Ivan Markovsky's Curriculum Vitae

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International Centre for Numerical Methods in Engineering (CIMNE)
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Biographical sketch

I am an ICREA professor at the Int. Centre for Numerical Methods in Engineering. My Ph.D. is in electrical engineering from the Katholieke Universiteit Leuven. From 2006 to 2012 I was a lecturer at the School of Electronics and Computer Science of the University of Southampton and from 2012 to 2022 an associate professor at the Vrije Universiteit Brussel. My expertise is in structured low-rank approximation, system identification, and data-driven control, topics on which I've published 150 peer-reviewed papers, 11 book chapters, and 2 monographs. In 2011, I was awarded an ERC starting grant on the topic of data-driven control using low-rank approximation.

Education

- 02/2005 PhD in electrical engineering, Katholieke Universiteit Leuven, Belgium

  Thesis title: *Exact and approximate modeling in the behavioral setting*
  Supervisors: Sabine Van Huffel, Bart De Moor, and Jan C. Willems

- BS (06/1997) and MS (06/1998) in control engineering, Technical University of Sofia, Bulgaria

Positions

- 01/2023–present research professor, Int. Centre for Numerical Methods in Engineering
- 10/2022–12/2022 visiting professor, Institut für Automatik (IfA), ETH-Zurich
- 10/2012–09/2022 research professor, Vrije Universiteit Brussel, Belgium
- 01/2007–09/2012 lecturer, University of Southampton, UK
- 03/2005–12/2006 postdoctoral researcher, Katholieke Universiteit Leuven, Belgium
- 11/2000–02/2005 PhD researcher, Katholieke Universiteit Leuven, Belgium
- 08/1998–12/1999 research assistant, University of Notre Dame, USA

Research interests

My main research interests are computational methods for system theory, identification, and control:

- structured low-rank approximation and completion
- system identification in the behavioral setting
- data-driven signal processing and control

Scientific track record

My PhD work on the *total least-squares*

> **I. Markovsky** and S. Van Huffel. "Overview of total least squares methods". In: *Signal Processing* 87 (2007), pp. 2283–2302. doi: 10.1016/j.sigpro.2007.04.004

and *system identification in the behavioral setting*

> **I. Markovsky** et al. *Exact and Approximate Modeling of Linear Systems: A Behavioral Approach*. SIAM, 2006. doi: 10.1137/1.9780898718263

lead me to the concept of the *structured low-rank approximation*

> **I. Markovsky**. *Low-Rank Approximation: Algorithms, Implementation, Applications*. Springer, 2012. doi: 10.1007/978-1-4471-2227-2

Specific contributions of this work are recognizing the role of the matrix structure and developing fast methods for applications in system theory, signal processing, and computer algebra. The current state-of-the-art methods are implemented in the SLRA software package.

In 2008, I became interested in *data-driven control*. Based on prior work in subspace identification,

> J. C. Willems et al. "A note on persistency of excitation". In: *Systems & Control Lett.* 54.4 (2005), pp. 325–329. doi: 10.1016/j.sysconle.2004.09.003

I developed with P. Rapisarda a data-driven linear quadratic tracking method

> **I. Markovsky** and P. Rapisarda. "Data-driven simulation and control". In: *Int. J. Contr.* 81.12 (2008), pp. 1946–1959. doi: 10.1080/00207170801942170

A fundamentally new idea of our approach is the construction of system's responses directly from data without knowing the system. In recent work, K. Usevich and I

> **I. Markovsky** and K. Usevich. "Structured low-rank approximation with missing data". In: *SIAM J. Matrix Anal. Appl.* 34.2 (2013), pp. 814–830. doi: 10.1137/120883050

laid the foundation for *missing data estimation*. We make no assumptions about the nature or distribution of the missing values and can treat simultaneously missing, exact, and noisy data. The classical motivation for missing data estimation is dealing with sensor failures. A *key novel idea* of

> **I. Markovsky**. "A missing data approach to data-driven filtering and control". In: *IEEE Trans. Automat. Contr.* 62 (4 2017), pp. 1972–1978. doi: 10.1109/TAC.2016.2591178

is to use missing data for signal processing and control. This idea, *connects my major research topics*—low-rank approximation and data-driven control.

