

### **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](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](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, Vjatšeslav**; **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, Vjatšeslav**; **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](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](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.ijepes.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](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](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](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](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.; Tönso, 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](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](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](http://www.ester.ee/record=b2355998*est) [https://artiklid.elnet.ee/record=b2824300\\*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://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?**

**Härmät, Karin** Mente et Manu 2022 / lk. 30-33 : fot [https://www.ester.ee/record=b1242496\\*est](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://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](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](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.ijepes.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](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.eester.ee/record=b2355998\\*est](http://www.eester.ee/record=b2355998*est) [https://artiklid.elnet.ee/record=b2820925\\*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](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](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 inertsijuhimine 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](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](https://www.ester.ee/record=b5550868*est)