

A finite feedback linearization algorithm for nonlinear control systems

Kaldmäe, Arvo Proceedings of the 8th Annual Conference of the Estonian National Doctoral School in Information and Communication Technologies : December 5-6, 2014, Rakvere 2014 / p. 53-56

A neutral network based identification for complex non-linear systems

Vaarmann, Otu Proceedings of the 3rd International Conference on Applied Operational Research, 24-26 August 2011, Istanbul, Turkey 2011 / p. 39-46

A note on the relationship between single- and multi-experiment observability for discrete-time nonlinear control systems

Kaparin, Vadim; Kotta, Ülle; Shumsky, Alexey Ye.; Zhirabok, Alexey N. Proceedings of the Estonian Academy of Sciences 2011 / 3, p. 174-178

A novel Taylor series based approach for control computation in NN-ANARX structure based control of nonlinear systems

Belikov, Juri; Vassiljeva, Kristina; Petlenkov, Eduard; Nõmm, 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>

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>

A transfer function approach to the realisation problem of nonlinear systems

Halas, Miroslav; Kotta, Ülle International journal of control 2012 / p. 320-331

Accessibility and system reduction of nonlinear time-delay control systems

Bartosiewicz, Zbigniew; Kaldmäe, Arvo; Kawano, Yu; Kotta, Ülle; Pawluszewicz, Ewa; Simha, Ashutosh; Wyrwas, Małgorzata IEEE Transactions on Automatic Control 2021 / p. 3781-3788 <https://doi.org/10.1109/TAC.2020.3028566> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Accessibility conditions of MIMO nonlinear control systems on homogeneous time scales

Bartosiewicz, Zbigniew; Kotta, Ülle; Tönso, Maris; Wyrwas, Małgorzata Mathematical control and related fields 2016 / p. 217-250 <https://doi.org/10.3934/mcrf.2016002>

Accessability conditions for discrete time nonlinear multiinput multioutput systems

Kotta, Ülle; Tönso, Maris 5th Junior European Meeting on Control & Information Technology : September 20-22, 2006, Tallinn, Estonia : book of abstracts 2006 / p. 25

Adaptive output feedback linearization for a class of NN-based ANARX models

Petlenkov, Eduard; Nõmm, Sven; Kotta, Ülle Proceedings of the 6th IEEE International Conference on Control and Automation : Guangzhou, China, May 30 - June 1, 2007 2007 / p. 3173-3178 <https://ieeexplore.ieee.org/document/4376947>

Adjoint polynomial formulas for nonlinear state-space realization

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

Advanced design of nonlinear discrete-time and delayed systems = Diskreetsete ja hilistumistega mittelineaarsete juhtimissüsteemide süntees

Kaldmäe, Arvo 2016 <https://digi.lib.ttu.ee/?5215>

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 <http://dx.doi.org/10.5755/j01.itc.45.2.13212>

Algebraic formalism of differential one-forms for nonlinear control systems on time scales

Bartosiewicz, Zbigniew; Kotta, Ülle; Pawluszewicz, Ewa; Wyrwas, Małgorzata Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2007 / 3, p. 264-282

Algebraic formalism of differential p-forms and vector fields for nonlinear control systems on homogeneous time scales

Bartosiewicz, Zbigniew; Kotta, Ülle; Pawluszewicz, Ewa; Tönso, Maris; Wyrwas, Małgorzata Proceedings of the Estonian Academy of Sciences 2013 / p. 215-226

Algebraic necessary and sufficient condition for difference flatness

Kaldmäe, Arvo International Journal of Control 2021 / 8 p <https://doi.org/10.1080/00207179.2021.1908598> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Any dynamical system is fully accessible through one single actuator and related problems

Kawano, Yu; **Kotta, Ülle**; Moog, Claude International journal of robust and nonlinear control 2016 / p. 1748-1754
<http://dx.doi.org/10.1002/rnc.3379>

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

Belikov, Juri; Nõmm, 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

A brief tutorial overview of disturbance observers for nonlinear systems : application to flatness-based control

Kaldmäe, Arvo; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2020 / p. 57-73 : ill

