee/record=b2355998*est https://artiklid.elnet.ee/record=b2824300*est [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Grey box identification of fractional-order system models from frequency domain data

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri 41th International Conference on Telecommunications and Signal Processing : July 4-6, 2018, Athens, Greece : proceedings 2018 / p. 319-322 : ill <https://doi.org/10.1109/TSP.2018.8441247>

Hajusa elektritootmise populaarsus võib tõugata elektrivõrgud surmaspiraali

Belikov, Juri novaator.err.ee 2024 [Hajusa elektritootmise populaarsus võib tõugata elektrivõrgud surmaspiraali](#)

Hierarchical optimization configuration strategy of synchronous condenser in high penetration wind power sending systems

Sun, Zhenglong; Qiao, Jianhua; Meng, Xin; Pan, Chao; Li, Zewei; **Belikov, Juri**; Levron, Yoash Electronics (Switzerland) 2024 / art. 4359 <https://doi.org/10.3390/electronics13224359> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Image encryption using fractional singular chaotic systems : an extended Kalman filtering approach

Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard 2022 International Conference on Electrical, Computer and Energy Technologies (ICECET) 2022 / 6 p. : ill <https://doi.org/10.1109/ICECET55527.2022.9873484>

Impact of COVID-19 pandemic on energy demand in Estonia

Belikov, Juri; Kalda, Jaan IEEE Power & Energy Society General Meeting (PESGM) 2022 / 5 l. <https://doi.org/10.1109/PESGM48719.2022.9916825>

Impact of the COVID-19 pandemic on the energy use and performance in commercial buildings

Belikov, Juri; Köse, Ahmet; Petlenkov, Eduard; Tepljakov, Aleksei; Loo, Lauri 2022 45th International Conference on Telecommunications and Signal Processing, TSP 2022 2022 / p. 187-191 <https://doi.org/10.1109/TSP55681.2022.9851384>

Implementation and real-time simulation of a fractional-order controller using a MATLAB based prototyping platform

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri BEC 2012 : 2012 13th Biennial Baltic Electronics Conference : proceedings of the 13th Biennial Baltic Electronics Conference : October 3-5, 2012, Tallinn, Estonia 2012 / p. 145-148 : ill

Implementation of series resonance-based fault current limiter for enhanced transient stability of grid-connected photovoltaic farm

Demin, Slava; Barbie, Eli; Heistrene, Leena; Belikov, Juri; Petlenkov, Eduard; Levron, Yoash; Baimel, Dmitry Electronics (Switzerland) 2024 / art. 2987 <https://doi.org/10.3390/electronics13152987> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Improved fractional open circuit voltage MPPT methods for PV systems

Baimel, Dmitry; Tapuchi, Saad; Levron, Yoash; **Belikov, Juri** Electronics 2019 / art. 321 <https://doi.org/10.3390/electronics8030321>

[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Incorporation of fractional-order dynamics into an existing PI/PID DC motor control loop

Tepljakov, Aleksei; Gonzales, Emmanuel A.; **Petlenkov, Eduard**; **Belikov, Juri**; Monje, Concepcion A.; Petraš, Ivo ISA transactions 2016 / p. 262-273 : ill <https://doi.org/10.1016/j.isatra.2015.11.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Innovative energy services based on behavioural-reflective-attributes and intelligent recommendation systems = Arukatel soovitussüsteemidel põhinevad uuenduslikud energiateenused

Onile, Abiodun Emmanuel 2024 https://www.ester.ee/record=b5707376*est <https://digikogu.taltech.ee/et/Item/b717302e-ead7-45c8-b6ea-7ba264519b27> <https://doi.org/10.23658/taltech.62/2024>

Innovative energy services for behavioral-reflective attributes and intelligent recommender system

Onile, Abiodun Emmanuel; **Belikov, Juri**; Levron, Yoash Proceedings of 2020 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 26-28 October, 2020 2020 / p. 242-246 <https://doi.org/10.1109/ISGT-Europe47291.2020.9248810>

In-phase matrix profile : a novel method for the detection of major depressive disorder

Uudeberg, Tuuli; **Belikov, Juri**; **Päeske, Laura**; **Hinrikus, Hiie**; **Liiv, Innar**; **Bachmann, Maie** Biomedical Signal Processing and Control 2024 / art. 105378 <https://doi.org/10.1016/j.bspc.2023.105378> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Integration of long transmission lines in large-scale DQ0 dynamic models

Belikov, Juri; Levron, Yoash Electrical Engineering 2018 / p. 1219–1228 <https://doi.org/10.1007/s00202-017-0582-7> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Intelligent frequency control of AC microgrids with communication delay : an online tuning method subject to stabilizing parameters

Nosrati, Komeil; **Škiparev, Vjatseslav**; **Tepljakov, Aleksei**; **Petlenkov, Eduard**; **Belikov, Juri** Energy and AI 2024 / art. 100421 <https://doi.org/10.1016/j.egyai.2024.100421> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Juri Belikov: elektritootmise pardiköverast päästavad nutikad algoritmid [Võrguväljaanne]