Since 2020 I am a regular visitor at the IfA institute of the ETH-Zurich for collaboration with F. Dörfler and his team. This collaboration led to important new results summarized in the tutorial paper

> **I. Markovsky**, L. Huang, and F. Dörfler. "Data-driven control based on behavioral approach: From theory to applications in power systems". In: *IEEE Control Systems Magazine* 43 (5 2023), pp. 28–68. doi: 10.1109/MCS.2023.3291638

Research record

- 2 monographs published by Springer (sole author) and SIAM (main author)
- 11 book chapters (sole author for 4, main author for 9) published by Kluwer, Springer, CRC, IET
- 87 journal papers (sole author for 14, main author for 43)
- 55 refereed conference papers (sole author for 9, main author for 32)

Recent teaching activities

My vision for education is to base teaching on *student-centered activities,* involving discussions, problem solving, and project work. An example of a course build on these principles is described in

> I. Markovsky. Project-based teaching: A case study of learning systems theory and signal processing by a dynamic measurements project. IEEE Control Systems Magazine, 2026.

Recent master and PhD courses:

- 06/2025 "Identification and data-driven control", PhD course for the MSCA FRONTIERS network
- 09/2024 "Data-driven systems theory, signal processing, and control", PhD course for the UKACM-SEMNI Autumn School on Data-Centric Engineering in Computational Mechanics
- 11/2022 "Behavioral approach to systems theory", PhD course for the *Graduate School in Systems, Optimization, Control and Networks*, Leuven, Belgium
- 2021–22 "System identification", 2nd year master course, taught at the VUB
- 2018–22 "Nonlinear system identification", 2nd year master course, also taught at the VUB

Supervision of PhD students

- 2022– L. Hemelhof, J. Wang, and A. Sasfi, "Data-driven control" (co-supervisor)
- 2021–2025, M. Baraharska, "Dynamic measurements in control systems" (co-supervisor)
- 2017–2020, A. Fazzi, "Matrix nearness problems with applications" (co-supervisor)
- 2016–2020, G. Quintana Carapia, "Data-driven dynamic measurement"
- 2013–2016, S. Rhode, "Robust and regularized system identification" (co-supervisor)
- 2008–2012, M. Przedwojski, "Analysis of synchronization errors" (co-supervisor)
- 2007–2011, F. Le, "Identification of electrically stimulated muscle after stroke"

Postdocs

- 2022–2023, K. Moffat, "Data-driven control"
- 2019–2022, A. Fazzi, "Matrix nearness problems"
- 2019–2021, V. Mishra, "Behavioral systems theory"
- 2019–2020, B. Grossmann, "Data-driven signal processing"
- 2018–2020, P. Dreesen, "Convex relaxations for data-driven control"
- 2013–2015, 2018–2019, M. Ishteva, "Tensor approximations"
- 2011–2014, K. Usevich, "Structured low-rank approximation"

Organization of scientific meetings

- 06/2025 organizer mini-symposium "Direct Data-Driven Methods", *ADMOS*, Barcelona
- 08/2020 co-organizer data-driven control session, *24th Symposium MTNS*, Cambridge
- 12/2019 organizer low-rank approximation session, *58th IEEE Conf. Decision and Control*, Nice

- 03/2019 organizing committee, *38th Benelux Meeting on Systems and Control*, Lommel
- 08/2017 co-organizer tensor decompositions session, *SIAM Appl. Algebraic Geometry*, Atlanta
- 03/2017 organizing committee, *36th Benelux Meeting on Systems and Control*, Spa
- 03/2015 organizing committee, *34th Benelux Meeting on Systems and Control*, Lommel
- 07/2014 co-organizer of low-rank approximation sessions, *21st Symposium MTNS*, Groningen
- 09/2013 organizer of low-rank approximation session, *Dolomites Research Week*, Canazei
- 08/2006 co-organizer, *4th Int. Workshop on Total Least Squares and EIV Modeling*, Leuven