<https://doi.org/10.3176/proc.2020.1.07> http://www.kirj.ee/33035/?tpl=1061&c_tpl=1064 [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comments on 'A new kind of nonlinear disturbance observer for nonlinear systems with applications to cruise control of air-breathing hypersonic vehicles'

Kaldmäe, Arvo; Kotta, Ülle International journal of control 2020 / p. 1725 <https://doi.org/10.1080/00207179.2018.1529436> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comments on "PBH tests for nonlinear systems"

Sarafrazi, Mohammad Amin; Bartosiewicz, Zbigniew; **Kotta, Ülle** Automatica 2020 / art. 108617

<https://doi.org/10.1016/j.automatica.2019.108617> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison of LPV and nonlinear system theory : a realization problem

Belikov, Juri; Kotta, Ülle; Tõnso, Maris Systems & control letters 2014 / p. 72-78

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

Computer algebra tools for modelling, analysis and synthesis for nonlinear control systems = Arvutialgebra vahendid mittelineaarsete juhtimissüsteemide modelleerimiseks, analüüsiks ja sünteesiks

Tõnso, Maris 2010 https://www.ester.ee/record=b2552427*est

Construction of flat outputs of nonlinear discrete-time systems in a geometric and an algebraic framework

Kolar, Bernd; **Kaldmäe, Arvo**; Schöberl, Markus; **Kotta, Ülle**; Schlacher, Kurt IFAC-PapersOnLine 2016 / p. 796-801
<https://doi.org/10.1016/j.ifacol.2016.10.263>

Controller and controllability canonical forms for discrete-time nonlinear systems

Kotta, Ülle Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2005 / 1, p. 55-62

Decomposition of discrete-time nonlinear control systems

Kotta, Ülle Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2005 / 3, p. 154-161

Degree of Dieudonné 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](#)

Discrete approximation of nonlinear control

Lepp, Riho Selected papers of the Symposium on Operations Research (SOR96) , Braunschweig 1997 / p. 468-473

Disturbance decoupling by measurement feedback : sensor location

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey; Zhirabok, Alexey Proceedings of the Estonian Academy of Sciences 2016 / p. 317-329 : ill <http://dx.doi.org/10.3176/proc.2016.4.05>

Disturbance decoupling in nonlinear hybrid systems

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey; Zhirabok, Alexey Nonlinear analysis : hybrid systems 2018 / p. 42-53

<https://doi.org/10.1016/j.nahs.2017.11.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Disturbance decoupling in nonlinear hybrid systems [Electronic resource]

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey; Zhirabok, Alexey 12th IEEE International Conference on Control and Automation : ICCA 2016 : Kathmandu, Nepal, 1-3 June 2016 2016 / p. 86-91 : ill. [USB] <https://doi.org/10.1109/ICCA.2016.7505257>

Disturbance decoupling of multi-input multi-output discrete-time nonlinear systems by static measurement feedback

Kaldmäe, Arvo; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2012 / p. 77-88

https://artiklid.elnet.ee/record=b2497319*est

Disturbance decoupling of time delay systems

Kaldmäe, Arvo; Moog, Claude Asian journal of control 2016 / p. 1130-1134 <http://dx.doi.org/10.1002/asjc.1169>

Disturbance decoupling problem in finite automata : sensor location problem

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey; Zhirabok, Alexey 2016 IEEE Conference on Control Applications (CCA) : part of 2016 IEEE Multi-Conference on Systems and Control, September 19-22, 2016, Buenos Aires, Argentina 2016 / p. 481-486 : ill <https://doi.org/10.1109/CCA.2016.7587876>

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

Equivalence of realizability conditions for nonlinear control systems

Kotta, Ülle; Mullari, Tanel Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2006 / 1, p. 24-42

Erratum : Linearization of discrete-time control system by state transformation

Mullari, Tanel; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2021 / p. 307 <https://doi.org/10.3176/proc.2021.1.09> https://kirj.ee/wp-content/plugins/kirj/pub/Erratum-proc-3-2021-307_20210822154030.pdf

Event-triggered resilient distributed extended Kalman filter with consensus on estimation

Rezaei, Hossein; **Ghorbani, Majid** International Journal of Robust and Nonlinear Control 2022 / p. 1303 - 1315 <https://doi.org/10.1002/rnc.5881> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental validation of the Newton observer for a nonlinear flux-controlled AMB system operated with zero-bias flux