Belikov, Juri novaator.err.ee 2022 [Juri Belikov: elektritootmise pardiköverast päästavad nutikad algoritmid](#)

Leveraging digital twins and demand side recommender Chatbot for optimizing smart grid energy efficiency

Onile, Abiodun Emmanuel; **Belikov, Juri**; **Petlenkov, Eduard**; Levron, Yoash 2023 IEEE PES Innovative Smart Grid Technologies - Asia, ISGT Asia 2023 2023 / 5 p <https://doi.org/10.1109/ISGTAsia54891.2023.10372761>

LQG problem of descriptor systems and separation principle

Nosrati, Komeil; **Belikov, Juri**; **Tepljakov, Aleksei**; **Petlenkov, Eduard** 2024 IEEE 63rd Conference on Decision and Control (CDC) 2024 / p. 1412 - 1417 <https://doi.org/10.1109/CDC56724.2024.10886178> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Measuring explainability and trustworthiness of power quality disturbances classifiers using XAI - explainable artificial intelligence

Machlev, Ram; Perl, Michael; **Belikov, Juri**; Levy, Kfir; Levron, Yoash IEEE transactions on industrial informatics 2022 / p. 5127–5137 <https://doi.org/10.1109/TII.2021.3126111> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

MIMO model of an industrial water boiler

Vansovitš, Vitali; **Tepljakov, Aleksei**; **Belikov, Juri** Doctoral School in Information and Communication Technology : proceedings of doctoral session of BEC 2014 : October 6-8 2014, Laulasmaa 2014 / p. 27-28 : ill

MIMO reinforcement learning based approach for frequency support in microgrids with high renewable energy penetration

Škiparev, Vjatseslav; **Belikov, Juri**; **Petlenkov, Eduard** 2021 IEEE Power & Energy Society General Meeting (PESGM), 26-29 July 2021 2021 / 5 p. : ill <https://doi.org/10.1109/PESGM46819.2021.9637942>

Minimal energy storage required for stability of low inertia distributed sources

Fahima, Aviad; Ofir, Ron; Levron, Yoash; **Belikov, Juri** 2018 5th IEEE International Energy Conference (ENERGYCON), Limassol, Cyprus, June 3-7, 2018 : proceedings 2018 / 5 p. : ill <https://doi.org/10.1109/ENERGYCON.2018.8398775>

Minimal output impedance required for stability of grid-supporting inverters

Ofir, Ron; Zargari, Noa; **Belikov, Juri**; Levron, Yoash IEEE transactions on power delivery 2021 / p. 2241-2244 <https://doi.org/10.1109/TPWRD.2021.3071023> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Mis toimub tehisintellekti "kapoti all" ja miks me seda teadma peame?

Härmat, Karin Mente et Manu 2022 / lk. 30-33 : fot https://www.ester.ee/record=b1242496*est

Model based control of a water tank system

Belikov, Juri; Petlenkov, Eduard Proceedings of the 19th IFAC World Congress, 2014 : Cape Town, South Africa, 24-29 August 2014 / p. 10838-10843 : ill <https://doi.org/10.3182/20140824-6-za-1003.00695> [Journal metrics at Scopus](#) [Article at Scopus](#)

Model matching problem for discrete-time nonlinear systems

Belikov, Juri; Halas, Miroslav; Kotta, Ülle; Moog, Claude Proceedings of the Estonian Academy of Sciences 2015 / p. 457-472 : ill https://artiklid.elnet.ee/record=b2750720*est <https://doi.org/10.3176/proc.2015.4.01> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Model predictive control of descriptor systems

Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard IEEE Control Systems Letter 2024 / p. 2139 - 2144 <https://doi.org/10.1109/LCSYS.2024.3448310> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Model reference control of nonlinear MIMO systems by dynamic output feedback linearization of ANARX models

Belikov, Juri; Petlenkov, Eduard IEEE International Conference on Control and Automation : ICCA 2009 : Christchurch, New Zealand, December 9-11, 2009 2009 / p. 536-541 <https://ieeexplore.ieee.org/document/5410177?tp=&arnumber=5410177>

Model reference control of nonlinear TITO systems by dynamic output feedback linearization of neural network based ANARX models

Belikov, Juri; Petlenkov, Eduard Control Applications (CCA) & Intelligent Control (ISIC) : 2009 IEEE : 8-10 July 2009, St.Petersburg 2009 / p. 1820-1825 <https://ieeexplore.ieee.org/document/5410177?tp=&arnumber=5410177>

Modeling power networks using dynamic phasors in the dq0 reference frame

Levron, Yoash; **Belikov, Juri** Electric power systems research 2017 / p. 233-242 <https://doi.org/10.1016/j.epsr.2016.11.024>

