

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](#)

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

Vansovits, 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-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

Artificial intelligence methods for data based modeling and analysis of complex processes : real life examples [Online resource]

Vassiljeva, Kristina; Petlenkov, Eduard; Vansovits, Vitali; Tepljakov, Aleksei Proceedings of the 2016 IEEE First International Conference on Data Stream Mining & Processing (DSMP) : Lviv, Ukraine, August 23-27, 2016 2016 / p. 363-368 : ill

<https://doi.org/10.1109/DSMP.2016.7583579>

Assessing interaction mechanics in extended reality for control engineering applications

Remenyi, Armin; Alsaleh, Saleh; Tepljakov, Aleksei 2024 32nd International Conference on Software, Telecommunications and Computer Networks, SoftCOM 2024 2024 <https://doi.org/10.23919/SoftCOM62040.2024.10721783> [Article at Scopus](#)

Bilateral output feedback control of fractional PDEs with space-dependent coefficients

Chen, Juan; Tepljakov, Aleksei; Petlenkov, Eduard; Zhuang, Bo IFAC-PapersOnLine 2020 / p. 3743 - 3748

<https://doi.org/10.1016/j.ifacol.2020.12.2555> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Boundary Mittag-Leffler stabilization of coupled time fractional order reaction–advection–diffusion systems with non-constant coefficients

Chen, Juan; Tepljakov, Aleksei; Petlenkov, Eduard; Chen, YangQuan; Zhuang, Bo Systems & control letters 2021 / art. 104875

<https://doi.org/10.1016/j.sysconle.2021.104875> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Boundary state and output feedbacks for underactuated systems of coupled time-fractional PDEs with different space-dependent diffusivity

Chen, Juan; Tepljakov, Aleksei; Petlenkov, Eduard; Zhuang, Bo International journal of systems science 2020 / p. 2922-2942

<https://doi.org/10.1080/00207721.2020.1803442> [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](#)

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

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 approach for estimation of vehicle insurance risk level

Vassiljeva, Kristina; Tepljakov, Aleksei; Petlenkov, Eduard; Netšajev, Eduard 2017 International Joint Conference on Neural Networks (IJCNN 2017) : Anchorage, Alaska, USA, 14-19 May 2017 2017 / p. 4073-4078 : ill

<https://doi.org/10.1109/IJCNN.2017.7966370> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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

Nosrati, Komeil; Tepljakov, Aleksei; Petlenkov, Eduard; Škiparev, Vjatseslav; Belikov, Juri; Levron, Yoash 2023 IEEE Power

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, Vjatseslav; 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>

Deep learning for detection of pavement distress using nonideal photographic images

Tepljakov, Aleksei; Riid, Andri; Pihlak, Rene; Vassiljeva, Kristina; Petlenkov, Eduard 2019 42nd International Conference on Telecommunications and Signal Processing (TSP) 2019 / p. 195-200 : ill <https://doi.org/10.1109/TSP.2019.8769086>

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 a generalized fractional-order PID controller using operational amplifiers

Gonzalez, Emmanuel A.; Alimisis, Vassilis; Psychalinos, Costas; **Tepljakov, Aleksei** 2018 25th IEEE International Conference on Electronics Circuits and Systems (ICECS), Bordeaux, France, December 9–12, 2018 2018 / p. 253-256 : ill <http://dx.doi.org/10.1109/ICECS.2018.8617954>

Design of a MATLAB-based teaching tool in introductory fractional-order systems and controls [Electronic resource]

Tepljakov, Aleksei; Petlenkov, Eduard; Gonzalez, Emmanuel A.; Petraš, Ivo 2017 IEEE Frontiers in Education Conference (FIE) : proceedings 2017 / 4 p. : ill [USB] <https://doi.org/10.1109/FIE.2017.8190681>

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

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](#)

Digital twin based computational methods for XR applications = Digitaalkaksikute põhised arvutuslikud meetodid XR rakenduste jaoks

Alsaleh, Saleh Ragheb Saleh 2024 <https://doi.org/10.23658/taltech.15/2024> https://www.ester.ee/record=b5674508*est <https://digikogu.taltech.ee/et/Item/557fefce-a06a-479b-bc30-70910085d23d>