Mystkowski, Arkadiusz; Kierdelewicz, A.; **Kotta, Ülle; Kaparin, Vadim** International journal of control 2020 / p. 2257-2266 : ill <https://doi.org/10.1080/00207179.2018.1552025> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimentally adjusted modelling and simulation technique for a catamaran autonomous surface vessel

Astrov, Igor; Udal, Andres; Mölder, Heigo; Jalakas, Tanel; Möller, Taavi International Conference on Electrical, Computer, and Energy Technologies, ICECET 2022, Prague, Czech Republic, July 20-22, 2022 2022 / 7 p. : ill <https://doi.org/10.1109/ICECET55527.2022.9873069>

Experiments in neural network inverse modelling based control for a class of nonlinear systems

Petlenkov, Eduard; Rüstern, Ennu BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 145-148 : ill

Extended observer form : simple existence conditions

Kaparin, Vadim; Kotta, Ülle; Mullari, Tanel International journal of control 2013 / p. 794-803 : ill

Faulty plant reconfiguration based on disturbance decoupling methods

Kaldmäe, Arvo; Kotta, Ülle; Jiang, Bin; Shumsky, Alexey Ye.; Zhirabok, Alexey N. Asian journal of control 2016 / p. 858-867 : ill <http://dx.doi.org/10.1002/asjc.1185>

Feedback linearization and lattice theory

Kotta, Ülle; Tönso, Maris; Shumsky, Alexey Ye.; Zhirabok, Alexey N. Systems & control letters 2013 / p. 248-255

Feedback linearization of an active magnetic bearing system operated with a zero-bias flux

Mystkowski, Arkadiusz; **Kaparin, Vadim; Kotta, Ülle**; Pawluszewicz, Ewa; **Tönso, Maris** International journal of applied mathematics and computer science 2017 / p. 539-548 : ill <https://doi.org/10.1515/amcs-2017-0038>

Feedback linearization of possibly non-smooth systems

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey; Zhirabok, Alexey Proceedings of the Estonian Academy of Sciences 2017 / p. 109-123 <https://doi.org/10.3176/proc.2017.2.01> http://www.ester.ee/record=b2355998*est

Fiducial marker-based monocular localization for autonomous docking

Pivonka, Tomas; Sell, Raivo; Pikner, Heiko; Preucil, Libor IFAC-PapersOnLine 2023 / p. 2957-2962 <https://doi.org/10.1016/j.ifacol.2023.10.1419>

Finite determination of accessibility and singular points of nonlinear systems: an algebraic approach

Sarafrazi, Mohammad Amin; **Kotta, Ülle**; Bartosiewicz, Zbigniew Systems & control letters 2020 / art. 104600, p. 1-7 <https://doi.org/10.1016/j.sysconle.2019.104600> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Flatness based control of a HVAC system

Kaldmäe, Arvo; Kotta, Ülle Information technology and control 2017 / p. 499-507 : ill <http://dx.doi.org/10.5755/j01.itc.46.4.17697>

Forward and backward shifts of vector fields : towards the dual algebraic framework

Mullari, Tanel; Kotta, Ülle; Bartosiewicz, Zbigniew; Pawluszewicz, Ewa; Moog, Claude IEEE transactions on automatic control 2017 / p. 3029-3033 <https://doi.org/10.1109/TAC.2016.2608718>

Functions' algebra in nonlinear control : computational aspects and software

Belikov, Juri; Kaldmäe, Arvo; Kaparin, Vadim; Kotta, Ülle; Shumsky, Alexey Ye.; **Tõnso, Maris;** Zhirabok, Alexey Proceedings of the Estonian Academy of Sciences 2017 / p. 89-107 <https://doi.org/10.3176/proc.2017.1.06> http://www.ester.ee/record=b2355998*est

Further results on identifiability of discrete-time nonlinear systems

Nõmm, Sven; Moog, Claude Automatica 2016 / p. 69-74 : ill <https://doi.org/10.1016/j.automatica.2016.01.054>

Fuzzy logic control for a ball and beam system

Moezzi, Reza; Vu, Trieu Minh; Tamre, Mart International Journal of Innovative Technology and Interdisciplinary Sciences : IJTIS 2018 / p. 39-48 : ill <https://doi.org/10.1515/IJTIS.2018.1.1.39-48>