MO-NILM: A multi-objective evolutionary algorithm for NILM classification

Machlev, Ram; **Belikov, Juri**; Beck, Yuval; Levron, Yoash Energy and buildings 2019 / p. 134-144 <https://doi.org/10.1016/j.enbuild.2019.06.046> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

MPC-based optimal control of battery management system in residential application

Tammaru, T.; Hokmabad, Hossein Nouroollahi; Levron, Yoash; Belikov, Juri IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2024) : proceedings 2024 / 5 p <https://doi.org/10.1109/ISGTEUROPE62998.2024.10863121>

Neural Architecture Search (NAS) for designing optimal power quality disturbance classifiers

Wang, Qianchao; Kapuza, Itamar; Baimel, Dmitry; **Belikov, Juri**; Levron, Yoash; Machlev, Ram Electric Power Systems Research 2023 / art. 109574 <https://doi.org/10.1016/j.epsr.2023.109574> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Neural network based dynamic pole placement control of nonlinear systems

Petlenkov, Eduard; Belikov, Juri IEEE International Conference on Control and Automation : ICCA 2009 : Christchurch, New Zealand, December 9-11, 2009 2009 / p. 410-415 <https://ieeexplore.ieee.org/document/5410160>

Neural network based minimal state-space representation of nonlinear MIMO systems for feedback control

Vassiljeva, Kristina; Petlenkov, Eduard; Belikov, Juri The 11th International Conference Control, Automation, Robotics and Vision : ICARCV 2010 : 7-10 December 2010, Singapore 2010 / p. 2191-2196 https://www.researchgate.net/publication/221144201_Neural_network_based_minimal_state-space_representation_of_nonlinear_MIMO_systems_for_feedback_control

Neural networks based identification for control

Vassiljeva, Kristina; Petlenkov, Eduard; Belikov, Juri Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK viienda aastakonverentsi artiklite kogumik : 25.-26. novembril 2011, Nelijärve 2011 / p. 157-160 : ill

Neural networks based minimal or reduced model representation for control of nonlinear MIMO systems

Vassiljeva, Kristina; Belikov, Juri; Petlenkov, Eduard Proceedings of International Joint Conference on Neural Networks : San Jose, California, USA, July 31 – August 5, 2011 2011 / p. 1706-1713 <https://ieeexplore.ieee.org/document/6033430>

Neuro-fuzzy dynamic pole placement control of nonlinear discrete-time systems

Belikov, Juri; Petlenkov, Eduard Proceedings of International Joint Conference on Neural Networks : San Jose, California, USA, July 31 – August 5, 2011 2011 / p. 1577-1582 : ill <https://ieeexplore.ieee.org/document/6033412>

A new resonant fault current limiter for improved wind turbine transient stability

Demin, Slava; Sitbon, Moshe; Aharon, Ilan; Barbi, Eli; Machlev, Ram; **Belikov, Juri**; Levron, Yoash; Baimel, Dmitry Electric Power Systems Research 2023 / art. 109600, 8 p <https://doi.org/10.1016/j.epsr.2023.109600> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

New type of bridge fault current limiter with reduced power losses for transient stability improvement of DFIG wind farm
Baimel, Dmitry; Chowdhury, Nilanjan Roy; **Belikov, Juri**; Levron, Yoash Electric Power Systems Research 2021 / art. 107293, 8 p. : ill
<https://doi.org/10.1016/j.epsr.2021.107293> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

NN-ANARX model based control of nonlinear discrete-time systems with input delay
Belikov, Juri; Petlenkov, Eduard Control Applications (CCA) & Intelligent Control (ISIC) : 2009 IEEE : 8-10 July 2009, St.Petersburg 2009 / p. 1039-1044 <https://ieeexplore.ieee.org/document/5281182>

NN-ANARX structure for control of nonlinear SISO and MIMO systems : neural networks based approach
Petlenkov, Eduard; Belikov, Juri Proceedings of the 26th Chinese Control Conference : July 26-31, 2007, Zhangjiajie, Hunan, China. 4 2007 / p. 138-145 <https://ieeexplore.ieee.org/document/4347185/keywords#keywords>

NN-SANARX model based control of a multi tank liquid-level system
Belikov, Juri; Petlenkov, Eduard International journal of computational intelligence systems 2015 / p. 265-277
<https://doi.org/10.1080/18756891.2015.1001950> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

NN-SANARX model based control of a water tank system using embedded microcontroller Arduino
Škiparev, Vjatcheslav; Belikov, Juri; Petlenkov, Eduard Proceedings of the 2019 10th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications : IDAACS'2019, 18-21 Sept. 2019 2019 / p. 372-377 : ill <https://doi.org/10.1109/IDAACS47747.2019>

A novel Taylor series based approach for control computation in NN-ANARX structure based control of nonlinear systems
Belikov, Juri; Vassiljeva, Kristina; Petlenkov, Eduard; Nömm, Sven Proceedings of the 27th Chinese Control Conference : July 16-18, 2008, Kunming, Yunnan, China. 2 2008 / p. 474-478 <https://ieeexplore.ieee.org/document/4605837>