Digital twin simulations based reinforcement learning for navigation and control of a wheel-on-leg mobile robot

Alsaleh, Saleh Ragheb Saleh; Tepljakov, Aleksei; Tamre, Mart; Kuts, Vladimir; Petlenkov, Eduard Proceedings of ASME 2022 International Mechanical Engineering Congress and Exposition (IMECE2022), 2B: Columbus, Ohio, USA, October 30 - November 3, 2022 2022 / art. IMECE2022-95411, V02BT02A025, 8 p <https://doi.org/10.1115/IMECE2022-95411>

Digital twins in extended reality for control system applications

Jeršov, Stanislav; Tepljakov, Aleksei 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020 / art. 162353, p. 274-279 <https://doi.org/10.1109/TSP49548.2020.9163557>

Dynamic predictive modeling approach of user behavior in virtual reality based application

Köse, Ahmet; Tepljakov, Aleksei; Petlenkov, Eduard 2019 27th Mediterranean Conference on Control and Automation (MED) 2019 / p. 57-62 : ill <https://doi.org/10.1109/MED.2019.8798521>

Efficient analog implementations of fractional-order controllers

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Juri Proceedings of the 2013 14th International Carpathian Control Conference (ICCC) : Ryto, 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

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

Škiparev, Vjatseslav; 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>

An evolutionary field theorem : evolutionary field optimization in training of power-weighted multiplicative neurons for nitrogen oxides-sensitive electronic nose applications

Alagoz, Baris Baykant; Simsek, Ozlem Imik; Ari, Davut; Tepljakov, Aleksei; Petlenkov, Eduard; Alimohammadi, Hossein Sensors 2022 / art. 3836 <https://doi.org/10.3390/s22103836> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The experience of a selfassessment tool for enhancing XR technology adoption in SMEs and HEIs across Europe

Köse, Ahmet; Tepljakov, Aleksei; Alsaleh, Saleh Ragheb Saleh; Petlenkov, Eduard Extended Reality: International Conference, XR Salento 2023, Lecce, Italy, September 6-9, 2023, Proceedings, Part I 2023 / p. 184-197 https://doi.org/10.1007/978-3-031-43401-3_12 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Conference proceedings at WOS](#) [Article at WOS](#)

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](#)

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>

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 reality in power distribution grid : applications and future trends

Nosrati, Komeil; Alsaleh, Saleh; Tepljakov, Aleksei; Petlenkov, Eduard; Onile, Abiodun Emmanuel; Škiparev, Vjatseslav; 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](#)

Extended reality technologies in small and medium-sized European industrial companies : level of awareness, diffusion and enablers of adoption

Jalo, Henri; Pirkkalainen, Henri; Torro, Osku; Pessot, Elena; Zangiacomi, Andrea; Tepljakov, Aleksei Virtual Reality 2022 / p. 1745 - 1761 <https://doi.org/10.1007/s10055-022-00662-2> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

FOMCONpy: Fractional-order modelling and control library for python

Onyedi, Tobechukwu; Tepljakov, Aleksei; Petlenkov, Eduard 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020 / p. 239-245 <http://doi.org/10.1109/TSP49548.2020.9163581>

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>

FOPID controllers and their industrial applications: a survey of recent results

Tepljakov, Aleksei; Alagoz, Baris Baykant; Petlenkov, Eduard IFAC-PapersOnLine 2018 / p. 25-30
<https://doi.org/10.1016/j.ifacol.2018.06.014> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Fractional order model identification of receptor-ligand complexes formation by equivalent electrical circuit modeling

Ates, Abdullah; Alagoz, Baris Baykant; Tepljakov, Aleksei; Petlenkov, Eduard 2019 International Artificial Intelligence and Data Processing Symposium (IDAP) 2019 / 5 p. : ill <https://doi.org/10.1109/IDAP.2019.8875913>

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 : doctoral thesis accepted by Tallinn University of Technology, Tallinn, Estonia

Tepljakov, Aleksei 2017 http://www.ester.ee/record=b4744055*est <http://dx.doi.org/10.1007/978-3-319-52950-9>

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](#)

From data to stability: a novel approach for controlling unknown linear time-invariant systems with performance enhancement