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

Input-output decoupling of discrete-time nonlinear systems by dynamic measurement feedback

Kaldmäe, Arvo; Kotta, Ülle European journal of control 2017 / p. 31-38 : ill <https://doi.org/10.1016/j.ejcon.2016.12.004>

Input-output linearization of discrete-time systems by dynamic output feedback

Kaldmäe, Arvo; Kotta, Ülle European journal of control 2014 / p. 73-78

Integrability for nonlinear time-delay systems

Kaldmäe, Arvo; Califano, Claudia; Moog, Claude IEEE transactions on automatic control 2016 / p. 1912-1917 <https://doi.org/10.1109/TAC.2015.2482003>

Kaoseraamat : [õpik]

Lepik, Ülo; Engelbrecht, Jüri 1999 https://www.ester.ee/record=b1268229*est

Kuidas segaduses korda luua

Võhandu, Leo Kindlus ja kindlusetus muutub maailmas : interdistsiplinaarne teoreetiline konverents : 27.-28. märtsil 2002 Tallinnas 2002 / lk. 58-65 https://artiklid.elnet.ee/record=b2112656*est

A linear filtering framework for nonlinear systems based on extended output injection

Simha, Ashutosh; Kotta, Ülle IFAC-PapersOnLine 2019 / p. 274-279 <https://doi.org/10.1016/j.ifacol.2019.11.791> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Linearization by generalized input-output injections on homogeneous time scales

Ciulkin, Monika; Pawluszewicz, Ewa; **Kaparin, Vadim; Kotta, Ülle** 2016 21st International Conference on Methods and Models in Automation and Robotics (MMAR 2016) : Miedzyzdroje, Poland, 29 August - 1 September 2016 2016 / p. 48-53 <https://doi.org/10.1109/MMAR.2016.7575086>

Linearization by input-output injections on homogeneous time scales

Ciulkin, Monika; **Kaparin, Vadim; Kotta, Ülle;** Pawluszewicz, Ewa Proceedings of the Estonian Academy of Sciences 2014 / p. 387-397 https://artiklid.elnet.ee/record=b2707375*est

Linearization of discrete-time control system by state transformation

Mullari, Tanel; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2021 / p. 62-79 <https://doi.org/10.3176/proc.2021.1.09> https://kirj.ee/wp-content/plugins/kirj/pub/proc-1-2021-62-79_20210630094644.pdf?v=a57b8491d1d8 [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Linearization of discrete-time nonlinear control systems

Kaldmäe, Arvo Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK seitsmenda aastakonverentsi artiklite kogumik : 15.-16. novembril 2013, Haapsalu 2013 / p. 29-32

Long-term stability of resting state EEG-based linear and nonlinear measures

Pöld, Toomas; Peäske, Laura; Hinrikus, Hiie; Lass, Jaanus; Bachmann, Maie International journal of psychophysiology 2021 / p. 83-87 <https://doi.org/10.1016/j.jpsycho.2020.11.013> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Measurement feedback disturbance decoupling in discrete-event systems

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey; Zhirabok, Alexey International journal of robust and nonlinear control 2015 / p. 3330-3348 <http://dx.doi.org/10.1002/rnc.3265>

Measurement feedback disturbance decoupling in discrete-time nonlinear systems

Kaldmäe, Arvo; Kotta, Ülle; Shumsky, Alexey Ye.; Zhirabok, Alexey N. Automatica 2013 / p. 2887-2891 : ill

Minimal realizations of nonlinear systems

Kotta, Ülle; Moog, Claude; Tönso, Maris Automatica 2018 / p. 207-212 <https://doi.org/10.1016/j.automatica.2018.05.007> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Minimal realizations of nonlinear time-delay systems

Kaldmäe, Arvo; Zbigniew, Bartosiewicz; Kotta, Ülle; Wyrwas, Malgorzata IEEE transactions on automatic control 2023 / 7 p <https://doi.org/10.1109/TAC.2023.3240124>

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 2014 / p. 10838-10843 : ill

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

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>

Modelling non-linear systems by extended Fourier series

Kukk, Vello Proceedings of the Estonian Academy of Sciences. Engineering 2001 / 4, p. 289-308 : ill