Observable canonical forms of multi-machine power systems using dq0 signals
Levron, Yoash; **Belikov, Juri** 2016 International Conference on the Science of Electrical Engineering (ICSEE) : November 16-18, 2016, Eilat, Israel 2016 / [5] p. : ill <https://doi.org/10.1109/ICSEE.2016.7806197>

Observer-based detection and identification of sensor attacks in networked CPSs
Chowdhury, Nilanjan Roy; **Belikov, Juri**; Baimel, Dmitry; Levron, Yoash Automatica 2020 / art. 109166, 13 p
<https://doi.org/10.1016/j.automatica.2020.109166> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

On controllability of switched linear systems on time scales
Belikov, Juri; Tepljakov, Aleksei 2015 European Control Conference (ECC) : July 15-17, 2015, Linz, Austria 2015 / p. 1736-1741
<http://dx.doi.org/10.1109/ECC.2015.7330788>

On stable cones of polynomials via reduced Routh parameters
Nurges, Ülo; Belikov, Juri; Artemtšuk, Igor Kybernetika 2016 / p. 461-477 <https://doi.org/10.14736/kyb-2016-3-0461> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

On the transformation of a nonlinear discrete-time input-output system into the strong row-reduced form
Bartosiewicz, Zbigniew; **Belikov, Juri; Kotta, Ülle; Tönso, Maris; Wyrwas, Małgorzata** Proceedings of the Estonian Academy of Sciences 2016 / p. 220-236 <https://doi.org/10.3176/proc.2016.3.02> https://artiklid.elnet.ee/record=b2798394*est [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Open source dataset generator for power quality disturbances with deep-learning reference classifiers
Machlev, Ram; Chachkes, A.; **Belikov, Juri**; Beck, Yuval; Levron, Yoash Electric power systems research 2021 / art. 107152, 7 p. : ill
<https://doi.org/10.1016/j.epsr.2021.107152> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Open-source software for modeling and analysis of power networks in the dq0 reference frame
Levron, Yoash; **Belikov, Juri** 2017 IEEE Manchester PowerTech (PowerTech 2017) : Manchester, United Kingdom, 18-22 June 2017 2017 / p. 623-628 : ill <https://doi.org/10.1109/PTC.2017.7980912>

An optimal control method for storage systems with ramp constraints, based on an on-going trimming process
Zargari, Noa; Ofir, Ron; Chowdhury, Nilanjan Roy; **Belikov, Juri**; Levron, Yoash IEEE Transactions on Control Systems Technology 2023 / p. 493-496 <https://doi.org/10.1109/TCST.2022.3169906> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimal control of energy storage devices based on Pontryagin's minimum principle and the shortest path method
Zargari, Noa; Levron, Yoash; **Belikov, Juri** Proceedings of 2019 IEEE PES : Innovative Smart Grid Technologies Europe : (ISGT-Europe), Bucharest Romania, 29 September – 2 October, 2019 2019 / 5 p <https://doi.org/10.1109/ISGTEurope.2019.8905748>

Optimal control of Lossy energy storage systems with nonlinear efficiency based on dynamic programming and Pontryagin's minimum principle

Chowdhury, Nilanjan Roy; Ofir, Ron; Zargari, Noa; Baimel, Dmitry; **Belikov, Juri**; Levron, Yoash IEEE transactions on energy conversion 2021 / p. 524-533 <https://doi.org/10.1109/TEC.2020.3004191> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimal robust filter of uncertain fractional order systems : a penalized deterministic approach

Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard IEEE Control Systems Letters 2023 / p. 1075 - 1080 <https://doi.org/10.1109/LCSYS.2022.3230773> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimal tuning of resonant and repetitive based controller for single-phase buck-boost inverter with unfolding circuit

Husev, Oleksandr; Belikov, Juri; Matiushkin, Oleksandr; Vinnikov, Dmitri; Ahmadihangar, Roya; Vosoughi Kurdkandi, Naser IEEE journal of emerging and selected topics in industrial electronics 2022 / p. 954-965 <https://doi.org/10.1109/JESTIE.2021.3121190>

Optimizing size and economic feasibility assessment of photovoltaic and energy storage setup in residential applications

Nourollahi Hokmabad, Hossein; Husev, Oleksandr; Kurnitski, Jarek; Belikov, Juri Sustainable energy, grids and networks 2024 / art. 101385, 15 p. : ill <https://doi.org/10.1016/j.segan.2024.101385> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Penalized least-squares method for LQR problem of singular systems

Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard 62nd IEEE Conference on Decision and Control, CDC 2023, Singapore, 13-15 December 2023 2023 / p. 1251-1256 <https://doi.org/10.1109/CDC49753.2023.10383412> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

PF-FEDG : an open-source data generator for frequency disturbance event detection with deep-learning reference classifiers