Ghorbani, Majid; Nosrati, Komeil; Tepljakov, Aleksei; Petlenkov, Eduard Journal of Computational Applied Mechanics 2024 / p. 451-461 <https://doi.org/10.22059/JCAMECH.2024.368986.913> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Genetic programming based identification of an industrial process

Tarasevich, Maksimilian; Tepljakov, Aleksei; Petlenkov, Eduard; Vansovitš, Vitali 44th International Conference on Telecommunications and Signal Processing (TSP) 2021 / p. 134-140 <https://doi.org/10.1109/TSP52935.2021.9522588>

Graphical tuning for robust stabilization : implementable stability regions for fractional-order proportional integral controllers in interval fractional-order systems

Ghorbani, Majid; Farnam, Arash; **Tepljakov, Aleksei; Petlenkov, Eduard;** Crevecoeur, Guillaume; Eskandarian, Azim 2024 IEEE 63rd Conference on Decision and Control (CDC) 2024 / p. 8902 - 8907 <https://doi.org/10.1109/CDC56724.2024.10885794> [Conference proceedings at Scopus](#) [Article at Scopus](#)

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

Tepljakov, Aleksei; Petlenkov, Eduard; Belikov, Yuri 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>

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

Nosrati, Komeil; Belikov, Yuri; 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 the COVID-19 pandemic on the energy use and performance in commercial buildings

Belikov, Yuri; 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, Yuri 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

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

Tepljakov, Aleksei; Gonzales, Emmanuel A.; Petlenkov, Eduard; Belikov, Yuri; 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](#)

Intelligent control and digital twins for industry 4.0

Tepljakov, Aleksei Sensors 2023 / art. 4036 <https://doi.org/10.3390/s23084036> [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, Yuri 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](#)

Intelligent virtual environments with assessment of user experiences

Köse, Ahmet; Tepljakov, Aleksei; Petlenkov, Eduard Artificial Intelligence and Soft Computing : 20th International Conference, ICAISC 2021, Virtual Event, June 21–23, 2021 : proceedings, Part I 2021 / p. 463–474 : ill https://doi.org/10.1007/978-3-030-87986-0_41 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Interactive whiteboards in extended reality for advanced control system design

Tepljakov, Aleksei 44th International Conference on Telecommunications and Signal Processing (TSP) 2021 / p. 1-5 <https://doi.org/10.1109/TSP52935.2021.9522616>

LQG problem of descriptor systems and separation principle

Nosrati, Komeil; Belikov, Yuri; 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](#)

MIMO model of an industrial water boiler

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

Model predictive control of descriptor systems

Nosrati, Komeil; Belikov, Yuri; 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 adaptive control scheme for retuning method-based fractional-order PID control with disturbance rejection applied to closed-loop control of a magnetic levitation system

Tepljakov, Aleksei; Alagoz, Baris Baykant; Gonzalez, Emmanuel A.; Petlenkov, Eduard; Yeroğlu, Celalettin Journal of circuits, systems, and computers 2018 / 1850176 <https://doi.org/10.1142/S0218126618501761> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Model-based control design for a district heating plant

Vansovits, Vitali; Godoy, Boris I.; Tepljakov, Aleksei; Vassiljeva, Kristina; Petlenkov, Eduard 2017 IEEE 15th International Conference on Industrial Informatics (INDIN 2017) : Emden, Germany, 24-26 July 2017 2017 / p. 615-620 : ill <https://doi.org/10.1109/INDIN.2017.8104842>

Modeling and identification of an industrial hot water boiler

Tarasevich, Maksimilian; Tepljakov, Aleksei; Petlenkov, Eduard; Vansovits, Vitali 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020
<https://doi.org/10.1109/TSP49548.2020.9163503>

Multi-loop model reference adaptive control of fractional-order PID control systems

Alagoz, Baris Baykant; Tepljakov, Aleksei; Petlenkov, Eduard; Yeroglu, Celaleddin 2017 40th International Conference on Telecommunications and Signal Processing TSP : July 5-7, 2017, Barcelona, Spain 2017 / p. 702-705 : ill
<https://doi.org/10.1109/TSP.2017.8076078>