Nabla derivatives associated with nonlinear control systems on homogeneous time scales

Bartosiewicz, Zbigniew; Kotta, Ülle; Mullari, Tanel; Tönso, Maris; Pawluszewicz, Ewa; Wyrwas, Malgorzata Nonlinear analysis : modelling and control 2016 / p. 547-563 <http://dx.doi.org/10.15388/NA.2016.4.8>

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 networks based ANARX structure for identification and model based control

Petlenkov, Eduard; Nõmm, Sven; Kotta, Ülle 9th International Conference on Control, Automation, Robotics and Vision : 5-8 December, 2006, Singapore : [proceedings] 2006 / p. 2284-2288 <https://ieeexplore.ieee.org/document/4150221>

Neural networks based identification and control of nonlinear systems : ANARX model based approach

Petlenkov, Eduard 2007 https://www.ester.ee/record=b2315845*est

Neural networks based simplified ANARX structure for control on nonlinear MIMO systems

Petlenkov, Eduard Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK teise aastakonverentsi artiklite kogumik : 11.-12. mai 2007, Viinistu kunstimuuseum 2007 / lk. 39-42 : ill

Newton observer for a nonlinear flux-controlled AMB system

Mystkowski, Arkadiusz; Kotta, Ülle; Kaparin, Vadim Proceedings of the Estonian Academy of Sciences 2018 / p. 61-72 : ill <https://doi.org/10.3176/proc.2018.1.03> http://www.ester.ee/record=b2355998*est [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

NLControl - a mathematica package for nonlinear control systems

Kotta, Ülle; Tönso, Maris IFAC-PapersOnLine 2017 / p. 681-686 <https://doi.org/10.1016/j.ifacol.2017.08.122>

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 based dynamic output feedback linearization for control of nonlinear MIMO systems

Petlenkov, Eduard Proceedings of the 15th Mediterranean Conference on Control and Automation : MED'07 : Athena (Greece), June 27-29, 2007 2007 / [6] p https://www.researchgate.net/publication/224303099>NN-ANARX_structure_based_dynamic_output_feedback_linearization_for_control_of_nonlinear_MIMO_systems

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
<http://dx.doi.org/10.1080/18756891.2015.1001950>

Nonlinear model predictive controller and feasible path planning for autonomous robots

Vu, Trieu Minh Open computer science 2016 / p. 178-186 : ill <https://doi.org/10.1515/comp-2016-0015>

Nonlinear wave interaction for material characterization

Ravasio, Arvi 4th EUROMECH : Solid Mechanics Conference, Metz, France, June 26-30, 2000 : book of abstracts II, general sessions 2000 / p. 706

Numerical simulation of ultrasonic time reversal on defects in carbon fibre reinforced polymer

Lints, Martin; Salupere, Andrus; Dos Santos, Serge Wave motion 2020 / art. 102526, 10 p. : ill
<https://doi.org/10.1016/j.wavemoti.2020.102526> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Observable space of the nonlinear control system on a homogeneous time scale

Kaparin, Vadim; Kotta, Ülle; Wyrwas, Małgorzata Proceedings of the Estonian Academy of Sciences 2014 / p. 11-25
https://artiklid.elnet.ee/record=b2665198*est

Observation and stabilisation of coupled time-fractional reaction–advection–diffusion systems with spatially varying 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](#)

Observer-based residual generation for nonlinear discrete-time systems

Kaldmäe, Arvo; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2018 / p. 325-336
http://www.kirj.ee/public/proceedings_pdf/2018/issue_4/proc-2018-4-325-336.pdf <https://doi.org/10.3176/proc.2018.4.01> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

On accessibility conditions for state space nonlinear control systems on homogeneous time scales

Bartosiewicz, Zbigniew; Kotta, Ülle; Mullari, Tanel; Tönso, Maris; Wyrwas, Małgorzata Systems & control letters 2016 / p. 8-13
<http://dx.doi.org/10.1016/j.sysconle.2016.09.018>

On integrability of observable space for discrete-time polynomial control systems

Kawano, Yu; Kotta, Ülle IEEE transactions on automatic control 2015 / p. 1987-1991 <http://dx.doi.org/10.1109/TAC.2014.2365685>