Academic service and advisory role

- 01/2007–12/2024 associate editor of the *International Journal of Control*
- 01/2019–09/2022 BE-MATHS-IN representative for the VUB
- 01/2015–12/2017 associate editor of the *SIAM Journal on Matrix Analysis and Applications*
- 07/2013 editorial board member of the *ROKS Workshop*
- 07/2012 scientific committee of the *IFAC Symp. on System Identification*

Funding ID

acronym	my role	agency	number	period	amount, EUR
MOTADA	PI	MCIU/AEI	PID2023-148952OB-I00	10/2024–09/2027	48K
MB2DD	consultant	FWO-SNSF	G033822N	01/2022–12/2025	540K
SeLMA	PI	FWO	30468160	01/2018–12/2021	550K
VOLTERRA	PI	FWO	G090117N	01/2017–12/2020	192K
DECOUPL	PI	FWO	G028015N	01/2015–12/2018	252K
SLRA	PI	ERC	ERC-StG 258581	01/2011–12/2015	782K

Recent invited lectures

- 08/2025 “Low-Rank Approximation: Theory, Algorithms, and Applications”, Numerical Analysis Group, Mathematisches Institut, Universität Tübingen, Germany
- 07/2025 “Computations for systems and control without model parameters”, PVD75 - Proper Value Decomposition 75, Selva di Fasano (Br), Italy
- 05/2025 “Hidden structures in data-driven representations of dynamical systems”, Hidden structures in dynamical systems, optimization, and machine learning, L’Aquila, Italy
- 12/2024 “Behavioral approach to system identification and data-driven control”, Workshop on data-driven control: theory and applications, CDC, Milan, Italy
- 09/2023 “Optimization problems in data-driven control”, Optimization days, Southampton, UK
- 07/2023 “Direct data-driven analysis, signal processing, and control”, Kolloquium Technische Kybernetik, University of Stuttgart, Germany
- 03/2023 “Behavioral approach to system identification and data-driven signal processing”, Seminar Series on Optimization, Learning and Control, EPFL, Switzerland

Prizes, awards, and indicators of external recognition

- 12/2024 2024 IEEE Control Systems Magazine outstanding paper award
- 03/2012 10-year research mandate by the VUB research council
- 08/2010 ERC starting grant (ERC-StG 258581)
- 06/2008 Alston Householder Prize, honorable mention awarded at the *XVII Householder Symp.*
- 02/2005 PhD summa cum laude with congratulations of the Board of Examiners
- 08/2004 Wolfram research award at the *COMPSTAT conference*, Prague, Czech Republic

Recent collaborations

- M. Mitchell (ICFO) on signal processing for optically pumped magnetometer
- J. Eising (University of Groningen) on data-driven control in the behavioral setting
- A. Padoan (University of British Columbia) on behavioral systems theory
- S. Golestan (Aalborg University) on data-driven control of power electronics systems
- R. Toth (TU-Eindhoven) on linear parameter-varying systems
- M. Müller (Leibniz University Hannover) on data-driven control
- H. Ossareh (University of Vermont) on nonparametric frequency response estimation
- F. Dörfler (ETH-Zurich) on data-driven control
- P. Patrinos (K.U. Leuven, Belgium) on optimization methods for control
- K. Usevich (CNRS, Nancy) on low-rank approximation methods

Research output overview

Number of publications per category:

A	scientific monographs	3
B	articles in books	11
C	articles in journals	87
D	articles in conference proceedings	55

Number of citations as of 30 January 2026:

8755 Google Scholar h-index 36

Pdf files and computer code, implementing the methods and allowing reproducibility of the results, are available from: `https://imarkovs.github.io/`

A. Scientific monographs

A.1. **I. Markovsky**. *Low-Rank Approximation: Algorithms, Implementation, Applications*. Springer, 2019. doi: 10.1007/978-3-319-89620-5.

A.2. **I. Markovsky**. *Low-Rank Approximation: Algorithms, Implementation, Applications*. Springer, 2012. doi: 10.1007/978-1-4471-2227-2.