Multi-loop model reference proportional integral derivative controls: design and performance evaluations

Alagoz, Baris Baykant; Tepljakov, Aleksei; Petlenkov, Eduard; Yeroglu, Celaleddin Algorithms 2020 / 26 p. : ill
<https://doi.org/10.3390/a13020038> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A NARX model reference adaptive control scheme: Improved disturbance rejection fractional-order PID control of an experimental magnetic levitation system

Alimohammadi, Hossein; Alagoz, Baris Baykant; Tepljakov, Aleksei; Vassiljeva, Kristina; Petlenkov, Eduard Algorithms 2020 / p. 1-27 <https://doi.org/10.3390/a13080201> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

NN-ANARX model based control of liquid level using visual feedback

Vassiljeva, Kristina; Tepljakov, Aleksei; Petlenkov, Eduard 2015 IEEE International Conference on Industrial Informatics (INDIN) : proceedings : Robinson College, Cambridge, United Kingdom, 22-24 July, 2015 2015 / p. 133-138 : ill
<http://dx.doi.org/10.1109/INDIN.2015.7281723>

Noored insenerid digitaalsetes kaksikutes

Vaaks, Eveliis Trialoog 2025 <https://trialoog.taltech.ee/noored-insenerid-digitaalsetes-kaksikutes/>

A numerical study for plant-independent evaluation of fractional-order PID controller performance

Alagoz, Baris Baykant; Tepljakov, Aleksei; Yeroglu, Celaleddin; Gonzalez, Emmanuel A.; Hossein Nia, S. Hassan; Petlenkov, Eduard IFAC-PapersOnLine 2018 / p. 539-544 : ill <https://doi.org/10.1016/j.ifacol.2018.06.151> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Observation and stabilisation of coupled timelfractional reaction–advection–diffusion systems with spatiallylvarying coefficients

Chen, Juan; Tepljakov, Aleksei; Petlenkov, Eduard IET control theory and applications 2020 / p. 3128–3138
<https://doi.org/10.1049/iet-cta.2020.0520> [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 robust stability of uncertain control systems with time delay : an approach based on the overlap of value sets

Ghorbani, Majid; Tepljakov, Aleksei; Petlenkov, Eduard IEEE Transactions on Automatic Control 2024 / p. 6349 - 6356
<https://doi.org/10.1109/TAC.2024.3381912> [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](#)

OTA-C realization of PI λ brake and throttle controllers for autonomous vehicles

Dimeas, Ilias; Psychalinos, Costas; Elwakil, Ahmed; Tepljakov, Aleksei 2017 European Conference on Circuit Theory and Design (ECCTD 2017) : Catania, Italy, 4 - 6 September, 2017 2017 / p. 39-40 : ill <http://dx.doi.org/10.1109/ECCTD.2017.8093229>

Pavement defect segmentation in orthoframes with a pipeline of three convolutional neural networks

Lõuk, Roland; Riid, Andri; Pihlak, Rene; Tepljakov, Aleksei Algorithms 2020 / art. 198, 27 p. : ill <https://doi.org/10.3390/a13080198> [Journal metrics at scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Pavement distress detection with deep learning using the orthoframes acquired by a mobile mapping system

Riid, Andri; Lõuk, Roland; Pihlak, Rene; Tepljakov, Aleksei; Vassiljeva, Kristina Applied sciences 2019 / art. 4829, 22 p. : ill
<https://doi.org/10.3390/app9224829> [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](#)

Practical demand side management and demand response in large scale buildings with multiple case studies

Köse, Ahmet; Sukhanov, Ivan; Maivel, Mikk; **Tepljakov, Aleksei; Hokmabad, Hossein Nourollahi; Petlenkov, Eduard** 2024 20th International Conference on the European Energy Market (EEM) 2024 / 5 p <https://doi.org/10.1109/EEM60825.2024.10608965>
[Conference proceedings at Scopus](#) [Article at Scopus](#) [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>

Real time data communication for intelligent extended reality applications

Köse, Ahmet; Tepljakov, Aleksei; Petlenkov, Eduard 2020 IEEE International Conference on Computational Intelligence and Virtual Environments for Measurement Systems and Applications (CIVEMSA), 22-24 June 2020 : proceedings 2021 / 6 p
<https://doi.org/10.1109/CIVEMSA48639.2020.9132970>