Sun, Zhenglong; Ram, Machlev; Jiang, Chao; Wang, Qianchao; Perl, Michael; **Belikov, Juri**; Levron, Yoash Energy reports 2023 / p. 397-413 <https://doi.org/10.1016/j.egyr.2022.11.182> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

PMU placement for fault line location using neural additive models—A global XAI technique

Perl, Michael; Sun, Zhenglong; Machlev, Ram; **Belikov, Juri**; Levy, Kfir Yehuda; Levron, Yoash International journal of electrical power and energy systems 2024 / art. 109573, 10 p. : ill <https://doi.org/10.1016/j.iijepes.2023.109573> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A polynomial approach to a nonlinear model matching problem

Belikov, Juri; Halas, Miroslav; **Kotta, Ülle**; Moog, Claude Proceedings of the Estonian Academy of Sciences 2016 / p. 330-344 : ill <https://doi.org/10.3176/proc.2016.4.02> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Polynomial methods for nonlinear control systems = Polünoommeetodid mittelineaarsetes juhtimissüsteemides

Belikov, Juri 2012 http://www.ester.ee/record=b2854462*est

Port-Hamiltonian framework in power systems domain : a survey

Tõnso, Maris; Kaparin, Vadim; Belikov, Juri Energy Reports 2023 / p. 2918 - 2930 <https://doi.org/10.1016/j.egyr.2023.09.077> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Practical demand side management: one day case study

Köse, Ahmet; Hokmabad, Hossein Nourollahi; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard Healthy Buildings 2023 Europe: Beyond Disciplinary Boundaries: proceedings ; 1 2023 / p. 36-42 <https://www.proceedings.com/content/070/070278webtoc.pdf>

Practical real-time data-driven approach for district cooling plant operational optimization

Sukhanov, Ivan; Köse, Ahmet; Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2024) : proceedings 2024 / 5 p <https://doi.org/10.1109/ISGTEUROPE62998.2024.10863248>

Professorid Juri Belikov ja Eduard Petlenkov selgitavad, kuidas Eestit rohelisemaks muuta

goodnews.ee 2023 [Professorid Juri Belikov ja Eduard Petlenkov selgitavad, kuidas Eestit rohelisemaks muuta](#) [Professorid Juri Belikov ja Eduard Petlenkov selgitavad, kuidas Eestit rohelisemaks muuta](#)

Profiling and schedule based forecast of electricity usage to improve energy performance of administrative buildings

Vassiljeva, Kristina; Matson, Margarita; Belikov, Juri; Petlenkov, Eduard Proceedings of the 30th ICE IEEE/ITMC Conference on Engineering, Technology, and Innovation: Digital Transformation on Engineering, Technology and Innovation, ICE 2024 2024 IEEE International Conference on Engineering, Technology, and Innovation (ICE/ITMC) 2024 / 8 p <https://doi.org/10.1109/ICE/ITMC61926.2024.10794299>

Properties of nonlinear power system models that are symmetrically configured in the narrow sense

Segev, Elior; Ofir, Ron; Levron, Yoash; **Belikov, Juri** 2023 IEEE Power & Energy Society General Meeting (PESGM) : 16-20 July 2023 (2023) 2023 <https://doi.org/10.1109/PESGM52003.2023.10252373>

A public dataset for synchronous motor electrical faults diagnosis with CNN and LSTM reference classifiers

Sun, Zhenglong; Machlev, Ram; Wang, Qianchao; **Belikov, Juri**; Levron, Yoash; Baimel, Dmitry Energy and AI 2023 / art. 100274, 17 p <https://doi.org/10.1016/j.egyai.2023.100274> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Readiness of small energy markets and electric power grids to global health crises: Lessons from the COVID-19 pandemic

Carmon, David; Navon, Aviad; Machlev, Ram; **Belikov, Juri**; Levron, Yoash IEEE Access 2020 / art. 9139437, p. 127234–127243 <https://doi.org/10.1109/ACCESS.2020.3008929> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Realization of nonlinear MIMO system on homogeneous time scales

Belikov, Juri; Kotta, Ülle; Tönso, Maris European journal of control 2015 / p. 48-54 <https://doi.org/10.1016/j.ejcon.2015.01.006> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Recognition of the surgeon's motions during endoscopic operation by statistics based algorithm and neural networks based ANARX models

Nömm, Sven; **Petlenkov, Eduard**; **Vain, Jüri**; Belikov, Juri; Miyawaki, Fujio; Yoshimitsu, Kitaro Proceedings of the 17th World Congress The International Federation of Automatic Control : Seoul, Korea, July 6-11, 2008 2008 / p. 14773-14778 <https://www.sciencedirect.com/science/article/pii/S1474667016413662>

Reduction of power system dynamic models using sparse representations

Levron, Yoash; **Belikov, Juri** IEEE transactions on power systems 2017 / p. 3893-3900 : ill <https://doi.org/10.1109/TPWRS.2017.2648979>

Region of admissible values for discrete-time nonlinear control system linearized by output feedback