A.3. **I. Markovsky**, J. C. Willems, S. Van Huffel, and B. De Moor. *Exact and Approximate Modeling of Linear Systems: A Behavioral Approach*. SIAM, 2006. doi: 10.1137/1.9780898718263.

B. Articles in monographs (internationally peer reviewed)

B.1. **I. Markovsky**. "Dynamic measurement". In: *Data-driven filtering and control design: Methods and applications*. IET, 2019. Chap. 6, pp. 97–108. doi: 10.1049/PBCE123E_ch6.

B.2. **I. Markovsky** and P.-L. Dragotti. "Using structured low-rank approximation for sparse signal recovery". In: *Latent Variable Analysis and Signal Separation*. Lecture Notes in Computer Science. Springer, 2018, pp. 479–487. doi: 10.1007/978-3-319-93764-9_44.

B.3. **I. Markovsky**, A. Fazzi, and N. Guglielmi. "Applications of polynomial common factor computation in signal processing". In: *Latent Variable Analysis and Signal Separation*. Lecture Notes in Computer Science. Springer, 2018, pp. 99–106. doi: 10.1007/978-3-319-93764-9_10.

B.4. **I. Markovsky**. "System identification in the behavioral setting: A structured low-rank approximation approach". In: *Latent Variable Analysis and Signal Separation*. Ed. by E. Vincent et al. Vol. 9237. Lecture Notes in Computer Science. Springer, 2015, pp. 235–242. isbn: 978-3-319-22481-7. doi: 10.1007/978-3-319-22482-4_27.

B.5. **I. Markovsky**. "Rank constrained optimization problems in computer vision". In: *Regularization, Optimization, Kernels, and Support Vector Machines*. Ed. by A. Argyriou J. Suykens M. Signoretto. Pattern Recognition. Chapman & Hall/CRC Machine Learning, 2014. Chap. 13, pp. 293–312. isbn: 9781482241396. doi: 10.1201/b17558-16.

B.6. **I. Markovsky** and K. Usevich. "Nonlinearly structured low-rank approximation". In: *Low-Rank and Sparse Modeling for Visual Analysis*. Ed. by Yun Raymond Fu. Springer, 2014, pp. 1–22. doi: 10.1007/978-3-319-12000-3_1.

B.7. **I. Markovsky**. "Algorithms and literate programs for weighted low-rank approximation with missing data". In: ed. by A. Iske et al. Vol. 3. Springer, 2011. Chap. 12, pp. 255–273. doi: 10.1007/978-3-642-16876-5_12.

B.8. **I. Markovsky**, A. Amann, and S. Van Huffel. "Application of filtering methods for removal of resuscitation artifacts from human ECG signals". In: *System Identification, Environmental Modelling, and Control System Design*. Ed. by L. Wang, H. Garnier, and T. Jakeman. Springer, 2009. doi: 10.1007/978-0-85729-974-1_14.

B.9. **I. Markovsky** and S. Van Huffel. "On weighted structured total least squares". In: *Large-Scale Scientific Computing*. Ed. by I. Lirkov, S. Margenov, and J. Waśniewski. Vol. 3743. Lecture Notes in Computer Science. Springer–Verlag, 2006, pp. 695–702. doi: 10.1007/11666806_80.

B.10. A. Kukush, **I. Markovsky**, and S. Van Huffel. "Consistent estimation of an ellipsoid with known center". In: *Comp. Stat. (COMPSTAT)*. Ed. by J. Antoch. Physica–Verlag, 2004, pp. 1369–1376. isbn: 3-7908-1554-3. doi: 10.1007/s00211-004-0526-9.

B.11. A. Kukush, **I. Markovsky**, and S. Van Huffel. "On consistent estimators in linear and bilinear multivariate errors-in-variables models". In: *Total Least Squares and Errors-in-Variables Modeling: Analysis, Algorithms and Applications*. Ed. by S. Van Huffel and P. Lemmerling. Kluwer, 2002, pp. 155–164. doi: 10.1007/978-94-017-3552-0_14.

C. Articles in journals (internationally peer reviewed)

C.1. **I. Markovsky**. "Project-based teaching: A case study of learning systems theory and signal processing by a dynamic measurements project". In: *IEEE Control Systems Magazine* (2026).