Real-time localization and visualization of a sound source for virtual reality application

Köse, Ahmet; Tepljakov, Aleksei; Astapov, Sergei 2017 25th International Conference on Software, Telecommunications and Computer Networks (SoftCOM) : Split, Croatia, September 21-23, 2017 2017 / p 219-224 : ill
<https://doi.org/10.23919/SOFTCOM.2017.8115577> [Conference proceedings at Scopus](#) [Article at Scopus](#)

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](#)

Retrofitting fractional-order dynamics to an existing feedback control system : from classical proportional-integral (PI) control to fractional-order proportional-derivative (FOPD) control

Gonzalez, Emmanuel A.; **Tepljakov, Aleksei**; Monje, Concepcion A.; Petráš, Ivo International research journal on innovations in engineering, science and technology 2017 / 6 p https://www.researchgate.net/publication/325989325_Retrofitting_Fractional-Order_Dynamics_to_an_Existing_Feedback_Control_System_From_Classical_Proportional-Integral_PI_Control_to_Fractional-Order_Proportional-Derivative_FOPD_Control

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 D-stability analysis of fractional-order controllers

Ghorbani, Majid; Tepljakov, Aleksei; Petlenkov, Eduard 2023 American Control Conference, ACC 2023, San Diego, 31 May- 2 June 2023 : proceedings 2023 / p. 3871-3876 : ill <https://doi.org/10.23919/ACC55779.2023.10156257> [Conference proceedings at Scopus](#) [Article at Scopus](#) [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 FOPID stabilization for Smith Predictor structures

Ghorbani, Majid; Tepljakov, Aleksei; Petlenkov, Eduard 61st IEEE Conference on Decision and Control, CDC 2022, Cancun, 6 December - 9 December 2022, proceedings 2022 / p. 1696-1701 <https://doi.org/10.1109/CDC51059.2022.9993283> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Robust fractional order singular Kalman filter

Nosrati, Komeil; Belikov, Juri; Tepljakov, Aleksei; Petlenkov, Eduard International journal of robust and nonlinear control 2024 / p. 602-627 : ill <https://doi.org/10.1002/rnc.6990> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Robust stabilization of interval fractional-order plants with an interval time delay by fractional-order proportional integral derivative controllers

Ghorbani, Majid; Tepljakov, Aleksei; Petlenkov, Eduard IET Control Theory and Applications 2024 / p. 614-625
<https://doi.org/10.1049/cth2.12594> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Robust stability analysis of interval fractional-order plants with interval time delay and general form of fractional-order controllers

Ghorbani, Majid; Tavakoli-Kakhki, Mahsan; **Tepljakov, Aleksei; Petlenkov, Eduard;** Farnam, Arash; Crevecoeur, Guillaume IEEE Control Systems Letters 2022 / p. 1268-1273 <https://doi.org/10.1109/LCSYS.2021.3091525> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Robust stability analysis of Smith predictor based interval fractional-order control systems: a case study in level control process

Ghorbani, Majid; Tavakoli-Kakhki, Mahsan; **Tepljakov, Aleksei; Petlenkov, Eduard** IEEE/CAA Journal of Automatica Sinica 2023 / p. 762-780 <https://doi.org/10.1109/JAS.2022.105986> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Ghorbani, Majid; Nosrati, Komeil; Tepljakov, 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> [Article at Scopus](#) [Article at WOS](#)

Robust stability testing function for a complex interval family of fractional-order polynomials

Ghorbani, Majid; Rezaei, Hossein; **Tepljakov, Aleksei; Petlenkov, Eduard** Journal of the Franklin Institute 2022 / p. 10038 - 10057 <https://doi.org/10.1016/j.franklin.2022.09.042> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Self assessment tool to bridge the gap between XR Technology, SMEs, and HEIs

Köse, Ahmet; Tepljakov, Aleksei; Alsaleh, Saleh Ragheb Saleh; Petlenkov, Eduard Extended Reality : First International Conference, XR Salento 2022, Lecce, Italy, July 6-8, 2022, Proceedings, Part I 2022 / p. 296–311 : ill https://doi.org/10.1007/978-3-031-15546-8_25 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at Scopus](#)