Belikov, Juri; **Petlenkov, Eduard** Proceedings of the 18th IFAC World Congress : Milano, Italy, August 28 - September 2, 2011 2011 / p. 209-214 <https://www.sciencedirect.com/science/article/pii/S1474667016436128>

Regions of exponential stability in coefficient space for linear systems on nonuniform discrete domains

Belikov, Juri; **Kaparin, Vadim** Journal of difference equations and applications 2017 / p. 878-892 : ill <https://doi.org/10.1080/10236198.2017.1304931> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Relmagine lab : bridging the gap between hands-on, virtual and remote control engineering laboratories using digital twins and extended reality

Alsaleh, Saleh Ragheb Saleh; **Tepljakov, Aleksei**; **Köse, Ahmet**; **Belikov, Juri**; **Petlenkov, Eduard** IEEE Access 2022 / p. 89924-889943 : ill <https://doi.org/10.1109/ACCESS.2022.3199371> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reinforcement learning based approach for virtual inertia control in microgrids with renewable energy sources

Škiparev, Vjatšeslav; **Belikov, Juri**; **Petlenkov, Eduard** Proceedings of 2020 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 26-28 October, 2020 2020 / p. 1020-1024 <https://doi.org/10.1109/ISGT-Europe47291.2020.9248777>

Reinforcement learning based MIMO controller for virtual inertia control in isolated microgrids

Škiparev, Vjatšeslav; **Belikov, Juri**; **Petlenkov, Eduard**; Levron, Yoash 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe) : proceedings 2022 / art. 184786, 5 p. : ill <https://doi.org/10.1109/ISGT-Europe54678.2022.9960447>

Reinforcement learning model-based and model-free paradigms for optimal control problems in power systems: comprehensive review and future directions

Ginzburg-Ganz, Elinor; Segev, Itay; Balabanov, Alexander; Segev, Elior; Kaully Naveh, Sivan; Machlev, Ram; **Belikov, Juri**; Katzir, Liran; Keren, Sarah; Levron, Yoash Energies 2024 / art. 5307, 54 p. : ill <https://doi.org/10.3390/en17215307> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A review of optimal control methods for energy storage systems - energy trading, energy balancing and electric vehicles

Machlev, Ram; Zargari, Noa; Chowdhury, N; **Belikov, Juri**; Levron, Yoash Journal of energy storage 2020 / art. 101787, 16 p <https://doi.org/10.1016/j.est.2020.101787> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Revisiting the LQR problem of singular systems

Nosrati, Komeil; **Belikov, Juri**; **Tepljakov, Aleksei**; **Petlenkov, Eduard** IEEE/CAA Journal of Automatica Sinica 2024 / p. 2236-2252 : ill <https://doi.org/10.1109/JAS.2024.124665> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Robust FOPI and FOPID controller design for FFOPDT plants in embedded control applications using frequency-domain analysis

Tepljakov, Aleksei; **Petlenkov, Eduard**; **Belikov, Juri** 2015 American Control Conference : Hilton Palmer House, Chicago, IL, July 1-3, 2015 2015 / p. 3868-3873 : ill <https://doi.org/10.1109/ACC.2015.7171933> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Robust fractional order singular Kalman filter

Nosrati, Komeil; **Belikov, Juri**; **Tepljakov, Aleksei**; **Petlenkov, Eduard** International journal of robust and nonlinear control 2024 /

Robust PID controller design for continuous-time systems via reduced routh parameters = Pidevaja süsteemide robustse PID kontrolleri süntees taandatud Routh parametrite kaudu
Artemtšuk, Igor 2019 <https://digi.lib.ttu.ee/i/?13259>

Robust pole assignment via Routh rays of polynomials

Artemtšuk, Igor; Nurges, Ülo; Belikov, Juri 2016 American Control Conference (ACC) : July 6-8, Boston, MA, USA 2016 / p. 7031-7036 : ill <https://doi.org/10.1109/ACC.2016.7526781> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Robust stability region of PI controllers for an interval time delayed load frequency control

Ghorbani, Majid; Nosrati, Komeil; Tepļakov, Aleksei; Belikov, Juri; Petlenkov, Eduard IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2024) : proceedings 2024 / 5 p
<https://doi.org/10.1109/ISGTEUROPE62998.2024.10863205>

Smartgrid-based hybrid digital twins framework for demand side recommendation service provision in distributed power systems

Onile, Abiodun Emmanuel; Petlenkov, Eduard; Levron, Yoash; Belikov, Juri Future generation computer systems 2024 / p. 142-156 : ill <https://doi.org/10.1016/j.future.2024.03.018> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A sparse minimal-order dynamic model of power networks based on DQ0 signals

Belikov, Juri; Levron, Yoash IEEE transactions on power systems 2018 / p. 1059-1067 : ill
<https://doi.org/10.1109/TPWRS.2017.2702746> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stability and stabilizability of linear time-delay systems on homogeneous time scales