C.2. **I. Markovsky**, A. Muixí, S. Zlotnik, and P. Diez. “A Behavioral Approach to Direct Data-Driven Fault Detection”. In: *Mechanical Systems and Signal Processing* 245 (2026), p. 113802. doi: 10.1016/j.ymssp.2025.113802.

C.3. **I. Markovsky**, C. Verhoek, and R. Toth. “The most powerful unfalsified linear parameter-varying model”. In: *Automatica* (2026). doi: 10.1016/j.automatica.2026.112855.

C.4. A. Sasfi, A. Padoan, **I. Markovsky**, and F. Dörfler. “GREAT: Grassmannian REcursive Algorithm for Tracking & Online System Identification”. In: *IEEE Trans. Automat. Contr.* 71 (5 2026). doi: 10.1109/TAC.2025.3636986.

C.5. C. Verhoek, **I. Markovsky**, and R. Toth. “Direct data-driven interpolation and approximation of linear parameter-varying system trajectories”. In: *IFAC Journal of Systems and Control* (2026). doi: 10.1016/j.ifacsc.2025.100352.

C.6. J. Wang, L. Hemelhof, **I. Markovsky**, and P. Patrinos. “Fast data-driven iterative learning control for linear system with output disturbance”. In: *Journal of the Franklin Institute* 363.3 (2026), p. 108414. doi: 10.1016/j.jfranklin.2026.108414.

C.7. M. Alsalti, **I. Markovsky**, V. G. Lopez, and M. A. Müller. “Data-based system representations from irregularly measured data”. In: *IEEE Trans. Automat. Contr.* 70.1 (2025), pp. 143–158. doi: 10.1109/TAC.2024.3423053.

C.8. A. Fazzi, **I. Markovsky**, and K. Usevich. “Implementation improvements and extensions of an ODE-based algorithm for structured low-rank approximation”. In: *Calcolo* 62 (2025). doi: 10.1007/s10092-024-00623-y.

C.9. F. Kaviani, **I. Markovsky**, and H. Ossareh. “Uncertainty Quantification of Data-Driven Output Predictors in the Output Error Setting”. In: *IEEE Trans. Automat. Contr.* 70.11 (2025), pp. 7588–7595. doi: 10.1109/TAC.2025.3573151.

C.10. **I. Markovsky**, J. Eising, and A. Padoan. “How to represent and identify affine time-invariant systems?” In: *Control Systems Letters* 9 (2025), pp. 1207–1212. doi: 10.1109/LCSYS.2025.3579393.

C.11. K. Usevich, J. Gillard, P. Dreesen, and **I. Markovsky**. “Structured nuclear norm matrix completion: Guaranteeing exact recovery via block-column scaling”. In: *Numerical Linear Algebra with Applications* 32.4 (2025), e70031. doi: 10.1002/nla.70031.

C.12. C. Verhoek, **I. Markovsky**, S. Haesaert, and R. Toth. “The behavioral approach for LPV data-driven representations”. In: *IEEE Trans. Automat. Contr.* (2025). doi: https://doi.org/10.1109/TAC.2025.3613909.

C.13. J. Yan, **I. Markovsky**, and J. Lygeros. “Secure Data Reconstruction: A Direct Data-Driven Approach”. In: *IEEE Trans. Automat. Contr.* 70.12 (2025), pp. 8361–8367. doi: 10.1109/TAC.2025.3585652.

C.14. A. Fazzi, A. Kukush, and **I. Markovsky**. “Bias correction for Vandermonde low-rank approximation”. In: *Econometrics and Statistics* 31 (2024), pp. 38–48. doi: 10.1016/j.ecosta.2021.09.001.

C.15. **I. Markovsky**, M. Alsalti, V. G. Lopez, and M. A. Müller. “Identification from data with periodically missing output samples”. In: *Automatica* 169 (2024), p. 111869. doi: 10.1016/j.automatica.2024.111869.