On submersivity assumption for nonlinear control systems on homogeneous time scales

Kotta, Ülle; Rehák, Branislav; Wyrwas, Małgorzata Proceedings of the Estonian Academy of Sciences 2011 / 1, 25-37

On the finiteness of accessibility test for nonlinear discrete-time systems

Sarafrazi, Mohammad Amin; Pawluszewicz, Ewa; Bartosiewicz, Zbigniew; Kotta, Ülle International journal of control 2021 / p. 2330-2336 <https://doi.org/10.1080/00207179.2019.1706102> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

On the long-time behavior of soliton ensembles

Salupere, Andrus; Engelbrecht, Jüri; Peterson, Pearu Abstract book : Second IMACS Conference on Nonlinear Evolution Equations and Wave Phenomena : Computation and Theory : April 9-12, 2001, Athens, USA 2001 / ? p
<https://www.sciencedirect.com/science/article/abs/pii/S0378475402001787>

On the stopping criteria in nonlinear unknown input observability condition

Sarafrazi, Mohammad Amin; Kotta, Ülle; Bartosiewicz, Zbigniew IEEE transactions on automatic control 2022 / p. 4733-4737
<https://doi.org/10.1109/TAC.2022.3160133> [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 <http://dx.doi.org/10.3176/proc.2016.3.02>

On-line identification and adaptive control of nonlinear systems using neural networks

Vassiljeva, Kristina; Rüstern, Ennu BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 149-152 : ill

Performances of PID and different fuzzy methods for controlling a ball on beam

Vu, Trieu Minh; Tamre, Mart; Moezzi, Reza; Mets, Oliver; Jürise, Mart; Pölder, Ahti; Teder, Leo; Juurma, Märt Open engineering 2016 / p. 145-151 : ill <https://doi.org/10.1515/eng-2016-0018>

Polynomial accessibility condition for the multi-input multi-output nonlinear control system

Kotta, Ülle; Tõnso, Maris; Kawano, Yu Proceedings of the Estonian Academy of Sciences 2014 / p. 136-150
https://artiklid.elnet.ee/record=b2673962*est

Polynomial methods for nonlinear control systems = Polünoommeetodid mittelineaarsetes juhtimissüsteemides

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

Popov form and the explicit equations of inverse systems

Bartosiewicz, Zbigniew; **Kotta, Ülle**; Pawluszewicz, Ewa; Tõnso, Maris; Wyrwas, Małgorzata Proceedings of the Estonian Academy of Sciences 2018 / p. 432-355 : ill http://www.kirj.ee/public/proceedings_pdf/2018/issue_4/proc-2018-4-342-355.pdf
<https://doi.org/10.3176/proc.2018.4.04> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Predictive smart thermostat controller for heating, ventilation, and air-conditioning systems

Soudari, Mallikarjun; **Kaparin, Vadim**; Srinivasan, Seshadhri; Seshadhri, Subathra; **Kotta, Ülle** Proceedings of the Estonian Academy of Sciences 2018 / p. 291-299 : ill http://www.kirj.ee/public/proceedings_pdf/2018/issue_3/proc-2018-3-291-299.pdf
<https://doi.org/10.3176/proc.2018.3.11> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Realizability of bilinear input-output differential equations in the classigal [i.e. classical] state-space form

Kotta, Ülle; Mullari, Tanel; Kotta, Palle; Zinober, Alan 5th Junior European Meeting on Control & Information Technology : September 20-22, 2006, Tallinn, Estonia : book of abstracts 2006 / p. 18

Realization and identification of discrete-time nonlinear systems

Nõmm, Sven 2004 https://www.ester.ee/record=b1910554*est

Realization of discrete-time nonlinear input-output equations : polynomial approach

Kotta, Ülle; Tõnso, Maris Automatica 2012 / p. 255-262 <https://www.sciencedirect.com/science/article/pii/S0005109811005413>

Realization of nonlinear input-output equations in controller canonical form

Kaldmäe, Arvo; Kotta, Ülle Kybernetika 2018 / p. 736-747 <https://doi.org/10.14736/kyb-2018-4-0736> [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; Tõnso, Maris European journal of control 2015 / p. 48-54 <http://dx.doi.org/10.1016/j.ejcon.2015.01.006>