Belikov, Juri; Bartosiewicz, Zbigniew Proceedings of the Estonian Academy of Sciences 2017 / p. 124-136
<https://doi.org/10.3176/proc.2017.2.02> http://www.ester.ee/record=b2355998*est https://artiklid.elnet.ee/record=b2820925*est [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stable cones of polynomials via Routh rays

Artemtšuk, Igor; Nurges, Ülo; Belikov, Juri; Kaparin, Vadim Proceedings of the 2015 20th International Conference on Process Control (PC) : Hotel Sorea Trigan Banik, Štrbske Pleso, Slovakia, June 9-12, 2015 / p. 255-260 : ill
<http://dx.doi.org/10.1109/PC.2015.7169972>

Stable cones of polynomials via Routh rays

Artemtšuk, Igor; Nurges, Ülo; Belikov, Juri; Kaparin, Vadim 20th International Conference on Process Control 2015 : June 9-12, 2015, Štrbske Pleso, Slovak Republic : summaries volume 2015 / p. 33

State feedback linearization of nonlinear control systems on homogeneous time scales

Bartosiewicz, Zbigniew; Belikov, Juri; Kotta, Ülle; Wyrwas, Małgorzata Nonlinear analysis: hybrid systems 2019 / p. 69-85
<https://doi.org/10.1016/j.nahs.2018.08.002> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

State-of-the-art activity recognition and prediction techniques applicable to the home energy management system

Hokmabad, Hossein Nourollahi; Belikov, Juri; Husev, Oleksandr; Vinnikov, Dmitri 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 / art. 181231 : ill <https://doi.org/10.1109/ENERGYCON53164.2022.9830154>

State-space control of nonlinear systems identified by ANARX and neural network based SANARX models

Vassiljeva, Kristina; Petlenkov, Eduard; Belikov, Juri The 2010 International Joint Conference on Neural Networks (IJCNN) : 18-23 July 2010, Barcelona : proceedings 2010 / p. 3816-3823 : ill <https://ieeexplore.ieee.org/document/5596581>

State-space realization of nonlinear control systems : unification and extension via pseudo-linear algebra

Belikov, Juri; Kotta, Ülle; Tönso, Maris Kybernetika 2012 / p. 1100-1113 https://www.researchgate.net/publication/269024076_State-space_realization_of_nonlinear_control_systems_Unification_and_extension_via_pseudo-linear_algebra

Steroidid äri jaoks: energiainformaatika tahab viia Eesti majanduse uuele tõusule

postimees.ee 2023 [Steroidid äri jaoks: energiainformaatika tahab viia Eesti majanduse uuele tõusule](#)

Storage for grid deferral : the case of Israel

Gal, Nurit; Navon, Aviad; Ben Yosef, Gefen; Levron, Yoash; Belikov, Juri 2021 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 8-21 October, 2021 : proceedings 2021 / 5 p <https://doi.org/10.1109/ISGTEurope52324.2021.9639938>

Structure identification of NN-ANARX model by genetic algorithm with combined cross-correlation-test based evaluation function

Nõmm, Sven; Vassiljeva, Kristina; Belikov, Juri; Petlenkov, Eduard 2011 9th IEEE International Conference on Control and Automation (ICCA) : Santiago, Chile, December 19-21, 2011 : [proceedings] 2011 / p. 65-70 : ill
<https://ieeexplore.ieee.org/document/6137961>

Supply air temperature control in air handling unit based on federated learning

Eik, Marika; Nourollahi Hokmabad, Hossein; Köse, Ahmet; Husev, Oleksandr; Belikov, Juri 2024 IEEE Power and Energy Society General Meeting, PESGM 2024, Seattle, 21 July 25 July, 2024 / 5 p. : ill <https://doi.org/10.1109/PESGM51994.2024.10688759> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Suppression method of ultralow-frequency oscillation under ambient excitation in hydro-dominant power systems

Guowei, Cai; Xuan, Lei; Zhenglong, Sun; Bo, Gao; Xiaoqiang, Wei; Hao, Yang; **Belikov, Juri**; Levron, Yoash Renewable energy 2024 / art. 119983, 18 p. : ill <https://doi.org/10.1016/j.renene.2024.119983> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Symmetry in the narrow sense: on the linearity and time-invariance of DQ0 models

Segev, Elior; Ofir, Ron; **Belikov, Juri**; Levron, Yoash IEEE Transactions on Power Systems 2023 / p. 1751-1754 <https://doi.org/10.1109/TPWRS.2022.3229873> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Synthesis of digital filters for embedded fractional-order control applications

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK seitsmenda aastakonverentsi artiklite kogumik : 15.-16. novembril 2013, Haapsalu 2013 / p. 103-106 : ill

Tehisintellekt rohepöörde eesmärkide teenistuses

Petlenkov, Eduard; Belikov, Juri RUP. Finants- ja õigusajakiri 2023 / lk. 9-13 : ill https://www.ester.ee/record=b5550879*est

Tehisintellektide pealetung: kas inimkond peaks kartma või rõõmustama?