C.16. **I. Markovsky** and H. Ossareh. “Finite-data nonparametric frequency response evaluation without leakage”. In: *Automatica* 159 (2024), p. 111351. doi: 10.1016/j.automatica.2023.111351.

C.17. J. Wang, L. Hemelhof, **I. Markovsky**, and P. Patrinos. “A trust-region method for data-driven iterative learning control of nonlinear systems”. In: *Control Systems Letters* 8 (2024), pp. 1847–1852. doi: 10.1109/LCSYS.2024.3417805.

C.18. F. Dörfler, J. Coulson, and **I. Markovsky**. “Bridging direct & indirect data-driven control formulations via regularizations and relaxations”. In: *IEEE Trans. Automat. Contr.* 68 (2 2023), pp. 883–897. doi: 10.1109/TAC.2022.3148374.

C.19. A. Fazzi and **I. Markovsky**. “Addition and intersection of linear time-invariant behaviors”. In: *IFAC Journal of Systems and Control* 26 (2023), p. 100233. doi: 10.1016/j.ifacsc.2023.100233.

C.20. A. Fazzi and **I. Markovsky**. “Distance problems in the behavioral setting”. In: *European Journal of Control* 74 (2023), p. 100832. doi: 10.1016/j.ejcon.2023.100832.

C.21. **I. Markovsky**. “Data-driven simulation of generalized bilinear systems via linear time-invariant embedding”. In: *IEEE Trans. Automat. Contr.* 68 (2 2023), pp. 1101–1106. doi: 10.1109/TAC.2022.3146726.

C.22. **I. Markovsky** and F. Dörfler. “Identifiability in the behavioral setting”. In: *IEEE Trans. Automat. Contr.* 68 (3 2023), pp. 1667–1677. doi: 10.1109/TAC.2022.3209954.

C.23. **I. Markovsky**, L. Huang, and F. Dörfler. “Data-driven control based on behavioral approach: From theory to applications in power systems”. In: *IEEE Control Systems Magazine* 43 (5 2023), pp. 28–68. doi: 10.1109/MCS.2023.3291638.

C.24. **I. Markovsky**, E. Prieto-Araujo, and F. Dörfler. “On the persistency of excitation”. In: *Automatica* (2023), p. 110657. doi: 10.1016/j.automatica.2022.110657.

C.25. A. Fazzi, B. Grossmann, G. Mercère, and **I. Markovsky**. “MIMO System Identification Using Common Denominator and Numerators with Known Degrees”. In: *International Journal of Adaptive Control and Signal Processing* 36.4 (2022), pp. 870–881. doi: 10.1002/acs.3380.

C.26. **I. Markovsky** and F. Dörfler. “Data-driven dynamic interpolation and approximation”. In: *Automatica* 135 (2022), p. 110008. doi: 10.1016/j.automatica.2021.110008.

C.27. A. Fazzi, N. Guglielmi, and **I. Markovsky**. “A gradient system approach for Hankel structured low-rank approximation”. In: *Linear Algebra Appl.* 623 (2021), pp. 236–257. doi: 10.1016/j.laa.2020.11.016.

C.28. A. Fazzi, N. Guglielmi, and **I. Markovsky**. “Generalized algorithms for the approximate matrix polynomial GCD of reducing data uncertainties with application to MIMO system and control”. In: *J. Comp. Appl. Math.* 393 (2021), p. 113499. doi: 10.1016/j.cam.2021.113499.

C.29. **I. Markovsky** and F. Dörfler. “Behavioral systems theory in data-driven analysis, signal processing, and control”. In: *Annual Reviews in Control* 52 (2021), pp. 42–64. doi: 10.1016/j.arcontrol.2021.09.005.

C.30. V. Mishra and **I. Markovsky**. “The Set of Linear Time-Invariant Unfalsified Models with Bounded Complexity is Affine”. In: *IEEE Trans. Automat. Contr.* 66 (9 2021), pp. 4432–4435. doi: 10.1109/TAC.2020.3046235.

C.31. G. Q. Carapia and **I. Markovsky**. “Input parameters estimation from time-varying measurements”. In: *Measurement* 153 (2020), p. 107418. doi: 10.1016/j.measurement.2019.107418.