Realization of time-delay systems

Kaldmäe, Arvo; Kotta, Ülle Automatica 2018 / p. 317-320 <https://doi.org/10.1016/j.automatica.2018.01.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Realizations in feedforward forms of nonlinear input-output equations with time-delays

Kaldmäe, Arvo; Kawano, Yu; **Kotta, Ülle** International journal of robust and nonlinear control 2020 / p. 7560-7573
<https://doi.org/10.1002/rnc.5194> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Relaxing realizability conditions for discrete-time nonlinear systems

Kotta, Ülle; Schlahter, Kurt; **Tõnso, Maris** Automatica 2015 / p. 67-71 <http://dx.doi.org/10.1016/j.automatica.2015.05.007>

Remarks on the realization of time-varying systems

Kotta, Ülle; Moog, Claude; **Tõnso, Maris** Proceedings of the Estonian Academy of Sciences 2018 / p. 208-216
http://www.kirj.ee/public/proceedings_pdf/2018/issue_3/proc-2018-3-207-216.pdf <https://doi.org/10.3176/proc.2018.3.02> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reordering derivatives of trace closures of regular languages [Online resource]

Maarand, Hendrik; Uustalu, Tarmo 30th International Conference on Concurrency Theory : (CONCUR 2019) 2019 / art. 40 ; 40:1–40:16 <https://doi.org/10.4230/LIPIcs.CONCUR.2019.40> [Conference proceeding at Scopus](#) [Article at Scopus](#)

Restricted connectivity neural networks based identification for control = Piiratud ühenduvusega tehismärvivõrkudel põhinev identifitseerimine juhtimiseks

Vassiljeva, Kristina 2012

A Riemannian geometric approach to output tracking for nonholonomic systems

Simha, Ashutosh; Raha, Soumyendu IFAC-PapersOnLine 2019 / p. 144-149 <https://doi.org/10.1016/j.ifacol.2019.11.769> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Single-experiment observability decomposition of discrete-time analytic systems

Kawano, Yu; **Kotta, Ülle** Systems & control letters 2016 / p. 193-199 <http://dx.doi.org/10.1016/j.sysconle.2016.09.016>

Soliton ensembles and solitonic structures

Engelbrecht, Jüri; Salupere, Andrus Applicable analysis 2012 / p. 237-250 : ill
<https://www.tandfonline.com/doi/full/10.1080/00036811.2011.608253>

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-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

Static state feedback linearization of nonlinear control systems on homogeneous time scales

Bartosiewicz, Zbigniew; **Kotta, Ülle; Tönso, Maris**; Wyrwas, Małgorzata Mathematics of control, signals, and systems 2015 / p. 523-550 <http://dx.doi.org/10.1007/s00498-015-0150-5>

A stochastic nonlinear excitation controller for transient stabilization in a power system

Xu, Yan; Wen, Fushuan; **Palu, Ivo; Yang, Zeng**; Chen, Minghui; Zhao, Hongwei; Shang, Huiyu 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/RTUCON48111.2019.8982375>

A test for the generic strong-accessibility of meromorphic nonlinear systems

Carravetta, Francesco; Sarafrazi, Mohammad Amin; Bartosiewicz, Zbigniew; **Kotta, Ülle** IEEE transactions on automatic control 2020 / p. 867-873 <https://doi.org/10.1109/TAC.2019.2921645> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Testing generic strong accessibility of nonlinear control systems via polynomial (quadratic) immersion

Carravetta, Francesco; Sarafrazi, Mohammad Amin; Bartosiewicz, Zbigniew; **Kotta, Ülle** 61st IEEE Conference on Decision and Control, CDC 2022, Cancun, 6 December - 9 December 2022, proceedings 2022 / p. 1841-1846
<https://doi.org/10.1109/CDC51059.2022.9992952> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

The connection between different static state feedback linearizability conditions of discrete time nonlinear control systems

Mullari, Tanel; Kotta, Ülle; Tönso, Maris Proceedings of the European Control Conference 2007, Kos, Greece, July 2-5, 2007 2007 / p. 4268-4275 <http://ieeexplore.ieee.org/document/7068444/>