Einama, Kaido Postimees 2023 / Lk. 11 <https://dea.digar.ee/article/ak/2023/02/11/7.1>

The importance of superspreaders on the spread of the global COVID-19 pandemic

Kalda, Jaan; Ratas, Mart; Kalda, Taavet; Ramazanli, Azer; Herrmann, Heiko; Belikov, Juri 2021 <https://doi.org/10.21203/rs.3.rs-1167477/v1>

The role of storage degradation in energy management problems: an optimal control perspective

Chowdhury, Nilanjan Roy; **Belikov, Juri**; Beck, Yuval; Levron, Yoash; Baimel, Dmitry Journal of Energy Storage 2023 / art. 107412, 10 p <https://doi.org/10.1016/j.est.2023.107412> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Towards genetic algorithm based structure identification for minimal state-space representation and feedback control of nonlinear MIMO systems

Vassiljeva, Kristina; Petlenkov, Eduard; Belikov, Juri Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK neljanda aastakonverentsi artiklite kogumik : 26.-27. novembril 2010, Essu mõis 2010 / lk. 11-14 : ill

Transfer matrix and its Jacobson form for nonlinear systems on time scales : mathematica implementation

Belikov, Juri; Kotta, Ülle; Leibak, Alar Full Papers : 18th International Conference on Process Control '11 : June 14-17, 2011, Tatransk Lomnica, Slovakia 2011 / p. 141-146

Transformation of the transfer matrix of the nonlinear system into the Jacobson form

Belikov, Juri; Kotta, Ülle; Leibak, Alar Proceedings of the 2010 IRAST International Congress on Computer Applications and Computational Science (CACs 2010) : 4-6 December 2010, Singapore 2010 / p. 495-498

Tuning and digital implementation of a fractional-order PD controller for a position servo

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri; Astapov, Sergei International journal of microelectronics and computer science 2013 / p. 116-123 : ill

A tutorial on dynamics and control of power systems with distributed and renewable energy sources based on the DQ0 transformation

Levron, Yoash; **Belikov, Juri**; Baimel, Dmitry Applied sciences 2018 / art. 1661, 48 p. : ill <https://doi.org/10.3390/app8091661> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Uses and misuses of quasi-static time-varying phasor models in power systems

Belikov, Juri; Levron, Yoash IEEE transactions on power delivery 2018 / p. 3263-3266 <https://doi.org/10.1109/TPWRD.2018.2852950> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Uses of the digital twins concept for energy services, intelligent recommendation systems, and demand side management : a review

Onile, Abiodun Emmanuel; Machlev, Ram; Petlenkov, Eduard; Levron, Yoash; Belikov, Juri Energy reports 2021 / p. 997-1015 <https://doi.org/10.1016/j.egyr.2021.01.090> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Using DQ0 signals based on the central angle reference frame to Model the dynamics of large-scale power systems

Zargari, Noa; Ofir, Ron; Levron, Yoash; **Belikov, Juri** Proceedings of 2020 IEEE PES Innovative Smart Grid Technologies Europe

(ISGT-Europe), 26-28 October, 2020 2020 / p. 1099-1103 <https://doi.org/10.1109/ISGT-Europe47291.2020.9248812>

Verification of utility-scale solar photovoltaic plant models for dynamic studies of transmission networks

Machlev, Ram; Batushansky, Zohar; Soni, Sachin; Chadliev, Vladimir; **Belikov, Juri**; Levron, Yoash Energies 2020 / art. 3191, 20 p. : ill <https://doi.org/10.3390/en13123191> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Virtual inertia control methods in islanded microgrids

Škiparev, Vjatšeslav; Machlev, Ram; Chowdhury, Nilanjan Roy; Levron, Yoash; **Petlenkov, Eduard**; Belikov, Juri Energies 2021 / art. 1562, 20 p. : ill <https://doi.org/10.3390/en14061562> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Virtual inertia control of isolated microgrids using an NN-based VFOPID controller

Škiparev, Vjatšeslav; Nosrati, Komeil; Tepljakov, Aleksei; **Petlenkov, Eduard**; Levron, Yoash; **Belikov, Juri**; Guerrero, Joseph M. IEEE Transactions on sustainable energy 2023 / p. 1558-1568 <https://doi.org/10.1109/TSTE.2023.3237922> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Virtual inertia control of microgrids using deep reinforcement learning methods = Mikrovõrkude virtuaalse inertsijuhtimine sügava stiimulõppe meetoditega

Škiparev, Vjatšeslav 2023 <https://doi.org/10.23658/taltech.37/2023> <https://digikogu.taltech.ee/et/Item/6d924a63-2390-4324-bf1c-00b24111605e> https://www.ester.ee/record=b5571224*est

Искусственный интеллект в решении задач зеленого поворота

Petlenkov, Eduard; **Belikov, Juri** RUP. Финансово-правовой журнал 2023 / с. 3-7 https://www.ester.ee/record=b5550868*est