C.32. G. Q. Carapia, **I. Markovsky**, R. Pintelon, P. Csurcsia, and D. Verbeke. “Bias and covariance of the least squares estimate in a structured errors-in-variables problem”. In: *Comput. Statist. Data Anal.* 144 (2020), p. 106893. doi: 10.1016/j.csda.2019.106893.

C.33. G. Q. Carapia, **I. Markovsky**, R. Pintelon, P. Csurcsia, and D. Verbeke. “Experimental validation of a data-driven step input estimation method for dynamic measurements”. In: *IEEE Transactions on Instrumentation and Measurement* 69 (7 2020), pp. 4843–4851. doi: 10.1109/TIM.2019.2951865.

C.34. T. Liu, **I. Markovsky**, T.-K. Pong, and A. Takeda. “A hybrid penalty method for a class of optimization problems with multiple rank constraints”. In: *SIAM J. Matrix Anal. Appl.* 41 (3 2020), pp. 1260–1283. doi: 10.1137/19M1269919.

C.35. **I. Markovsky**, T. Liu, and A. Takeda. “Data-driven structured noise filtering via common dynamics estimation”. In: *IEEE Trans. Signal Process.* 68 (1 2020), pp. 3064–3073. doi: 10.1109/TSP.2020.2993676.

C.36. V. Mishra, **I. Markovsky**, and B. Grossmann. “Data-Driven Tests for Controllability”. In: *Control Systems Letters* 5 (2 2020), pp. 517–522. doi: 10.1109/LCSYS.2020.3003770.

C.37. **I. Markovsky**. “On the behavior of autonomous Wiener systems”. In: *Automatica* 110 (2019), p. 108601. doi: 10.1016/j.automatica.2019.108601.

C.38. M. Zhang, **I. Markovsky**, C. Schretter, and J. D’hooge. “Compressed Ultrasound Signal Reconstruction using a Low-rank and Joint-sparse Representation Model”. In: *Transactions on Ultrasonics, Ferroelectrics, and Frequency Control* 66 (7 2019), pp. 1232–1245. doi: 10.1109/TUFFC.2019.2915096.

C.39. A. Fazzi, N. Guglielmi, and **I. Markovsky**. “An ODE based method for computing the Approximate Greatest Common Divisor of polynomials”. In: *Numerical algorithms* 81 (2 2018), pp. 719–740. doi: 10.1007/s11075-018-0569-0.

C.40. N. Guglielmi and **I. Markovsky**. “An ODE based method for computing the distance of co-prime polynomials to common divisibility”. In: *SIAM Journal on Numerical Analysis* 55 (3 2017), pp. 1456–1482. doi: 10.1137/15M1018265.

C.41. **I. Markovsky**. “A missing data approach to data-driven filtering and control”. In: *IEEE Trans. Automat. Contr.* 62 (4 2017), pp. 1972–1978. doi: 10.1109/TAC.2016.2591178.

C.42. **I. Markovsky** and G. Mercère. “Subspace identification with constraints on the impulse response”. In: *Int. J. Contr.* 90 (8 2017), pp. 1728–1735. doi: 10.1080/00207179.2016.1219922.

C.43. K. Usevich and **I. Markovsky**. “Variable projection methods for approximate (greatest) common divisor computations”. In: *Theoretical Computer Science* 681 (2017), pp. 176–198. doi: 10.1016/j.tcs.2017.03.028.

C.44. **I. Markovsky**. “On the most powerful unfalsified model for data with missing values”. In: *Systems & Control Lett.* 95 (2016), pp. 53–61. doi: 10.1016/j.sysconle.2015.12.012.

C.45. K. Usevich and **I. Markovsky**. “Adjusted least squares fitting of algebraic hypersurfaces”. In: *Linear Algebra Appl.* 502 (2016), pp. 243–274. doi: 10.1016/j.laa.2015.07.023.

C.46. **I. Markovsky**. “An application of system identification in metrology”. In: *Control Eng. Practice* 43 (2015), pp. 85–93. doi: 10.1016/j.conengprac.2015.07.001.

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