Software implementation of FOPID controllers with tuning capability for fractional FOPDT plants

Tepljakov, Aleksei; Alagoz, Baris Baykant 44th International Conference on Telecommunications and Signal Processing (TSP) 2021 / p. 199-203 <https://doi.org/10.1109/TSP52935.2021.9522602>

Sound localization and processing for inducing synesthetic experiences in virtual reality

Tepljakov, Aleksei; Astapov, Sergei; Petlenkov, Eduard; Vassiljeva, Kristina; Draheim, Dirk BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 159-162 : ill http://www.estee.ee/record=b2150914*est

Special issue on recent advances in the design and applications of fractional-order circuits and systems : [brief introduction]

Psychalinos, Costas; Elwakil, Ahmed S.; Allagui, Anis; **Tepljakov, Aleksei** International journal of electronics and communications 2017 / p. 132-135 <https://doi.org/10.1016/j.aeeu.2017.07.016> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stabilization and stability robustness of coupled non-constant parameter time fractional PDEs

Chen, Juan; Tepljakov, Aleksei; Petlenkov, Eduard IEEE Access 2019 / p. 163969 - 163980 : ill <https://doi.org/10.1109/ACCESS.2019.2951058> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stabilization and uncertainty analysis of a time-fractional reaction diffusion equation cascaded with a time-fractional hyperbolic partial differential equation

Chen, Juan; Zhuang, Bo; **Tepljakov, Aleksei; Petlenkov, Eduard** The Asian Journal of Control 2022 / p. 2294-2310 <https://doi.org/10.1002/asjc.2637> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stabilizing region of fractional-order proportional integral derivative controllers for interval delayed fractional-order plants

Ghorbani, Majid; Tepljakov, Aleksei; Petlenkov, Eduard Asian Journal of Control 2023 / p. 1145 - 1155 <https://doi.org/10.1002/asjc.2894> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stabilizing region of fractional-order proportional integral derivative controllers for interval fractional-order plants

Ghorbani, Majid; Tepljakov, Aleksei; Petlenkov, Eduard Transactions of the Institute of Measurement and Control 2023 / p. 546-556 : ill <https://doi.org/10.1177/01423312221117866> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

State and output feedback boundary control of time fractional pde–fractional ode cascades with space-dependent diffusivity

Chen, Juan; **Tepljakov, Aleksei; Petlenkov, Eduard;** Chen, Yangquan; Zhuang, Bo IET Control Theory and Applications 2020 / p. 3589 - 3600 <https://doi.org/10.1049/iet-cta.2019.1015> [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

The whys, whats, and whos

Tepljakov, Aleksei IEEE Estonia Section Summer Seminar 2018, 19. and 20. august = IEEE sügisseminar 2018, 19. ja 20. augustil, Jämeda Mõis 2018 / 15 p. : ill <https://iscx.dcc.ttu.ee/ISC/ws/ieee18-aleksei.pdf> <https://iscx.dcc.ttu.ee/ISC/ws/ws.asp?IEEEYear=2018>

A theoretical investigation on consideration of initial conditions in fractional-order transfer function modeling

Alagoz, Baris Baykant; **Tepljakov, Aleksei; Petlenkov, Eduard**; Yeroglu, Celaledin 2017 40th International Conference on Telecommunications and Signal Processing TSP : July 5-7, 2017, Barcelona, Spain 2017 / p. 710-713 : ill <https://doi.org/10.1109/TSP.2017.8076080>

Time-domain identification of one noninteger order plus time delay models from step response measurements

Alagoz, Baris Baykant; **Tepljakov, Aleksei**; Ates, Abdullah; **Petlenkov, Eduard**; Yeroglu, Celaledin International journal of modeling, simulation, and scientific computing 2019 / art. 1941011, 22 p. : ill <https://doi.org/10.1142/S1793962319410113> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Towards a synesthesia laboratory : real-time localization and Visualization of a sound source for virtual reality applications