The discrete control of two-rate nonlinear multivariable continuous-time systems

Astrov, Igor; Rüstern, Ennu Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 1997 / 3, p. 197-208

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 functions of discrete-time nonlinear control systems

Halas, Miroslav; **Kotta, Ülle** Proceedings of the Estonian Academy of Sciences. Physics. Mathematics 2007 / 4, p. 322-335

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 nonlinear discrete-time state equations into the observer form : extension to non-reversible case

Mullari, Tanel; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2021 / p. 235-247 <https://doi.org/10.3176/proc.2021.3.03> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Transformation of nonlinear discrete-time state equations into the observer form : revision

Mullari, Tanel; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2023 / p. 1-5 <https://doi.org/10.3176/proc.2023.1.01>

Transformation of nonlinear discrete-time system into the extended observer form

Kaparin, Vadim; Kotta, Ülle International journal of control 2018 / p. 848-858 <https://doi.org/10.1080/00207179.2017.1294264> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Transformation of nonlinear state equations into observer form = Mittelineaarsete olekuvõrrandite olekutaastaja kujule

teisendamine

Kaparin, Vadim 2013 https://www.ester.ee/record=b2998616*est

Transformation of nonlinear state equations into the observer form : necessary and sufficient conditions in terms of one-forms

Kaparin, Vadim; Kotta, Ülle Kybernetika 2015 / p. 36-58 <http://dx.doi.org/10.14736/kyb-2015-1-0036>

Universal tool for solving different control problems

Kotta, Ülle 5th Junior European Meeting on Control & Information Technology : September 20-22, 2006, Tallinn, Estonia : book of abstracts 2006 / p. 1

Weak reachability and controllability of discrete-time nonlinear systems: generic approach and singular points

Mullari, Tanel; Kotta, Ülle; Bartosiewicz, Zbigniew; Sarafrazi, Mohammad Amin; Moog, Claude; Pawluszewicz, Ewa International journal of control 2020 / p. 483-489 <https://doi.org/10.1080/00207179.2018.1479076> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Исследование устойчивости нелинейной САУ второго порядка

Tõnismägi, Svetlana; Täht, Toomas Теоретические и прикладные вопросы математики : тезисы докладов конференции, 26-27 сентября 1985 г. II 1985 / с. 32 https://www.ester.ee/record=b1305194*est

Метод решения систем нелинейных уравнений

Viirja, Andres Процессы и аппараты химической технологии. 1 1987 / с. 12-17

Модификация метода моментов определения вероятностных характеристик нелинейной функции от случайных аргументов

Saks, Eva Разработка средств измерения, автоматизации и систем управления технологическими процессами в силовом полупроводниковом приборостроении : тезисы докладов отраслевого научно-технического семинара (Таллин, май) 1982 / с. 57-61 : таб https://www.ester.ee/record=b1274563*est

Некоторые алгоритмы статического расчета нелинейных систем типа висячих конструкций

Kulbach, Valdek Тезисы докладов Всесоюзной конференции "Современные методы и алгоритмы расчета и проектирования строительных конструкций с использованием ЭВМ", Таллин, с 18 по 20 октября 1979 года. Часть первая.[Секция] 1, Методы статического расчета. [Секция] 2, Методы динамического расчета 1979 / с. 35-36 https://www.ester.ee/record=b1271164*est

Оптимизация нелинейных систем компенсационного управления для дискретных многостадийных технологических процессов с групповой обработкой полуфабрикатов : автореферат ... кандидата технических наук (05.13.01)

Saks, Eva 1986 https://www.ester.ee/record=b3537864*est

Приближенная оптимизация монотонных нелинейных систем компенсационного управления для многостадийных технологических процессов

Kiitam, Andres; Saks, Eva Анализ и синтез сложных систем и цепей с помощью ЭВМ 1985 / с. 187-194

Точное решение нелинейной системы уравнений энергии и нестационарного переноса излучения

Dumkina, Galina; Kozmanov, M. Журнал вычислительной математики и математической физики 1979 / с. 1061-1063 https://www.ester.ee/record=b2141983*est

Управление дискретными обратимыми справа нелинейными системами : автореферат ... доктора физико-математических наук

Kotta, Ülle 1992 https://www.ester.ee/record=b1164884*est