Köse, Ahmet; Tepljakov, Aleksei; Astapov, Sergei; Draheim, Dirk; Petlenkov, Eduard; Vassiljeva, Kristina Journal of communications software and systems 2018 / p. 112–120 : ill <https://doi.org/10.24138/jcomss.v14i1.410> [Journal metrics at Scopus](#) [Article at Scopus](#)

Towards an Intelligent Control System for district heating plants : design and implementation of a fuzzy logic based control loop

Vansovitš, Vitali; Tepljakov, Aleksei; Vassiljeva, Kristina; Petlenkov, Eduard 2016 IEEE 14th International Conference on Industrial Informatics (INDIN) : Palais des Congrès du Futuroscope, Futuroscope - Poitiers, France, 19-21 July, 2016 : proceedings 2016 / p. 405-410 : ill <https://doi.org/10.1109/INDIN.2016.7819193>

Towards artificial intelligence driven immersive environments in virtual reality for industrial applications

Alsaleh, Saleh Ragheb Saleh; Tepljakov, Aleksei; Tamre, Mart; Petlenkov, Eduard 44th International Conference on Telecommunications and Signal Processing (TSP) 2021 / p. 340-345 <https://doi.org/10.1109/TSP52935.2021.9522676>

Towards assessment of behavioral patterns in a virtual reality environment

Köse, Ahmet; Tepljakov, Aleksei; Abel, Mihkel; Petlenkov, Eduard Augmented Reality, Virtual Reality, and Computer Graphics : 6th International Conference, AVR 2019 : Santa Maria al Bagno, Italy, June 24–27, 2019 : Proceedings. Part I 2019 / p. 237–253 : ill https://doi.org/10.1007/978-3-030-25965-5_18 [Conference proceeding at Scopus](#) [Article at Scopus](#) [Conference proceeding at WOS](#) [Article at WOS](#)

Towards assisting interactive reality : interactive reality for education, data analysis and industry

Köse, Ahmet; Tepljakov, Aleksei; Petlenkov, Eduard Augmented Reality, Virtual Reality, and Computer Graphics : 5th International Conference : AVR 2018, Otranto, Italy, June 24–27, 2018 : proceedings, Part I 2018 / p. 569-588 https://doi.org/10.1007/978-3-319-95282-6_41 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

Towards dynamic modeling in immersive environments with assessment of user experiences = Dünaamilised mudelid virtuaalsetes keskkondades ja kasutajakogemuste hindamine

Köse, Ahmet 2020 https://www.ester.ee/record=b5378018*est <https://digikogu.taltech.ee/et/Item/4f5fbdbd-21c5-4c6a-94ee-fa8374b5ce3a>

Towards industrialization of FOPID controllers : a survey on milestones of fractional-order control and pathways for future developments

Tepljakov, Aleksei; Alagoz, Baris Baykant; Yeroglu, Celaledin; Gonzalez, Emmanuel A.; Hosseinia Kani, Seyed Hassan; **Petlenkov, Eduard**; Ates, Abdullah; **Cech, Martin** IEEE Access 2021 / p. 21016-21042 <https://doi.org/10.1109/ACCESS.2021.3055117> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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 two-stream context-aware ConvNet for pavement distress detection

Lõuk, Roland; Tepljakov, Aleksei; Riid, Andri 2020 43rd International Conference on Telecommunications and Signal Processing : TSP 2020, Milan, Italy, July 7-9, 2020 2020 / p. 270-273 : ill <https://doi.org/10.1109/TSP49548.2020.9163538>

Virtuaalreaalsus võib peagi väikeettevõtetele kättesaadavamaks muutuda

Oidermaa, Jaan-Juhan novaator.err.ee 2023 [Virtuaalreaalsus võib peagi väikeettevõtetele kättesaadavamaks muutuda](#)

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

Škiparev, Vjatseslav; 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 reality meets intelligence in large scale architecture

Köse, Ahmet; Petlenkov, Eduard; Tepljakov, Aleksei; Vassiljeva, Kristina Augmented Reality, Virtual Reality, and Computer Graphics : 4th International Conference, AVR 2017, Ugento, Italy, June 12-15, 2017 : proceedings. Part II 2017 / p. 297-309 : ill
https://doi.org/10.1007/978-3-319-60928-7_26 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)